

---

# HOW HAS THE PANDEMIC AFFECTED CAREER SATISFACTION AND EMPLOYMENT PERCEPTIONS OF FACULTY IN HEALTH ADMINISTRATION?

ASHLEY S. ROBERTSON, JD, PhD, CASEY P. BALIO, PhD, HEATHER L. TAYLOR, PhD & NIR MENACHEMI, PhD

---

## ABSTRACT

Employee satisfaction has been shown to affect productivity and turnover among faculty in higher education. The COVID-19 pandemic has required significant organizational changes in higher education, including hiring freezes, furloughs, and a rapid move to online teaching. Little is known about the effects of these changes on health administration faculty. Therefore, the current study utilizes data from a national survey of health administration faculty conducted in 2018 and 2021 to perform three analyses: quantification of the proportion of faculty respondents experiencing furloughs or whose departments implemented a hiring freeze brought upon by the pandemic; changes in career satisfaction and employment perceptions between the years 2018 and 2021; and a cross-sectional analysis of the relationship between furloughs and/or hiring freezes and 2021 career satisfaction and employment perceptions. Overall, 17.9% experienced a furlough and 81.4% indicated their department had a hiring freeze. We observed no significant changes in career satisfaction or employment perceptions from 2018 to 2021. However, receipt of furloughs was negatively associated with multiple indicators of career satisfaction and employment perceptions. The results of this study will be of interest to health administration program administrators and faculty as well as leaders in higher education who would benefit from understanding the impact of the pandemic on faculty more broadly.

---

Please address correspondence to: Ashley S. Robertson, Indiana University Purdue University Indianapolis, Fairbanks School of Public Health, Department of Health Policy and Management, 1050 Wishard Boulevard, Indianapolis, IN, 46202; Email: [ashsrobe@iu.edu](mailto:ashsrobe@iu.edu)

Acknowledgements: Research reported in this publication was in part supported by the National Library of Medicine of the National Institutes of Health under award number T15LM012502. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or the National Library of Medicine.

## INTRODUCTION

The COVID-19 pandemic has necessitated rapid and significant changes in the way traditional higher education faculty work. While most institutions had adopted online learning management systems prior to the pandemic, use of these systems—as well as training and experience in online teaching—was relatively low among many faculty and students on traditional university campuses (Jaschik & Lederman, 2018).

Organizational change is often difficult and has been shown to affect employee performance and satisfaction (Bordia, et al., 2004; Oreg et al., 2011). With respect to the pandemic, K–12 teachers struggled due to lack of experience and perceived self-efficacy with online learning (Cardullo et al., 2021) and many have indicated a desire to retire from teaching due to the pandemic (Diliberti et al., 2021). Internationally, studies have shown a decrease in higher education faculty satisfaction as a result of the rapid move to online learning (El Refae et al., 2021; Thach & Thanh, 2021). Less is known about experiences of U.S. higher education faculty during the pandemic, though prior to COVID-19 many resisted online teaching, citing discomfort due to lack of training, increased workload, and concerns about the quality of online education, among other issues (Cutri & Mena, 2020). Different disciplines may have different issues, and health administration (HA) represents a wide range of fields across different school types (Ginter et al., 2009; Harle et al., 2016), offering an opportunity to understand how the COVID-19 pandemic affected job and career satisfaction and various employment perceptions.

A national survey of HA faculty members has occurred periodically to assess a wide range of perceptions and work conditions and was most recently fielded in early 2021 and 2018. Analyzing trends between these two time periods can offer insights into how the pandemic affected HA faculty experiences. In addition, in the 2021 version of survey, specific questions were added regarding pandemic-related furloughs and hiring freezes. Thus, the purpose of the current study is three-fold. First, we quantify the proportion of HA faculty respondents that experienced furloughs or stated reductions in salary or whose departments implemented a hiring freeze brought upon by the pandemic. Second, we examine changes in job and career satisfaction as well as perceptions regarding having enough time to complete teaching and research during the intervening time period, and perceptions of the fairness of distribution of work within departments all in the context of furloughs and hiring freezes instituted in response to the pandemic. Lastly, we cross-sectionally examine how furlough and hiring freezes relate to faculty employment perceptions in 2021, including job and career satisfaction. Our results will be of interest to HA program administrators and faculty, as well

as to leaders in higher education who would benefit from understanding the impact of the pandemic on faculty more broadly.

## METHODS

This study utilizes survey data taken from two waves of a national survey of HA faculty conducted in February of 2018 and 2021 and administered with support from the Association of University Programs in Health Administration (AUPHA). For the 2021 wave, additional questions about faculty furlough (“Did you receive any pandemic-related furloughs or salary reductions in the past year?”) and hiring freeze (“Did your institution impose a pandemic-related faculty hiring freeze?”) experiences were included to assess institutional responses to the COVID-19 pandemic. A full description of the survey instrument and its deployment is available elsewhere (Menachemi, 2016). Briefly, the survey targets full-time faculty members in the HA field as determined by either (a) faculty membership in HA programs that are recognized by AUPHA or (b) individual membership in the Academy of Management’s Health Care Management Division with an “.edu” email address. This study was deemed exempt by the Institution Review Board at the institution of the first author.

The current analysis focuses on HA faculty members at the instructor, assistant, associate, or full professor rank who work at least 20 hours per week in their role. Excluded are emeritus, postdoc, and adjunct faculty. Experience of furloughs and hiring freezes, respectively, serve as the main independent variables to assess how indicating one or both of these occurrences are associated with faculty career satisfaction and employment perceptions during the pandemic. Likert-scaled questions served as the basis for six dependent variables measuring career satisfaction and employment perceptions of respondents. Specifically, respondents were asked to indicate their level of agreement or disagreement, on a 5-point Likert scale, with the following statements:

- Overall, I am satisfied with my current employment.
- Overall, I am satisfied with my career choice.
- I have enough time to get my teaching done.
- I have enough time to get my research done.
- My job is demanding.

To facilitate analysis, responses to each of the above statements were conflated into dichotomous variables indicating agreement (*strongly agree* or *agree*) or other (*don’t know*, *disagree*, or *strongly disagree*). In addition, the survey asked respondents to indicate on a 4-point Likert scale whether they

believed “the workload throughout my department is fairly shared among our faculty.” Responses to this question were similarly collapsed into those that agreed (*agree* or *strongly agree*) or other.

Descriptive statistics were calculated including individual and institutional characteristics of respondents. Next, we used chi-square tests to examine the bivariate relationships between having received a pandemic-related furlough or salary reduction and selected individual and institution characteristics. We further examined the relationship between reporting of an institution-imposed pandemic-related faculty hiring freeze and these characteristics, respectively. We then compared job satisfaction and employment perceptions between 2018 and 2021 utilizing a logistic regression model that controlled for school type (public health, health professions, business, medicine, other), type of university (public vs. private), respondent’s gender, race, tenure status, and type of department (primarily teaching-oriented department vs. other). Finally, using the 2021 data only, we specify two logistic regression models to examine relationships between receipt of pandemic-related furloughs and institution-imposed pandemic-related hiring freezes, respectively, and individual and institutional characteristics. Statistical significance was flagged at  $p \leq 0.1$ ,  $\leq 0.05$ , and  $\leq 0.01$  levels.

## RESULTS

The full sample consists of 801 respondents including 477 individuals in 2018 (42.4% participation rate) and 324 individuals in 2021 (29.7% response rate) (see Table 1).

**Table 1:** Characteristics of Faculty Respondents, 2018 & 2021 (N=801)

| Institutional Characteristics | N (%)       |
|-------------------------------|-------------|
| University Type               |             |
| Public                        | 562 (70.2%) |
| Private                       | 239 (29.8%) |
| School Type                   |             |
| Public Health                 | 260 (32.5%) |
| Health Professions            | 224 (28.0%) |
| Business                      | 151 (18.9%) |
| Medicine                      | 29 (3.6%)   |
| Other or unknown              | 136 (17.0%) |

Table 1, cont.

| Individual Characteristics   | N (%)       |
|--|-------------|
| Gender   |             |
| Male   | 378 (49.0%) |
| Female   | 393 (50.9%) |
| Race   |             |
| White  | 623 (82.0%) |
| Asian  | 58 (7.6%)   |
| Black  | 74 (9.7%)   |
| Other or unknown   | 5 (0.7%)    |
| Ethnicity  |             |
| Hispanic or Latino   | 25 (3.5%)   |
| Not Hispanic or Latino   | 683 (96.5%) |
| Age Group at time of survey  |             |
| 20s and 30s  | 96 (13.7%)  |
| 40s  | 177 (25.2%) |
| 50s  | 173 (24.6%) |
| 60s and over   | 257 (36.6%) |
| Tenure Status  |             |
| Tenured  | 382 (49.5%) |
| Tenure track   | 175 (22.7%) |
| Non-tenure track   | 215 (27.8%) |
| Respondent is in a primarily teaching-oriented department <sup>1</sup> |             |
| Yes  | 351 (44.4%) |
| No   | 440 (55.6%) |
| Year of Survey   |             |
| 2018   | 477 (59.6%) |
| 2021   | 324 (40.4%) |

Note: <sup>1</sup>Strongly agree or agree to the following statement: "Teaching is a higher priority in my department than is publishing research."

Overall, 70.2% of respondents were employed by public institutions, and many worked at either a school of public health (32.5%), school of health professions (28.0%), or school of business (18.9%). The majority of respondents

were white (82.0) and non-Hispanic (96.5%). Approximately half of the respondents were female (50.9%). Additionally, approximately half were tenured (49.5%), while the remainder were either tenure track (22.7%) or nontenure track (27.8%). Respondents self-reported that their department was primarily teaching-oriented in 44.4% of the sample. Overall, 17.9% of respondents indicated receiving a pandemic-related furlough or salary reduction, and 81.4% indicated their institution imposed a pandemic-related faculty hiring freeze (see Table 2).

**Table 2:** Characteristics of Departments That Imposed Pandemic-Related Furloughs or Hiring Freezes in the Past Year, 2021 Respondents Only (*n*=324 )

|  | Received pandemic-related furloughs or salary reductions in past year |                 | Institution imposed pandemic-related faculty hiring freeze |                 |
|--|---|-----------------|--|-----------------|
|  | Yes Frequency (%)   | <i>p</i> -value | Yes Frequency (%)  | <i>p</i> -value |
| <b>Overall (yes)</b>   | <b>58 (17.9%)</b>   |                 | <b>262 (81.4%)</b>   |                 |
| University Type  |   |                 |  |                 |
| Public   | 39 (17.0%)  | 0.526           | 187 (82.4%)  | 0.471           |
| Private  | 19 (20.0%)  |                 | 75 (78.9%)   |                 |
| School Type  |   |                 |  |                 |
| Public Health  | 19 (18.3%)  | 0.345           | 86 (82.7%)   | 0.606           |
| Health Professions   | 13 (13.7%)  |                 | 78 (83.9%)   |                 |
| Business   | 15 (26.8%)  |                 | 45 (80.4%)   |                 |
| Medicine   | 2 (20.0%)   |                 | 9 (90.0%)  |                 |
| Other or unknown   | 9 (15.5%)   |                 | 43 (74.1%)   |                 |
| Tenure Status  |   |                 |  |                 |
| Tenured  | 33 (21.4%)  | 0.277           | 125 (81.7%)  | 0.786           |
| Tenure Track   | 10 (13.7%)  |                 | 59 (80.8%)   |                 |
| Non-tenure track   | 14 (15.4%)  |                 | 77 (84.6%)   |                 |
| Respondent is in a primarily teaching-oriented department <sup>1</sup> |   |                 |  |                 |
| Yes  | 25 (17.9%)  | 0.949           | 105 (75.5%)  | 0.022           |
| No   | 32 (17.6%)  |                 | 155 (85.6%)  |                 |

Note: <sup>1</sup>Strongly agree or agree to the following statement: "Teaching is a higher priority in my department than is publishing research."

In the bivariate analysis, receipt of a hiring freeze was less common among individuals in primarily teaching-oriented departments compared to their counterparts (75.5% vs. 85.6%,  $p=0.022$ ). No other institutional characteristics were associated with receipt of a pandemic-related furlough or a hiring freeze.

Data in Table 3 represent regression results examining changes in satisfaction and employment perceptions from 2018 to 2021 while controlling for individual and institutional characteristics.

**Table 3:** Characteristics of Faculty Associated with Changes in Job Satisfaction and Employment Perceptions between 2018 and 2021

|                      | Satisfied with current job<br>ORs | Satisfied with career<br>ORs | Enough time to get teaching done<br>ORs | Enough time to get research done<br>ORs | My job is demanding<br>ORs | I believe workload in my department<br>is fairly shared among our faculty<br>ORs |
|----------------------|-----------------------------------|------------------------------|---|---|----------------------------|--|
| 2021 (vs. 2018)      | 1.251                             | 0.662                        | 0.913                                   | 1.134                                   | 1.057                      | 1.112  |
| Public Health        | Ref.                              | Ref.                         | Ref.                                    | Ref.                                    | Ref.                       | Ref.   |
| Health Professions   | 0.914                             | 1.311                        | 0.831                                   | 1.068                                   | 0.956                      | 1.033  |
| Business             | 1.852*                            | 4.550**                      | 2.165***                                | 1.398                                   | 0.912                      | 1.520*   |
| Medicine             | 1.060                             | 1.689                        | 0.981                                   | 1.052                                   | 2.857                      | 1.241  |
| Other or unknown     | 1.972**                           | 3.560**                      | 1.660*                                  | 1.066                                   | 0.612                      | 1.807**  |
| Public (vs. Private) | 1.414                             | 0.950                        | 0.859                                   | 1.072                                   | 0.903                      | 0.541***   |
| Female (vs. male)    | 0.760                             | 0.723                        | 0.675**                                 | 0.702**                                 | 1.235                      | 0.459***   |
| White                | Ref.                              | Ref.                         | Ref.                                    | Ref.                                    | Ref.                       | Ref.   |
| Black                | 1.740                             | 1.392                        | 1.341                                   | 1.010                                   | 2.894*                     | 1.204  |
| Asian                | 0.698                             | 0.312**                      | 0.918                                   | 1.056                                   | 0.354***                   | 0.903  |
| Other or unknown     | 0.308                             | 1.00                         | 1.884                                   | 0.985                                   | 0.133**                    | 1.519  |

Table 3, *cont.*

|  |          |         |         |         |        |        |
|--|----------|---------|---------|---------|--------|--------|
| Tenured                                  | Ref.     | Ref.    | Ref.    | Ref.    | Ref.   | Ref.   |
| Tenure track                             | 0.489*** | 0.456** | 0.844   | 0.840   | 0.697  | 0.992  |
| Non-tenure track                         | 0.973    | 1.395   | 1.249   | 0.662** | 1.183  | 0.727* |
| Other or unknown                         | 0.360**  | 0.308   | 1.348   | 0.459   | 0.617  | 1.255  |
| Primarily teaching department (vs other) | 1.136    | 0.892   | 1.452** | 0.792   | 0.646* | 1.376* |
| Sample size                              | 746      | 742     | 746     | 731     | 745    | 743    |

Note: ORs = Odds Ratios. Sample sizes differ due differential response by question; \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Overall, no changes over time were observed; however, several control variables were associated with the satisfaction and perception variables. Specifically, compared to their male counterparts, females were less likely to report having enough time to get their teaching done (OR=0.675; 95% CI, 0.481-0.947;  $p=0.023$ ), less likely to report having enough time to get research done (OR=0.702; 95% CI, 0.513-0.958;  $p=0.026$ ), and less likely to believe that departmental workload was fairly shared (OR=0.459; 95% CI, 0.337-0.627;  $p < 0.001$ ). Compared to respondents working in other types of departments, respondents working in primarily teaching departments were marginally less likely to report that their job was demanding (OR=0.65; 95% CI, 0.39-1.07;  $p=0.091$ ), and marginally more likely to believe that the workload within the department was fairly shared (OR=1.38; 95% CI, 0.99-1.91;  $p=0.055$ ).

Data in Table 4 present regression results examining how receipt of a pandemic-related furlough and/or a pandemic-related hiring freeze was associated with faculty satisfaction and employment perceptions using 2021 data only. Overall, receipt of a furlough was negatively associated with both job satisfaction (OR= 0.41; 95% CI 0.20-0.88;  $p=0.021$ ) and reporting not having enough time to get one's teaching done (OR=0.51; 95% CI 0.27-0.99;  $p=0.047$ ). Receipt of a furlough was also negatively related to the belief that departmental workloads are fairly shared among the faculty (OR=0.54; 95% CI 0.28-1.03;  $p=0.062$ ). Reports of hiring freezes were not associated with satisfaction or employment perceptions. However, consistent with the previous model, female respondents were less likely to report having enough time for their teaching (OR=0.58; 95% CI 0.33-1.00;  $p=0.052$ ) and less likely to report a belief that the workload within the department was fairly shared (OR=0.40; 95% CI 0.24-0.67;  $p < 0.001$ ) than their male counterparts.



**Table 4:** Relationships Between Receipt of Furloughs or Being in an Institution That Imposed a Past-Year Hiring Freeze and Key Faculty Perceptions, 2021

|  | Satisfied with current job<br>ORs | Satisfied with career<br>ORs | Enough time to get teaching done<br>ORs | Enough time to get research done<br>ORs | My job is demanding<br>ORs | I believe workload in my department<br>is fairly shared among our faculty<br>ORs |
|--|-----------------------------------|------------------------------|---|---|----------------------------|--|
| Received pandemic-related Furlough                 | 0.412**                           | 0.490                        | 0.513**                                 | 0.742                                   | 1.811                      | 0.538*   |
| Institution-imposed pandemic-related Hiring Freeze | 0.668                             | --                           | 0.616                                   | 0.726                                   | 0.741                      | 0.649  |
| Public Health                                      | Ref.                              | Ref.                         | Ref.                                    | Ref.                                    | Ref.                       | Ref.   |
| Health Professions                                 | 0.947                             | 1.619                        | 0.736                                   | 0.723                                   | 1.087                      | 0.897  |
| Business   | 2.327                             | 1.000                        | 2.015                                   | 1.507                                   | 1.012                      | 1.809  |
| Medicine   | 1.953                             | 1.000                        | 1.940                                   | 1.147                                   | 1.000                      | 1.799  |
| Other or unknown                                   | 1.632                             | 2.968                        | 1.836                                   | --                                      | 0.750                      | 1.429  |
| Female (vs. male)                                  | 0.810                             | 0.820                        | 0.575*                                  | 0.709                                   | 1.530                      | 0.400***   |
| White  | Ref.                              | Ref.                         | Ref.                                    | Ref.                                    | Ref.                       | Ref.   |
| Black  | 1.095                             | 2.243                        | 2.864*                                  | 1.615                                   | 1.769                      | 1.144  |
| Asian  | 1.124                             | 0.301*                       | 0.579                                   | 1.116                                   | 0.417                      | 1.465  |
| Other or unknown                                   | 1.000                             | 1.000                        | --                                      | 2.623                                   | 0.092                      | 1.000  |
| Tenured  | Ref.                              | Ref.                         | Ref.                                    | Ref.                                    | Ref.                       | Ref.   |
| Tenure track                                       | 0.556                             | 0.588                        | 0.711                                   | 0.847                                   | 0.719                      | 0.828  |
| Non-tenure track                                   | 1.821                             | 2.569                        | 1.490                                   | 0.575*                                  | 0.996                      | 0.665  |
| Other or unknown                                   | 1.000                             | 1.000                        | 1.000                                   | 0.781                                   | 1.000                      | 1.000  |
| Primarily teaching department (vs other)           | 0.820                             | 0.802                        | 1.400                                   | 1.229                                   | 0.550                      | 1.181  |
| Sample size  | 293                               | 234                          | 293                                     | 292                                     | 285                        | 292  |

Note: ORs = Odds Ratios. Sample sizes differ due differential response by question; \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

## DISCUSSION

We observed no significant changes in employment satisfaction or employment perceptions from 2018 to 2021 among health administration faculty members nationally. One explanation for these findings could be that faculty members were resilient and adaptable—at least in the short term—compared to their counterparts in K–12 or international higher education, as described above. However, in 2021, four out of five respondents reported hiring freezes, and nearly one in five reported experiencing a furlough due to the pandemic. Respondents who received a furlough also reported lower job satisfaction and generally more negative employment perceptions in terms of teaching workload and perceived fairness of workload distribution. Those in departments with hiring freezes did not report lower satisfaction or employment perceptions in 2021. Hiring freezes are a less drastic cost-containment strategy than furloughs, which create a breach of psychological contract between employee and institution (Huffman et al., 2021), and result in temporary involuntary salary reductions and/or disengagement from the institution. Thus, as seen in our data, furloughs may have a more detrimental effect on organizational perceptions.

Importantly, individuals experiencing furloughs reported lower job satisfaction, not lower career satisfaction, further suggesting the adverse impact furloughs have on employees. Administrators considering furloughs as a means of cost saving should consider the downstream effects such decisions may have. Research has shown that university faculty with diminished job satisfaction have reduced productivity (Mamiseishvili & Rosser, 2016) and increased turnover (French et al., 2020). The higher rate of dissatisfaction among respondents who were furloughed in 2021, coupled with a lack in overall change from 2018 to 2021, further suggests the existence of localized ill effects with regard to furloughs on important organizational outcomes. Most university characteristics were not associated with receipt of either furloughs or hiring freezes. However, hiring freezes were less likely among respondents from departments in which teaching was a higher priority than research. Demand for health administration education is high among students due to projected positive employment forecasts (U.S. Bureau of Labor Statistics, 2021). As such, departments with a greater teaching focus may have responded to the pandemic with a lesser need to impose hiring freezes compared to research-oriented departments, where demand for work may have been less robust at the beginning of the pandemic.

Although outside the main focus of our study, we found significant differences by gender in several outcome measures. Specifically, female respondents reported higher rates of having insufficient time to complete either their teach-

ing or research responsibilities, and had more adverse perceptions regarding the equity of workload distribution within their departments. These perceptions, irrespective of furloughs or survey year, suggest that females experience more challenging work situations, the pandemic notwithstanding. Indeed, the gendered results of our study add to a growing body of literature highlighting gender disparities in workload and work/life balance in the academy prior to the pandemic, as well as the exacerbation of these disparities during the pandemic (Arora et al., 2021; Davis et al., 2022; Oleschuk, 2020; Plaunova et al., 2021). More research is urgently needed to understand and address these significant trends, which can lead to adverse outcomes for organizations and the field overall.

Despite being the first study to examine employment perceptions before and during the pandemic, our analysis has several limitations of note. First, the survey response rate in 2021 was lower than in previous years, raising the possibility of nonresponse bias. Previous analysis of earlier iterations of the triennial health administration faculty survey found no evidence of nonresponse bias (Menachemi, 2011, 2016), but we recognize the potential for bias in the current sample. More likely, the upheaval wrought by the pandemic may have overshadowed solicitations for survey completions in the past year. Second, responses are self-reported, raising the potential for desirability bias, recall bias, or response filtering. As such, our results must be interpreted in light of these potential biases. Finally, while respondents in health administration represent multiple school types and geographic areas, we must caution generalizability to other academic disciplines.

Whereas overall job and career satisfaction did not significantly differ among respondents in 2018 and 2021, respondents who were furloughed in 2021 reported lower job satisfaction and employment perceptions. Future research should examine how the observed relationship between receipt of furloughs impact productivity, turnover, and other organizational outcomes of interest. In the meantime, academic leaders can use the information we present to make more informed organizational decisions regarding cost-containment during times of uncertainty as in the pandemic.

## REFERENCES

- Bordia, P., Hunt, E., Paulsen, N., Tourish, D., & DiFonzo, N. (2004). Uncertainty during organizational change: Is it all about control? *European Journal of Work and Organizational Psychology, 13*(3), 345–365.
- Cardullo, V., Wang, C. H., Burton, M., & Dong, J. (2021). K-12 teachers' remote teaching self-efficacy during the pandemic. *Journal of Research in Innovative Teaching & Learning, 14*(1), 32-45.

- Cutri, R. M., & Mena, J. (2020). A critical reconceptualization of faculty readiness for online teaching. *Distance Education*, *41*(3), 361–380.
- Davis, J. C., Li, E. P. H., Butterfield, M. S., DiLabio, G. A., Sangunthanam, N., & Marcolin, B. (2022). Are we failing female and racialized academics? A Canadian national survey examining the impacts of the COVID-19 pandemic on tenure and tenure-track faculty. *Gender, Work & Organization*, *29*(3), 703-722.
- Diliberti, M. K., Schwartz, H. L., & Grant, D. (2021). *Stress topped the reasons why public school teachers quit, even before COVID-19*. Research Report. RR-A1121-2. RAND Corporation.
- ElRefae, G. A., Kaba, A., & Eletter, S. (2021). Distance learning during COVID-19 pandemic: satisfaction, opportunities and challenges as perceived by faculty members and students. *Interactive Technology and Smart Education*, *18*(3), 298-318.
- French, K. A., Allen, T. D., Miller, M. H., Kim, E. S., & Centeno, G. (2020). Faculty time allocation in relation to work-family balance, job satisfaction, commitment, and turnover intentions. *Journal of Vocational Behavior*, *120*, 103443.
- Ginter, P. M., Menachemi, N., & Morrissey, M. A. (2009). Academic health administration: Who are we? What do we do? and What are our views concerning the profession? *The Journal of Health Administration Education*, *26*(4), 259-276.
- Harle, C. A., Mullen, C., Vest, J. R., & Menachemi, N. (2016). Not only teachers: What do health administration faculty members do? *The Journal of Health Administration Education*, *33*(2), 235-251.
- Huffman, A. H., Albritton, M. D., Matthews, R. A., Muse, L. A., & Howes, S. S. (2021). Managing furloughs: how furlough policy and perceptions of fairness impact turnover intentions over time. *The International Journal of Human Resource Management*, *33*(14), 2801-2828.
- Jaschik, S., & Lederman, D. (2018). 2018 survey of faculty attitudes on technology. *Inside Higher Education*. Research Report. *Inside Higher Education & Gallup*.

- Krukowski, R. A., Jagsi, R., & Cardel, M. I. (2021). Academic productivity differences by gender and child age in science, technology, engineering, mathematics, and medicine faculty during the COVID-19 pandemic. *Journal of Women's Health, 30*(3), 341–347.
- Mamiseishvili, K., & Rosser, V. J. (2011). Examining the relationship between faculty productivity and job satisfaction. *Journal of the Professoriate, 5*(2), 100-132.
- Menachemi, N. (2016). Overview of the data used in the current issue of JHAE and tests for response bias. [Journal of Health Administration Education, 33\(2\), 225–234.](#)
- Oleschuk, M. (2020). Gender equity considerations for tenure and promotion during COVID-19. *Canadian Review of Sociology, 57*(3), 502-515.
- Oreg, S., Vakola, M., & Armenakis, A. (2011). Change recipients' reactions to organizational change: A 60-year review of quantitative studies. *The Journal of Applied Behavioral Science, 47*(4), 461–524.
- Plaunova, A., Heller, S. L., Babb, J. S., & Heffernan, C. C. (2021). Impact of COVID-19 on radiology faculty—an exacerbation of gender differences in unpaid home duties and professional productivity. *Academic Radiology, 28*(9), 1185–1190.
- Thach, P. N., & Thanh, T. M. (2021). Factors affecting online teachers' satisfaction amid the Covid-19 pandemic. *VNU Journal of Science: Education Research, 37*(1), 22-39.
- U.S. Bureau of Labor Statistics. (2021, June 2). Medical and health services managers: occupational outlook handbook. *U.S. Bureau of Labor Statistics*. <https://www.bls.gov/ooh/management/medical-and-health-services-managers.htm>.

