

How does the working environment transition impact perceived work-related quality of life for postsecondary teachers within the United States?

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Abstract.

BACKGROUND: The COVID-19 pandemic has profoundly affected societal norms and shifted much of the workforce in the United States to a virtual landscape. Working and learning from home (or “remotely”) has become common in nearly every field, including higher level education. Each institution has implemented policies regarding remote work, and with the different policies educators are confronted with different conditions which affect their perceived level of stress and quality of working life.

OBJECTIVE: The objective of this study is to examine how the transition to working from home contributes to work-related stress and perceived quality of life among postsecondary educators during the first year of COVID-19 related institutional working policies.

METHOD: The study used a cross-sectional survey design. The survey was distributed online using email and social media to 1,575 postsecondary teachers in all four regions of the United States between February and March 2021. The survey collected demographic and institutional policy information related to remote work, in addition to the Work-Related Quality of Life Survey which gathers data on indicators of general well-being, job satisfaction, perceived control at work, perceived stress at work, working conditions, and work-life balance.

RESULTS: Data was analyzed from 222 (14% response rate) respondents; 49% worked remotely full-time, 47% worked on a hybrid schedule (part-time remote, part-time on campus), and 4% were on campus full-time. The findings suggest that postsecondary teachers who worked in a hybrid program throughout 2020 felt they had more control at work and a higher overall quality of working life, while those who worked remote only or on-campus only felt more stress at work. The results also suggest that less time spent working from home contributes to higher stress and the perception of decreased control at work.

CONCLUSIONS: Based on the survey results, remote working policies in higher education institutions have an impact on work-related quality of life and stress felt by their faculty. These findings can be used to guide the implementation of work-from-home or return-to-campus policies.

Keywords: COVID-19, occupational stress, job satisfaction, working environment, post-secondary teachers

1. Introduction

With the need to reduce in-person contact during the pandemic, many private and public universities

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have mandated remote working policies and transitioned to an online learning format. Between March 1st and April 3rd of 2020, 96% ($n = 1,442$) of US colleges and universities transitioned to online teaching. By September of 2020, 44% of institutions were providing instruction online, 21% used a hybrid model and 27% returned to on-campus instruction [1]. For the teaching faculty, this translates into work-from-home schedules ranging from fully remote to only a few hours per week worked from home.

During this transition to remote work there is growing concern over occupational stress and burnout, and numerous studies have shown that occupational stress was already prevalent among teachers [2] and that the rapid shift from face-to-face to online teaching exacerbated this issue [3]. In a study examining the impact of COVID-19 on well-being, 72% of teachers surveyed reported feeling very or extremely stressed, and 57% felt very or extremely burned out [4]. Poor office ergonomics and discomfort have been identified as major contributing factors to the increase in stress [5]; a study which examined the ergonomics of virtual offices conducted an 8-month follow-up survey and found that faculty and staff working with just a laptop continued to report high levels of body discomfort [6]. Additional contributing stress factors unique to remote work have been identified as increased workload, peer interaction, organization climate, and role ambiguity [7]. To highlight future implications of this, high levels of work-related stress among teachers have been found to reduce education quality [8].

As colleges and universities are faced with difficult decisions regarding campus attendance policy, it is important to understand how working environment mandates affect teachers' level of stress and job satisfaction.

2. Method

2.1. The survey

The survey included demographic and work schedule information to compare perceptions of stress and job satisfaction among faculty with different working environments and schedules. The Work-Related Quality of Life Scale (WRQoL) [9] includes 24 questions, which are arranged into six psychometric factors to assess an individual's perceived quality of working life, stress, control at work, home-work interface, job-career satisfaction, general well-being, and working conditions. The questions collected quantitative data using a five-point Likert scale from "strongly disagree" to "strongly agree" (scored 1–5, respectively). The mean score of each psychometric subscale provides feedback to explain quality of working life (see Table 1). The WRQoL survey was chosen for this study due to its academic-based normative data and high validity for universities and colleges ($\alpha = 0.94$ from examination of nine universities based in the United Kingdom: range of 0.72 to 0.90 on component reliability) [9].

2.2. Data collection

Prior to the start of the study, Institutional Review Board approval was obtained from Boston University. The survey was distributed between January and March 2021 to faculty ($N = 1575$) who teach at a college or university within the United States through social media and email directories. A link to an online version of the WRQoL survey was included in email, Facebook and LinkedIn posts using Qualtrics software. In addition to the 24 scale questions, other

Table 1
The Work-Related Quality of Life Scale (WRQoL)

Psychometric factors	Description	Number of questions
Job and Career Satisfaction (JCS)	The extent to which you are content with your job and your prospects at work.	6
Working Conditions (WCS)	The extent to which you are satisfied with the conditions in which you work.	3
General Well-Being (GWB)	How well you feel, psychologically and physically.	6
Home-Work Interface (HWI)	The extent to which you think the organization understands and helps you with work-related pressure.	3
Stress at Work (SAW)	How much you see work demands as acceptable, rather than excessive.	2
Control at Work (CAW)	The extent to which you feel you are involved in decisions that affect you at work.	3

survey questions requested information regarding the demographic characteristics of respondents and their working history (such as tenure, field of study, and remote working status).

2.3. Data analysis

Single-factor analysis of variance (ANOVA) was used to determine statistically significant differences between stratified groups and psychometric subscale scores. Chi-square test for independence was used to determine significant relationships between faculty working remotely and faculty working from campus or hybrid. ANOVA results were stratified using demographic information including age, gender, tenure, university environment (urban, rural, or text input), teaching level (undergraduate, graduate, or doctoral students), discipline, length of time (in months) teaching remotely, and percentage of time split between remote or on-campus teaching environments, if any.

3. Results

3.1. Descriptive characteristics

Of the 222 respondents to the survey, 109 (49%) stated they had been working remotely since March of 2020, 105 (47%) reported a return to campus or a hybrid program with a split between campus and working from home, and 8 (4%) worked on campus during that time. Among remote faculty, full-time remote work remained the most common schedule (49%) from March 2020 (or earlier) to March 2021. 59% of faculty working remotely within a hybrid

program spent 50% or more of their time working from home. The Chi-square test for independence indicated a statistically significant relationship between the percentage of work schedule conducted remotely with respondents working in rural settings; and residing in the west, south, or northeast geographical regions of the United States (see Table 2).

3.2. Influence of remote working on perceived quality of working life

A significant positive correlation was found using ANOVA between faculty working in a hybrid format and scores for control at work and overall quality of working life when compared to those who work remote only or on-campus only ($p=0.03$). Among those who worked remotely, a working schedule of 50% or less online were more likely to score lower for working conditions ($p=0.04$) and control at work ($p=0.03$) while indicating higher stress at work ($p<0.001$).

4. Discussion

While there were no significant differences between faculty who worked completely online as opposed to completely on campus, the level of work satisfaction was influenced by the apparent flexibility of hybrid programs. From January 2020 to March 2021, the respondents were nearly an even split, with 49% working remotely and 46% working within a hybrid schedule, and 5% working on campus only. US regional data was recorded in Qualtrics via IP address in latitude and longitude, then divided into four sections to gain insight into the policy differences

Table 2
Distribution of characteristics of respondents by working schedule

Characteristics	Total		Working remotely 51% or more ^a		Working remotely 50% or less ^b		p^a
	<i>n</i>	% ^b	<i>n</i>	%	<i>n</i>	%	
University setting							
Urban	146	76.0	74	50.7	72	49.3	0.107
Rural	46	24.0	36	78.3	10	21.7	0.004
Geographical region							
Midwest	76	39.6	43	56.6	33	43.4	0.207
West	47	24.5	37	78.7	10	21.3	0.031
South	44	22.9	20	45.5	24	55.5	0.013
Northeast	25	13.0	22	88.0	3	12.0	0.011

Percentages may not add up to 100, due to rounding. ^a P -values calculated using X^2 test for significance between remote working schedules.

across socio-cultural regions. A question on the survey also extracted university setting data to differentiate urban and rural universities. The chi-square test for significance indicated a positive relationship between rural universities and percentage of working time spent online. A significant positive relationship was found with the universities located in the west and northeast regions and percentage of working time online, while the opposite was true for the southern region. These findings support the notion that differences in cultural perceptions and social constructs influence university lockdown policy.

Respondents were more likely to feel in control of decisions which affect them and had a higher overall quality of working life score if they worked in a hybrid program versus teaching on campus or remote only. Interestingly, female faculty reported lower scores than males on the Home-Work-Interface subscale and higher stress at work when working remotely. Finally, respondents who taught remotely for less than 50% of their working schedule were more likely to feel more stressed at work, have less control, and be less satisfied with work conditions.

During the COVID-19 pandemic, the assumption can be made that school policy has largely eliminated the choice of working environment and likely contributed to the attitudes and perceptions found in this study. Understanding these results in the current context it is important to distinguish stress and work satisfaction associated with new working environments, fear of sickness, and uncertainty. However, data collection during the pandemic can help guide university policy in the event of future pandemics or campus shutdowns.

Further studies are needed to understand the implications of remote teaching on the quality of working life and how it may affect the quality of instruction. Understanding the benefits and barriers of remote education will be vital to guiding intervention, such as ergonomic and home office design, ensuring accessibility for individuals with or without disabilities, and optimizing connectivity and communication between faculty and students. Two recent studies highlight these implications. From ergonomic evaluations of 41 workstations, Davis et al. [10] documented musculoskeletal concerns related to remote working environments, including laptop usage, nonadjustable chairs, low monitor heights and hard desk surfaces; and Yuen et al. [11] found that the prevalence of ergonomics and injury prevention programs were significantly lower than stress management programs for employees among United States accredited colleges

and universities. Working from home will likely continue to grow as a flexible option for higher education, and a more advanced understanding of its physical and psychological impact is required to improve quality of working life and preventing burnout and stress.

4.1. Limitations

There are several limitations within this study. Participant recruitment was based on a convenience sample recruited through social media and email, leaving room for potential bias of selection. Statistical analysis was therefore limited to non-parametric ANOVA resulting in a non-objective measure regarding factors which could impact stress. The sample size for respondents working on campus is small ($n = 8$) compared to those working remotely or hybrid ($n = 214$) and cannot provide an adequate comparison of those two groups. Within the demographic questions, the use of text input may have led to confusion, such as the variety of responses pertaining to university setting. Finally, some free-text questions could have been used to gain further insight into respondents' experiences with working remotely and their universities' policies.

5. Conclusion

The findings of this study can help identify which remote working policies within academic institutions might affect the perceived levels of stress and job satisfaction among teaching faculty. It also advances an understanding of how the widespread introduction of remote working environments have impacted the quality of working life for academicians teaching in colleges and universities in the United States within the context of the ongoing COVID-19 pandemic. Findings revealed that university policy on the working environment affected work satisfaction, level of perceived stress at work and quality of working life. The implications of these findings are broad and further studies are necessary to fully understand the challenges associated with teaching online, as well as the role of occupational therapists in mitigating them. Furthermore, the results of this study provide insight to guiding university policy in the event of future campus lockdowns and allocation of funding towards employee wellness and injury prevention programs.

Conflict of interest

None to report.

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