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Work-Life Balance during the COVID-19 Pandemic: Insights from Extension Professionals

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Using a retrospective post-then-pre design, we asked Extension professionals to reflect on their work-life balance before and during the COVID-19 pandemic. The objectives were to assess whether work-life balance variables (work interference with personal life, personal life interference with work, and work-personal life enhancement) changed from before to during the pandemic, whether any changes in work-life balance were concentrated in households with parents who had caregiving responsibilities, and whether changes in any of these work-life balance variables were associated with respondents' gender, marital status, or work location. Findings indicated that (1) personal life interference with work significantly increased and work-personal life enhancement decreased during the pandemic; (2) respondents who had young children in the household reported a significant increase for work interference in personal life while respondents who did not have young children in the household reported a small decrease for work interference in personal life; and (3) changes in work-life balance variables were not associated with gender or marital status, but younger respondents and those with more direct contact with the public showed larger increases in personal life interference with work.

Keywords: work-life balance, work-life interference, work-life enhancement, COVID-19

Introduction

Extension administrators and researchers have been concerned about employee work-life balance for decades, with relevant research examining recruitment and retention (Kroth & Peutz, 2010), employee stress and burnout (Bradley et al., 2012; Ensle, 2005; Fetsch & Kennington, 1997; Russell et al., 2019), work overload (Kutilek et al., 2002), and the development of professional competencies, including time management and personal effectiveness (Cummings et al., 2015; Harder & Narine, 2020). To address these work-life issues, Patel (2018) has proposed a three-tiered model of the factors shaping work-life balance in the Extension setting: *individual awareness and attention*, which focuses on how the individual proactively organizes work and family factors in an effort to achieve healthy balance; *environmental factors* within the work

setting that include the characteristics of the physical location and work settings of employees that impact work-life balance; and *organizational policies* that can help or hinder the pursuit of work-life balance. While recognizing the influence of the work environment and organizational policies, the model emphasizes the primary importance of individual behavior in shaping work-life balance; this includes *purposeful management* in which individuals create personal and professional goals and create strategies for achieving these goals while balancing both spheres in their lives (pp. 237–238).

In the spring of 2020, the COVID-19 pandemic disrupted both family and work routines, leading to new dynamics of interest, especially at the intersection of work and family life. However, the research on work-life issues in Extension systems during the COVID-19 pandemic has been quite limited. The existing research related to the COVID-19 pandemic in the Extension context has primarily focused on clientele, with specific attention to health information-seeking behavior of adults during the pandemic (Lee & Worthy, 2021), systemic responses to client needs (Riden et al., 2020), provision of farm safety programming (Jepsen et al., 2020), remote delivery of Extension programming (Eck et al., 2022; Greene et al., 2022, Morefield & Fabregas, 2021; Tompkins, 2022), an assessment of Extension's response during the pandemic (Narine & Meier, 2020), and evaluation approaches adapted to pandemic constraints (Dobbins et al., 2021; Greene et al., 2022).

Two studies have explicitly addressed work-life issues in Extension during the COVID-19 pandemic. In a study of Utah Extension, Ciciurkaite and colleagues (2022) reported that work-life balance was among the top-rated areas of interest for Extension professional development programming. In addition, Israel and colleagues (2020) briefly addressed work-life issues in the context of a statewide survey of Extension professionals, finding that about 58% of Extension respondents reported *moderate* or *great* extent of difficulty balancing personal and professional needs during the pandemic, and about 45% reported a *moderate* or *great* extent of difficulty balancing working remotely and family needs during the pandemic. Both studies identify the importance of work-life issues for Extension personnel during the pandemic; however, neither study provides an in-depth understanding of the specific ways in which work-life balance has changed as a result of pandemic conditions, how specific work-life constructs are operating during the pandemic, or how work-life variables are influenced by other demographic and background characteristics. The present study seeks to fill this gap in the literature by specifically measuring work-life variables using an established instrument (Smeltzer et al., 2016), assessing change-over-time in work-life variables, and identifying specific groups of Extension professionals encountering the greatest challenges with work-life balance during the pandemic.

Literature Review

Kalliath and Brough (2008) have defined work-life balance as "the individual perception that work and nonwork activities are compatible and promote growth in accordance with an individual's current life priorities" (p. 326). In the current study, work-life balance is explored through a conceptual framework in which both the work and personal life domains can introduce conflict into the other domain but also can introduce enhancement into the other domain (Fisher, 2001; Smeltzer et al., 2016). The notion of work-life conflict reflects the reality that the work role may interfere with individuals' other personal life roles and interests and vice versa (Kossek & Lee, 2017). This conception of work-life conflict suggests that work duties, time usage, and stress can influence the quality of an individual's personal or family life, and personal or family duties, time usage, and stress can influence the quality of work duties. Individuals who experience high levels of work-life conflict report that their work role prevents them from concentrating on important things in their family lives, they have insufficient time or energy for the important people in their lives, and they feel like their work roles undercut their capacity to perform home-related-roles (Schieman et al., 2021).

In a meta-analysis of outcomes associated with work-life conflict, Amstad and colleagues (2011) found that work-life conflict was consistently associated with outcomes in the work domain (such as work satisfaction and organizational commitment), the family domain (such as marital satisfaction and family satisfaction), and the non-specific domain (such as life satisfaction and health problems). The strongest findings were found in the non-specific domain, with both work interference with family and family interference with work being associated with poor outcomes, including lower life satisfaction, more health problems, stress, psychological strain, and depression.

Relative to issues of work-life conflict, work-life enhancement has received much less attention in the research literature. Work-life enhancement focuses on the extent to which the work and personal domains increase the individual's energy and improve mood in the other domain (Smeltzer et al., 2016). In an American study of business managers, Fisher and colleagues (2009) found that enhancement variables were associated with both overall job stress and job satisfaction. In their systematic review of the literature, McNall and colleagues (2010) found that both work-to-family enrichment and family-to-work enrichment were associated with key outcomes, including family satisfaction, job satisfaction, and affective commitment to work. Moderator analyses revealed that the linkage between enrichment variables and both job satisfaction and family satisfaction was stronger in studies where most of the sample was female.

The COVID-19 pandemic created many challenges for employees in a variety of settings, and many workers had to learn to negotiate new roles working remotely from home, either part-time or full-time. In a Chinese study conducted during the pandemic, Wang and colleagues (2021a) conducted interviews with individuals working remotely during the pandemic and identified

several categories of remote work challenges based on these interviews: work-home interference, ineffective communication, procrastination, and loneliness. Further, the researchers identified four factors thought to contribute to worker effectiveness and well-being: job autonomy, monitoring, workload, and social support. Finally, the researchers identified self-discipline as a central characteristic of the individual that is especially important for shaping the quality of work in remote work settings.

In a study on work-life conflict during the pandemic, Schieman and colleagues (2021) found that average levels of work-life conflict decreased early in the pandemic among workers without children living at home and for parents of teenagers. However, parents of young children (0–13) did not experience the same decrease in work-life conflict. The authors contend that personal demands in the home became more pronounced because of childcare and related domestic needs. This situation became more of a burden in households having younger children, who naturally require greater care and supervision due to daycares and schools either closing or substantially altering their approaches, imposing an additional childcare burden on parents. In terms of the differential influence of gender, Qian and Fuller (2020) found that relative to employed fathers, employed mothers were more likely to become unemployed early in the pandemic, especially those whose youngest children were ages 6 to 12. The authors also found that low education amplified the gender employment gap for women in the early months of the pandemic. In fact, when education and childcare institutions shut down, caregivers, especially working mothers, frequently find themselves in a critical situation where they may need to make a choice between keeping their job and caring for their children.

Purpose and Research Questions

Extension professionals are subject to issues of long work hours, stress, and burnout (Russell et al., 2019; Russell & Liggans, 2020). During the COVID-19 pandemic, Extension personnel have experienced a variety of stressors, including substantial modifications to program delivery, changes in work settings, and concerns about health and safety (Eck et al., 2022; Israel et al., 2020; Stokes et al., 2021). Family life has also been disrupted with alterations to caregiving, schooling, social interactions, and family routines (Graham et al., 2021; Kotini-Shah et al., 2022; Prime et al., 2020). As a result, we hypothesized that perceptions of work-life balance among Extension personnel would be substantially altered during the COVID-19 pandemic. The overall goal of this study was to assess changes in work-life balance for Extension personnel from before the pandemic to during the pandemic, with the following hypotheses:

> Research Question 1: How did work-life variables (work interference with personal life, personal life interference with work, and work-personal life enhancement) change during the pandemic? We hypothesized that work interference with personal life and personal life interference with work would increase and that work-personal life enhancement would decrease from before the pandemic to during the pandemic.

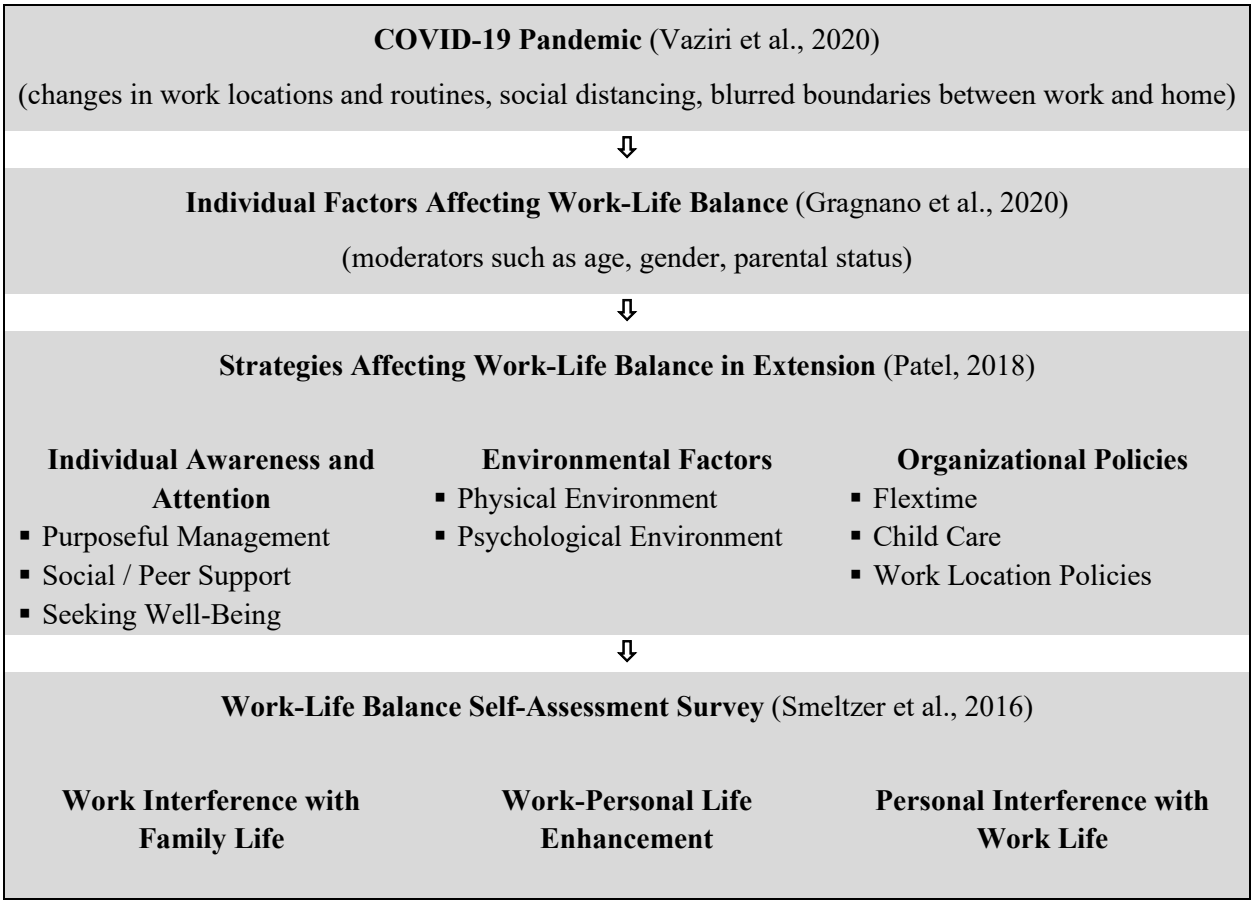
Research Question 2: Were changes in these work-life balance variables larger in individuals who were responsible for caregiving within their household? We hypothesized that changes in all work-life variables would be larger for individuals responsible for caregiving duties.

Research Question 3: Were changes in these work-life balance variables larger in specific groups as identified by respondents' gender, marital status, age, professional role, and work location? We hypothesized that changes in all work-life balance variables would be larger for females, married people, younger individuals, and those who continued to work in the office setting during the pandemic.

Given the stressors associated with the COVID-19 pandemic, along with the potential changes to work and family routines, research on work-life balance issues in the Extension context has the potential to inform Extension administration responses to work-life dynamics, especially for any subgroups that may be experiencing the most challenges.

The conceptual model for this study (Figure 1) is an integration of concepts from three different perspectives on work-life balance in the context of the COVID-19 pandemic. For many workers, the pandemic brought substantial changes to work-life conditions, including work locations, work routines, social distancing, and the blurring of boundaries between work and home (Vaziri et al., 2020). The effects of these changes on work-life balance are proposed to be different based on the characteristics of employees, such as age, gender, and parental status (Gragnano et al., 2020). Within the Extension context, Patel (2018) has proposed three levels of strategies that shape work-life balance for Extension professionals: individual awareness and attention, which includes active seeking of well-being and the proactive behaviors of the individual; environmental factors, which focus on the physical and psychological environments in which work is being conducted; and organizational policies such as flextime and work location policies. Finally, Smeltzer and colleagues (2016) created the Work-Life Balance Self-Assessment Survey, which was used in this study to measure three major constructs: work interference with personal life, personal interference with work, and work-personal life enhancement, which acknowledges the possible benefits of each domain.

Figure 1. Conceptual Model for the Study



Methods

The population was defined as Extension professionals included on the roster maintained by the Florida Cooperative Extension Service. The roster included county agents, multi-county and regional agents, statewide agents, regional and state specialists, support staff, administrators, and other miscellaneous Extension personnel. Using principles from Dillman and colleagues' (2014) tailored design method for surveys, 744 individuals were sent an email invitation and up to three reminders to participate in the survey during March and April 2021. Of these, 406 (54.6%) consented to participate, but 20 of these responses were not usable (defined as those who answered key demographic items and provided responses to the initial set of substantive items) for this study, leaving 386 responses. Of these, four respondents who were furloughed or not currently working were excluded from the analysis because their answers to work-life balance questions in this context would not be meaningful, leaving 382 in the sample used for the analysis.

The questionnaire for the study had two forms – a shorter version for respondents who answered an initial survey in 2020 (Israel et al., 2020) and a longer version for respondents who had not answered the survey in 2020 or were new hires. Although most respondents answered fewer

items due to skip patterns in the instrument or by completing the earlier survey, some respondents might have answered up to 141 items. The key work-life balance variables for this study were measured using the Work-Life Balance Self-Assessment Survey, and confirmatory factor models support the dimensionality and internal consistency of the items (Smeltzer et al., 2016). Scale validity has been established using both criterion-related validity (Smeltzer et al., 2016) and construct validity (Hayman, 2005). This instrument has three sub-scales, as described here. Work interference with personal life is comprised of 7 items, such as "My personal life has suffered because of work." Personal life interference with work is comprised of 4 items, such as "I have found it hard to work because of personal matters." Finally, work-personal life enhancement is comprised of 4 items, such as "I have been in a better mood at work because of personal life" and "My job has given me energy to pursue personal activities." Response categories for these items were *never*, *sometimes*, *about half the time*, *most of the ti*me, and *all the time*, and these were coded 0 to 4, respectively. For this study, scale scores were calculated as the mean for the respective set of items. As shown in Table 1, internal reliability scores (Cronbach's alpha) were above .8 for each subscale.

In addition, several variables of being a caregiver were measured, including whether the respondent was a caregiver of someone in the household, whether the respondent was the parent of a child, and the age of the children in the household. Finally, demographic measures (i.e., gender, marital status, age, professional role within Extension, and work location) were included in sub-group analyses.

Table 1. Distribution Statistics for Work and Personal Life Balance Subscales (n = 382)

	Mean	Std. Dev.	Skewness	Kurtosis	Cronbach's alpha
Work interference with personal life					
February 2020	1.218	0.844	0 981	0.675	.926
April 2021	1.252	0.902	0.855	0.089	.923
Personal life interference with work					
February 2020	.455	0.563	2.199	7.349	.864
April 2021	.533	0.605	1.706	3.329	.836
Work-personal life enhancement					
February 2020	1.938	0.964	0.343	-0.694	.819
April 2021	1.830	0.968	0.362	-0.532	.808

Note. Standard deviation, skewness, kurtosis, and alpha estimates are based on the median value from ten imputations.

The study was based on a retrospective post-then-pre design in which respondents were asked to assess each of the work-life balance questions based on their assessment during the pandemic (April 2021) and to reflect on these same items prior to the pandemic (February 2020). The retrospective post-then-pre design has been widely used in program evaluation studies, especially

on “noncognitive constructs” where individuals are asked to assess their own states (Little et al., 2020, p. 175).

As is common with survey data, many measures had some item nonresponse. For the items measuring work-personal life balance, item nonresponse ranged from 7.3% to 12.4% in the during COVID-19 (During COVID) set and 10.6% to 15.5% in the before COVID-19 (Pre-COVID) set. Item nonresponse for caregiving and demographic variables ranged from 4.4% to 18.7%, while gender, professional role, and current work location were complete. Multiple imputation (MI) was used to estimate plausible values of items with missing responses for 10 copies of the data set. MI is considered the most appropriate method to reduce the bias associated with survey nonresponse and increase the validity of the findings (Little, 1988; Schafer & Graham, 2002; van Ginkel et al., 2020). In short, MI provides valid statistical inferences while accounting for the uncertainty of the true values of missing items (Yuan, 2010).

Data were analyzed simultaneously using IBM SPSS Statistics (Version 27; SPSS) for the multiply imputed data set, and pooled results are reported below. When SPSS does not provide pooled estimates, the median value from the 10 imputations is reported. For Research Question 1, paired *t*-tests were conducted for the Pre-COVID and During COVID measurements of each work-life scale. Cohen’s *d* was calculated to assess the relative effect size of the change between the two points in time (Cohen, 1992). For Research Questions 2 and 3, repeated measures analysis of variance (ANOVA) with between-subjects factors was used to assess the effect of caregiving and work location, respectively, on the change between the Pre-COVID and During COVID measures for the work-life scales. Table 1 also displays estimates of the mean and distributional statistics. Although some estimates of skewness and kurtosis were larger than common benchmarks, analyses of log and square root transformations revealed inconsistent effects in reducing skewness and kurtosis across the work-personal life balance subscales. Previous studies have, however, shown the general linear model to be robust with respect to moderate violations of normality (Blanca et al., 2017; Hopkins & Weeks, 1990) and, consequently, the untransformed measures of the subscales were used in the analysis reported below. Sensitivity of the results from using the untransformed measures was checked by conducting the same analysis with log and square-root transformed measures. In addition, all ANOVA models were checked for and passed sphericity tests for multivariate normality (Keselman et al., 1996).

Based on the ANOVA results, estimated marginal means (EMMs) were calculated to aid in visualizing the effects of predictors on the work-life measures at each point in time. Note that EMMs can differ from the unconditioned means calculated with paired t-tests for the variables. A Bonferroni correction was used for comparing the significance of the estimated marginal means.

Results

A summary of the key demographic and background variables is presented in Table 2. Note that these counts are based on pooled data from 10 imputations, and the counts might not be whole numbers due to the missing data imputation process.

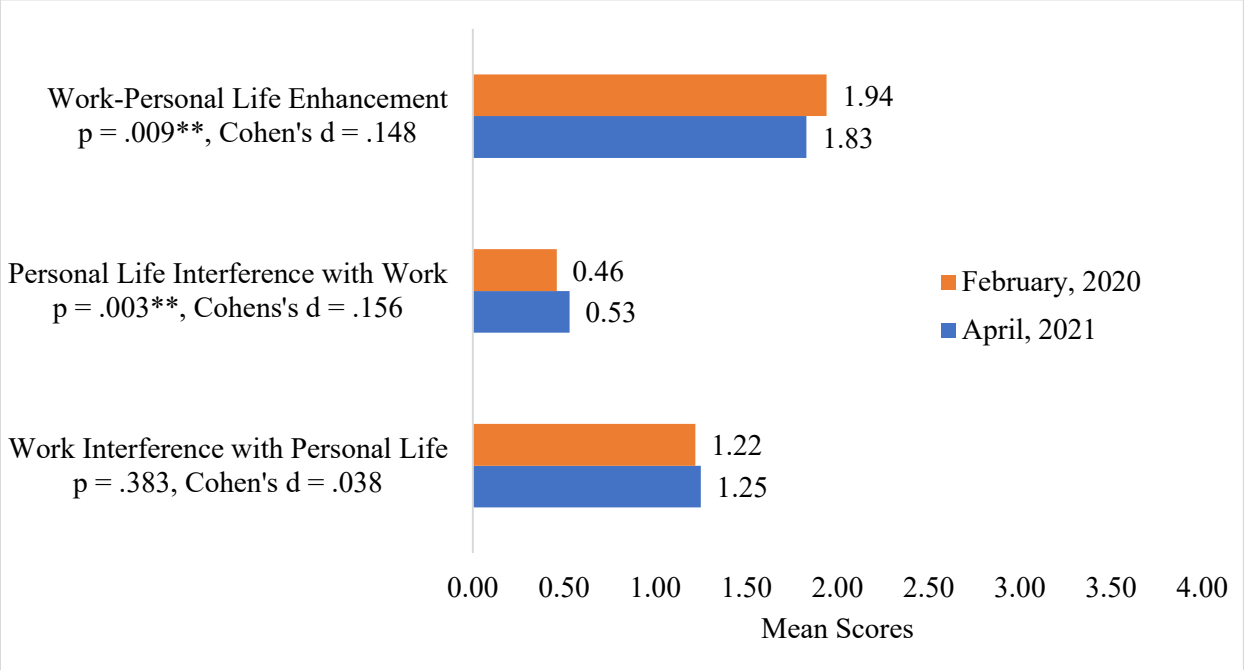
Table 2. Frequency Distributions of Caregiving and Demographic Variables in the Study

		Count	Percent
Provide homecare (of elderly, people with disabilities) due to COVID-19	Yes	36.3	9.5
	No	345.7	90.5
Children in the household	None	206.1	54.0
	Under 5 years only	33.2	8.7
	5 and older only	98.7	25.8
	Both age groups	44.0	11.5
Gender	Male	149.0	39.0
	Female	233.0	61.0
Marital status	Married	278.9	73.0
	Widowed	9.4	2.5
	Divorced	33.5	8.8
	Separated	5.4	1.4
	Never married	54.8	14.3
Age	18-34	43.6	11.4
	35-44	103.3	27.0
	45-64	200.2	52.1
	65 or older	34.9	9.1
Professional role	County agent	153	40.1
	Multi-county or regional agent/specialist	28	7.3
	State specialist	113	29.6
	Administrator	19	5.0
	Support staff	58	15.2
	Other role	11	2.9
Current work location	From regular office	172	45.0
	From home	78	20.4
	Hybrid	132	34.6

Research Question 1

To answer Research Question 1, paired *t*-tests were conducted for the Pre-COVID and During COVID measurements of each work-life scale. As shown in Figure 2, the average score in the work interference with personal life subscale in April 2021 was not significantly different from the score in February 2020. In contrast, the personal life interference with work subscale significantly increased while the work-personal life enhancement subscale significantly decreased during the same period. For both subscales, the amount of change is relatively small, as indicated by Cohen's *d*. In addition, it is important to note that the mean scores at both points in time are relatively low (well below the scale midpoint) for both the personal life interference with work subscale and the work interference with personal life subscale, while the mean scores for the work-personal life enhancement subscale showed the highest means for any of these subscales.

Figure 2. Mean Scores on Work-Life Variables from Pre-COVID to During COVID



Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Research Question 2

To answer Research Question 2, repeated measures ANOVA with between-subjects factors was used to assess the effect of caregiving and work location, respectively, on the change between the Pre-COVID and During COVID measures for the work-life scales. We calculated the associations between changes in the work-life balance variables and the caregiving roles of respondents. Specifically, these associations were modeled as the time-by-caregiving within subjects effects. As shown in the top panel of Table 3, the change in work interference in the personal life subscale was significantly associated with caring for a child under 5 years of age (*p*

= .037). The estimated marginal means reveal an increase of 16.6% in the work interference in personal life for caregivers of a young child, while those not caring for a young child had an exceedingly small decrease (0.6%) in work interference in personal life scores from February 2020 to April 2021. Although this association was significant, the effect size was small, as indicated by partial eta-squared (Cohen, 1992). Caregiving for a child under 5 was not associated with changes in either the personal life interference in work subscale or the work-personal life enhancement subscale (refer to the second and third panels in Table 3). Finally, none of the relationships between work personal life variables and caring for a child 5 or older in the household were significant, and there were no significant associations with caregiving of older adults and people with disabilities (data not presented).

Table 3. Estimated Marginal Means for Associations between Work and Personal Life Balance Subscales and the Presence of Children Under 5 in the Household (n = 382)

Work Interference with Personal Life	**No children under 5**	**Children under 5 in household**	**All respondents**	***p*-value**	**Partial η^2**
February 2020	1.224	1.196	1.210	ΔTime = .048*	.010
April 2021	1.217	1.394	1.306	Young child = .599	.001
All dates	1.221	1.295		ΔTime X child = .037*	.011
Personal Life Interference with Work	**No children under 5**	**Children under 5 in household**	**All respondents**	***p*-value**	**Partial η^2**
February 2020	0.444	0.503	0.473	ΔTime = .005**	.021
April 2021	0.511	0.620	0.575	Young child = .176	.002
All dates	0.477	0.561		ΔTime X child = .416	.005
Work-Personal Life Enhancement	**No children under 5**	**Children under 5 in household**	**All respondents**	***p*-value**	**Partial η^2**
February 2020	1.919	2.012	1.969	ΔTime = .019*	.014
April 2021	1.824	1.854	1.844	Young child = .414	.002
All dates	1.871	1.933		ΔTime X child = .598	.001

Note. *p*-value and partial η^2 estimates are based on the median value of multiply imputed data sets; +$p < .10$, *$p < .05$, **$p < .01$, *** $p < .001$.

Research Question 3

Research Question 3 focused on whether changes in the work-life balance variables were larger in specific groups as identified by respondents' gender, marital status, age, professional role, and work location.

Bivariate Analyses

In bivariate analyses, we found that changes in the work and personal life balance subscales were not significantly associated with gender, marital status, or work location (data not presented); age and professional role, however, were associated with changes (i.e., within-subjects effects) in personal life interference with work ($p = .025$ and $p = .003$, respectively). In addition, age and professional role were factors associated with different levels (i.e., between-subjects effects) of the personal life interference with work subscale ($p < .001$ and $p = .095$). Age, professional role, and work location also were associated with levels of work interference with the personal life subscale ($p = .001$, $p < .001$, and $p = .009$, respectively).

Multivariate Analyses

Repeated measures ANOVAs with between-subjects effects for age, professional role, and work location, as well as caring for a child under 5 were estimated, and the estimated marginal means of within-subjects and between-subjects effects are presented in Tables 4-6. Table 4 presents findings for the work interference with personal life subscale, Table 5 presents findings for the personal life interference with work subscale, and Table 6 presents findings for the work-personal life enhancement subscale.

After including age, professional role, and work location, caring for a child under 5 continued to show an association with the change in work interference with personal life subscale between February 2020 and April 2021 ($p = .039$). This effect, as measured by partial eta-squared, was small. Again, Extension professionals who care for a young child were estimated to have an increase in work interference with personal life (13.0%), while those not caring for a young child were estimated to have a decrease (6.4%). Regarding personal life interference with work, professional role was associated with change from before to during the COVID-19 pandemic ($p = .013$). State specialists were estimated to have the largest increase in personal life interference with work (39.9%), multi-county and administrative roles had small increases (10.6% and 8.6%, respectively), and county agents or support staff had almost no change. Other roles (a small percentage of respondents which included lab technicians and paraprofessionals) were estimated to have a decrease (48.2%) in work interference scores. Although age was associated with the change of personal life interference with the work subscale in the bivariate model, age was not significantly associated with change in this subscale after including professional role as a factor. Finally, none of the factors were found to be associated with changes in the work-personal life enhancement subscale from before to during the COVID-19 pandemic.

While professional role was significantly associated with change in the personal life interference with work subscale, this factor also influenced the level of work interference with personal life subscale ($p < .001$) and the work-personal life enhancement subscale ($p = .002$), respectively. For work interference with personal life, county agents had the highest estimated marginal mean, state specialists had the second highest mean, and all other roles were lower than these two groups both before and during the COVID-19 pandemic. Specifically, county agents and state specialists had significantly higher estimated marginal means than support staff ($p = .001$ and $p = .008$, respectively), and all other means were not significantly different. The opposite pattern (though logically consistent) was found for professional role's association with work-personal life enhancement, where county agents had the lowest subscale estimated mean followed by state specialists (Table 5). Specifically, the estimated marginal means were different between county agents and support staff and other roles ($p = .053$ and $p = .022$, respectively).

In addition, work location approached significance as an influence of the work interference in personal life subscale ($p = .059$). Specifically, respondents who worked both at home and in the office (i.e., the hybrid category) reported higher levels of work interference in personal life than those working at the office full-time ($p = .053$). Differences between full-time office and full-time home or between hybrid and full-time home did not approach significance). Age was significantly associated with the level of personal life interference with work ($p = .003$). Extension professionals 35 to 44 years old had the highest estimated marginal means, closely followed by those 18 to 34. In contrast, older age groups (45 to 64 and 65 and over) had lower estimated means. The difference in means was significant between the 35 to 44 and 45 to 64 age groups ($p = .007$) and the 35 to 44 and 65 or older age groups ($p = .045$).

Table 4. Estimated Marginal Means for Associations for the Work Interference with Personal Life Subscale and Caregiving for a Young Child, Age, Professional Role, and Work Location

Caregiving status									
	Care for child < 5	**No care for child < 5**	**All persons**					***p*-value**	**Partial η^2**
February 2020	1.095	1.133	1.114					ΔTime = .729	.000
April 2021	1.237	1.061	1.149					Caregiving = .459	.001
All dates	1.166	1.097						ΔTime X Caregiving = .039*	.011
Age									
	18-34	35-44	44-64	65+	All ages				
February 2020	1.229	1.177	0.984	1.066	1.114			Age = .125	.015
April 2021	1.240	1.301	1.083	0.972	1.149			ΔTime X Age = .433	.007
All dates	1.234	1.239	1.033	1.019					
Professional role									
	County agent	**Multi-county[a]**	**State specialist**	**Adminis-trator**	**Support staff**	**Other role**	**All roles**		
February 2020	1.416	1.039	1.321	0.996	0.950	0.962	1.114	Role < .001***	.063
April 2021	1.447	1.128	1.459	1.056	0.906	0.898	1.149	ΔTime X Role = .793	.006
All dates	1.431	1.083	1.390	1.026	0.928	0.930			
Work location									
	Regular office	**Home**	**Hybrid**	**All work locations**					
February 2020	1.015	1.088	1.239	1.114				Location = .059^{+}	.015
April 2021	1.061	1.121	1.265	1.149				ΔTime X Location = .943	.000
All dates	1.038	1.105	1.252						

[a]Multi-county includes multi-county agents and regional agents/specialists.

Note. *p*-value and partial η^2 estimates are based on the median value of multiply imputed data sets; $^{+}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$.

Table 5. Estimated Marginal Means for Associations for the Personal Life Interference with Work Subscale and Caregiving for a Young Child, Age, Professional Role, and Work Location

Caregiving status									
	Care for child < 5	**No care for child < 5**	**All persons**					***p*-value**	**Partial η^2**
February 2020	0.480	0.477	0.478					ΔTime = .778	.000
April 2021	0.503	0.464	0.484					Caregiving = .519	.001
All dates	0.491	0.470						ΔTime X Caregiving = .557	.001
Age									
	18-34	**35-44**	**44-64**	**65+**	**All ages**				
February 2020	0.588	0.564	0.371	0.390	0.478			Age = .003**	.038
April 2021	0.563	0.676	0.405	0.290	0.484			ΔTime X Age = .148	.014
All dates	0.576	0.620	0.388	0.340					
Professional role									
	County agent	**Multi-county[a]**	**State specialist**	**Adminis-trator**	**Support staff**	**Other role**	**All roles**		
February 2020	0.522	0.517	0.476	0.374	0.471	0.508	0.478	Role = .621	.009
April 2021	0.534	0.572	0.666	0.406	0.461	0.263	0.484	ΔTime X Role = .013*	.038
All dates	0.528	0.544	0.571	0.390	0.466	0.385			
Work location									
	Regular office	**Home**	**Hybrid**	**All work locations**					
February 2020	0.422	0.490	0.523	0.478				Location = .371	.005
April 2021	0.437	0.510	0.504	0.484				ΔTime X Location = .758	.001
All dates	0.430	0.500	0.513						

[a]Multi-county includes multi-county agents and regional agents/specialists.

Note. *p*-value and partial η^2 estimates are based on the median value of multiply imputed data sets; $^{+}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$.

Table 6. Estimated Marginal Means for Associations for the Work-Personal Life Enhancement Subscale and Caregiving for a Young Child, Age, Professional Role, and Work Location

Caregiving status									
	Care for child < 5	**No care for child < 5**	**All persons**					***p*-value**	**Partial η^2**
February 2020	2.199	2.064	2.131					ΔTime = .077^{+}	.008
April 2021	2.048	1.973	2.010					Caregiving = .339	.002
All dates	2.124	2.018						ΔTime X Caregiving = .626	.001
Age									
	18-34	**35-44**	**44-64**	**65+**	**All ages**				
February 2020	2.010	2.088	2.206	2.222	2.131			Age =. 377	.008
April 2021	1.951	1.866	2.114	2.111	2.010			ΔTime X Age = .400	.008
All dates	1.980	1.977	2.160	2.167					
Professional role									
	County agent	**Multi-county[a]**	**State specialist**	**Adminis-trator**	**Support staff**	**Other role**	**All roles**		
February 2020	1.733	2.140	1.951	0.996	2.112	2.729	2.131	Role = .002**	.049
April 2021	1.649	1.914	1.828	1.056	2.120	2.430	2.010	ΔTime X Role = .580	.010
All dates	1.691	2.027	1.889	2.123	2.116	2.580			
Work location									
	Regular office	**Home**	**Hybrid**	**All work locations**					
February 2020	2.159	1.985	2.251	2.131				Location = .269	.007
April 2021	1.953	1.993	2.086	2.010				ΔTime X Location = .149	.010
All dates	2.056	1.989	2.169						

[a]Multi-county includes multi-county agents and regional agents/specialists.

Note. *p*-value and partial η^2 estimates are based on the median value of multiply imputed data sets; $^{+}p < .10$, $*p < .05$, $**p < .01$, $***p < .001$.

Conclusion and Recommendations

We found that Extension professionals reported small but significant increases in personal life interference with work and decreases in work-personal life enhancement during the COVID-19 pandemic. There were no significant changes for work interference with personal life for Extension professionals as a whole. In addition, we found that changes in the work-life balance subscales were not associated with caregiving for adults or those with disabilities. We also found no significant relationship between changes in work-life variables and caring for older children. We did find a small but significant relationship between changes in the work interference in the personal life subscale and caring for a younger child. Next, we found no significant associations between changes in the work-life balance variables and gender, marital status, or work location. However, age and professional role were associated with changes in personal life interference with work from before the pandemic to during the pandemic. Relative to other roles, state specialists showed the largest increases in personal life interference with work. Likewise, younger professionals had a larger increase than older ones in personal life interference with work. Also, younger ages, agent and specialist roles, and hybrid work location were associated with higher levels of work interference with personal life at both points in time. In addition, caregivers of young children showed increases in work interference with personal life, which is similar to previous research, which found that overall work-life conflict was reduced over the course of the pandemic, but that parents of young children experienced reductions of a lower magnitude than non-parents and parents of older children (Schieman et al., 2021).

Given that the presence of young children was associated with increased work-life conflict during the pandemic, it is interesting that we found no gender differences in the key variables of interest. In a study based on the Canadian General Social Survey, Dilmaghani and Tabvuma (2019) found that there were no statistically significant differences between men and women in work-life balance satisfaction overall, but that satisfaction did differ for some occupations, with men having higher satisfaction in management and education/legal services, while women had higher satisfaction in the trades/transport category. These findings would suggest that research on work-life balance issues needs to pay attention to the domain of the work being analyzed. Further, Extension professionals tend to have high levels of education, which may be associated with parenting and gender attitudes, which could influence the work-life balance variables assessed here.

While only approaching significance ($p = .056$), the relationship between hybrid work locations (i.e., both in a formal office and in a home setting) and higher work-life conflict is interesting, especially given the increasing prevalence of hybrid and remote work arrangements arising from the pandemic (Diab-Bahman & Al-Enzi, 2020; Gorjifard & Crawford, 2021). This finding contrasts with the assumption that hybrid settings are more family-friendly and are generally preferred by employees (Gratton, 2021; Wang et al., 2021b). Gratton (2021) proposed that some

managers see the pandemic as "a once-in-a-lifetime opportunity to reset work using a hybrid model—one that, if we can get it right, will allow us to make our work lives more purposeful, productive, agile, and flexible" (p. 3). However, our findings suggest that hybrid settings can also create challenges for some individuals, especially in terms of how work is affecting family life. While focused on remote work arrangements (not hybrid ones), a large European study of public servants also found that working from home was associated with higher levels of work fatigue and lower perceived work-life balance (Palumbo, 2020). Possible mechanisms for heightened work-life conflict in hybrid and remote work settings include difficulties in "switching off" the stresses and concerns related to work (Felstead & Henseke, 2017) and struggles with managing work and family boundaries in remote settings (Shirmohammadi et al., 2022a). Given the likelihood that remote and hybrid work arrangements are likely to continue in many settings (Diab-Bahman & Al-Enzi, 2020; Gorjifard & Crawford, 2021), this is an issue that is especially promising for future research.

While work-life balance initiatives in Extension have been in place for years (Ensle, 2005; Patel, 2018), they need to be modified and expanded to address the current issues facing Extension professionals. Patel's (2018) three-tiered framework for work-life balance issues in Extension systems suggests that action steps can be formulated at multiple levels of the system. At the level of what he terms individual awareness and attention, he calls for proactive planning on the part of individual employees. This can include honest self-assessment and action planning specific to the individual's needs, desires, and characteristics. At the level of environmental factors, Extension professionals need to shape their physical and psychological environments as much as possible. For example, the physical structure of the home office, including location within the home and the presence or absence of needed work equipment, can shape perceptions of the remote work experience (Gorjifard & Crawford, 2021). Finally, at the level of organizational policies, there is potential for Extension systems to revisit their current policies to meet employee needs in the current environment.

Consistent with our finding that work-life balance issues are more concentrated in specific subsets of the Extension workforce, policies can be tailored to the specific realities of different groups of professional roles, including those who have caregiving duties and those working in hybrid work situations. In this vein, Darcy and colleagues (2012) advocated for a more nuanced and tailored understanding of the work-life balance needs of different segments of the workforce, specifically those at different stages of their careers. Similarly, Kossek and colleagues (2012) used a person-centered analysis to identify six distinct work-nonwork boundary management styles, which include styles labeled as "Job/Work Warriors" (defined as work-centric and having low boundary controls between work and nonwork roles) and "Family Guardians" (defined as family-centric individuals who allow nonwork activities to interrupt work, but not vice versa). In turn, the different clusters of workers had differential outcomes in terms of work-family conflict and psychological distress. The authors conclude that the linkage between distinct groups of

workers and work-life outcomes "suggests the potential utility of developing distinct intervention strategies tailored to different groups" (p. 124).

In the Extension context, such tailored interventions could be developed for subsets of workers (e.g., caregivers, individuals working in remote or hybrid settings, early and late career professionals), or person-centered analyses could be conducted to identify distinct groups of Extension professionals and develop interventions tailored to their characteristics more precisely. Immediate supervisors can also play a key role in tailoring approaches to the characteristics of their employees, which is consistent with research that links perceptions of supervisory support to work-life balance outcomes (Darcy et al., 2012; McCarthy et al., 2013). Kumar and Mokashi (2020) found that supervisor support during the COVID-19 pandemic was predictive of enhanced work-life balance, concluding "that the supervisory role has a monumental contribution towards assisting their subordinates in managing work and family engagements" (p. 7). Extension administrators and leaders can start by asking good questions and listening to the answers of Extension professionals to assess needs and formulate meaningful plans. For example, Forstadt and Fortune (2016) described a participatory process in which Maine Cooperative Extension used surveys, interviews, and focus groups to identify major themes related to work-life balance, as well as the need for "collegiality and connection" and the desire to "feel more connected to the organizational visions and strategic plans" (p. 4). By engaging in this participatory process, the team created a meaningful dialogue resulting in tangible recommendations for organizational improvement and individual well-being. Finally, Shirmohammadi and colleagues (2022b) recommend offering a portfolio or range of options for remote work that allow for employee choice in shaping their work environments, as well as flexibility and adaptation over time to calibrate these options to what is working best.

Strengths and Limitations of the Study

The current study contributes to our understanding of important dynamics related to work-life balance issues for Extension professionals in the context of the COVID-19 pandemic. There is little existing literature addressing this specific audience in these conditions (Ciciurkaite et al., 2022; Israel et al., 2020), and this study explored the ways in which the pandemic has affected how Extension personnel are able to navigate their work and family roles in difficult circumstances. The current study is the first to explicitly address work-life balance issues in the Extension context during the COVID-19 era using strong, established instrumentation to measure relevant work-life balance concepts. In addition, the sample of respondents was large enough to allow for strong analysis techniques to answer the research questions posed. The sample also includes a wide array of Extension professional roles, allowing the analysis to address issues related to sub-group effects and to generate implications for these different groups.

While the sample was large and relatively diverse, it was drawn from a single state Extension system; given the diversity across state systems and settings, it is possible that some of these

findings may not generalize to these other settings with different characteristics. As a result, readers should be careful when exploring applications of these findings to other settings. While the retrospective post-then-pre design allowed for pre-post comparisons in the context of an unanticipated event (the global pandemic), this approach has the potential to be confusing to respondents in terms of format and may introduce possible response bias if respondents identify a presumed connection between the concepts (in this case, work-life balance variables) and the event under study (in this case, the global pandemic; See Chang and Little, 2018 for a full analysis of the benefits and limitations of post-then-pre design). Little and colleagues (2020) reviewed the available evidence and found the design to be valid for many situations, encouraging its more widespread use. Finally, most of the significant findings in this study had modest effect sizes, so we must be cautious about over-interpreting these results and the corresponding implications for Extension systems.

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