

Article

Changing the nature of traditional workplace and evolving virtual work intensity environment; experience of university staff during Covid-19

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Abstract: The employees in academic sector had to face an abrupt change due to Covid-19 pandemic and transformation of education into online and remote learning. This has led to virtual work intensity as an aftermath that negatively influences employees' job satisfaction. In addition, due to remote working conditions, the lines between work and life had been dimmed and thus, the current situation is important to be addressed for wellbeing of academic staff. This research specifically aims to examine impact of virtual work intensity on job satisfaction among university staff. Furthermore, mediating effect of organizational support and work-life balance on the aforementioned relationship are analyzed to better understand the underlying effects. Through PLS-SEM and using a questionnaire survey, a total of 183 data were collected from teachers and administrative staff of two universities. The results show that virtual work intensity can hinder job satisfaction, while organizational support and work-life balance can improve job satisfaction of academic employees. This is due to the fact that support, and balance act against work intensity that diminishes wellbeing of individuals. This implies the vital role of organizations (e.g., human resource department) in providing support for their staff, and creating an environment, where academic staff can have a better work-life balance, leading to higher rates of job satisfaction as an important factor for psychological wellbeing.

Keywords: virtual work; organizational support; human resource management; work-life balance; job satisfaction; academia

1. Introduction

With advancements of technology, and increased competitiveness, the number of organizations deploying virtual systems has been increasing (Ale Ebrahim et al., 2009; Qui and Dauth, 2021). It has been noted in a number of studies that due to its recency, the concept of virtual work environment and its relevant factors require analysis and examination and the studies surrounding the subject are relatively limited, which provides a path for further evaluation, especially empirical evidence (Mansfield, 2018; Zacher and Rudolph, 2021). Within the realm of Human Resource Management (HRM), there have been various elements linked to virtual work intensity and its outcome/underlying effects such as, team-member exchange (TMX), supervisors' role, job satisfaction, compensation, and work-family balance (Herzberg, 1974; Hong et al., 2016; Islam and Ali, 2013; McNall et al., 2009; Schall, 2019). This research emphasizes on the abrupt changes occurred on educational sector as a high-performing industry (Bouwmeester et al., 2021), due to global pandemic of Covid-19. This has forced educational institutions to shift into virtual workspaces as a response to imminent threat of the virus. In this sense, the current research aims to empirically

examine the effects of virtual work intensity among academic staff on their job satisfaction. The question is whether through appropriate practices (i.e., organizational support, and work-life balance) promoted by HRM departments in universities, overall job satisfaction of academic staff can be improved. As the ultimate outcome, the research conceptualizes job satisfaction as an important matter for psychological wellbeing. Virtual work is regarded as an arrangement for work that does not rely on interaction in-person, and location as it is conducted through virtual platforms (Cho and Park, 2021; Raghuram et al., 2019). The current research aims to contribute to the current understanding on the subject of virtual work from a psychological standpoint that measures a number of elements (i.e., organizational support, job satisfaction, and work-life balance). This study aims to examine whether provision of support by organizations through HR initiatives can increase job satisfaction among academic staff. Additionally, similar practices that focus on establishing work-life balance are included in the current study as another mediating variable that can better explain enhanced job satisfaction.

Virtual work is a mean for cost reduction for companies, which can yield in competitive advantages due to its problem-solving ability for complex systems (Bussing and Aumann, 1996). Virtual work intensity (VWI) has been linked to job satisfaction, and recommended for more analysis (Bellmann and Hubler, 2020; Mansfield, 2018; Qui and Dauth, 2021). As the current research takes the global pandemic effects into account as a means for increased virtual work intensity for academic staff, it is important to note that other crises have caused a tendency towards virtual workplaces as noted in the extant literature (e.g., natural disasters, war, industrial incidents, data security issues, political strings, and financial problems) (Hewitt, 1983; Rosenthal and Kouzmin, 1997; Zacher and Rudolph, 2021). The value of current paper lies within the notion of Covid-19 pandemic as the most recent global crisis that has encouraged scholars to investigate its impacts on human lives. The current research focuses on psychological factors (i.e., job satisfaction) that have been hindered due to intense virtual work settings, forced to individuals working in education sector. Academic staff were urgently shifted to work from their homes and experience intensity in handling their day-to-day tasks (Telyani et al., 2021). It is argued in the current research that the aforementioned change posed an array of negative effects on individuals' wellbeing, including and not limited to job satisfaction, and work-life balance, which are considered as outcomes of intensified work in a virtual setting that combines life and work domains. In doing so, the current research addresses the gap noted in the literature that surrounds education sector and particularly, regarding the region of Middle East. Therefore, the current research aims to contribute to the understanding of VWI and its effects on job satisfaction in the aftermath of the global pandemic. This can be useful for scholar examining impacts of crises on different domains of human life as well as practitioners in the education sector, who seek to better comprehend influences of crises on their employees. Ultimately, the current results can be used by university managers to implement systems in their organizations that foster a supportive environment that focuses on wellbeing of staff. This in turn, can yield in a more positive educational environment for students as satisfied teachers are more likely to perform better with more motivation and engagement (Telyani et al., 2021).

Building on the findings in the recent and relevant literature, this study examines the linkage between VWI and job satisfaction among academic employees (Bellmann and Hubler, 2020; Qui and Dauth, 2021; Sandoval-Reyes et al., 2021; Zacher and Rudolph, 2021). As noted earlier, this section had to face severe and abrupt changes, which impacted the livelihood of employees considerably. The conduct of this research can provide a better understanding on how intensified work settings (i.e., remote) can negate job satisfaction among academic staff. The role of organizations (especially HR department) in providing the highly needed support and mechanisms that foster work-life balance is emphasized as the education sector is highly demanding, and the pandemic restricted the resources available for academic staff to conduct their tasks. Thus, the aim is to contribute to organizational behavior, and organizational psychology literature, while adding to the recent strings of studies that analyze the impacts of Covid-19 as a global crisis. In this sense, a number of theories are embedded in the context of current study that are further explained the following section.

According to what was mentioned, this study endeavors to yield in results that can be beneficial for scholars, academic staff and decision-makers in universities. From theoretical standpoint, scholars can benefit from current results as they pertain to application and expansion of deployed theories in the context of Jordanian education sector. Practitioners in the field can have a better understanding on important and influential elements that can be implemented in universities to ensure that wellbeing of individuals are focused upon during times of crises. In this respect, the role of organizations to provide and establish a work setting that emphasizes on wellbeing of employees is taken into consideration. Similarly, the importance of work-life balance is examined as it is linked to the high demands of education sector, and changes in demands and resources during the pandemic. As job satisfaction incorporates job-related factors and personal elements, this research focuses on academic staffs' job satisfaction as they carry an important role in the society (i.e., educating and nurturing future generations). Therefore, understanding determinants of job satisfaction in this sector during crises (i.e., Covid-19 pandemic) can pave the way for strategic implementation of practices and systems that equip universities for facing future crises.

It has been reported that webinars, tutorials, assist programs, counseling services that focus on employees' wellbeing during times of crisis are among the initiatives that HRM can deploy to enhance job satisfaction (Zacher and Rudolph, 2021). Interestingly, it is mentioned that the impacts of crises vary among individuals. Within the context of current research, chronic illnesses in family, disrupted work-life balance, and psychological elements such as, loneliness and stress can be examples of aspects that can differ among individuals (Carnevale and Hatak, 2020; Cho and Park, 2021; Joss et al., 2021). The aforementioned elements are vivid and significant during Covid-19 pandemic, particularly for the academic staff as a high performing sector that had to change its general setting in a short time (Bouwmeester et al., 2021; Qui and Dauth, 2021; Telyani et al., 2021). The role of HRM becomes vital in provision of job autonomy, and support (Obenauer, 2021). Frequent meetings, developing network systems, and holding events have been reported as initiatives that HRM can carry out for their single employees with the aim of reducing loneliness and/or negative

psychological outcomes of social exclusion (Kniffin et al., 2021). Following what was mentioned, this research investigates this context from the perspective of academic staff in Jordanian universities. Notably, there is a scarcity in the extant literature pertaining to the Middle East and Jordan particularly, which further drives the conduct of this study.

Furthermore, VWI is linked to work-life balance due to its flexibility in time and/or place. It blurs the line between work and life (Fonner and Roloff, 2010; Qui and Dauth, 2021) especially for jobs that normally are conducted in a traditional setting (e.g., office or classroom). Improving job quality, security, and enabling employees' voice can be effective for balancing the intensity of virtual work with other domains of life (Butterick and Charlwood, 2021). In accord with what was noted, this study highlights the role of HRM practices in addressing wellbeing of academic employees during Covid-19 pandemic by providing organizational support, and reducing work intensity to enhance work-life balance. In this regard, the current results can be used as strategies for academic institutions, when facing future crises, and have a prepared system that can foster wellbeing and job satisfaction for employees. This further contributes to studies that examine the effects of global crises in different sections of the human society and specifically, psychology. Similar to what was mentioned above, the role of work-life balance is focused in terms of its mediating impact on VWI-job satisfaction relationship during the pandemic. It is argued in this research that through practices and systems that promote work-life balance and provide support to the academic staff, the negative effects of intense virtual work on job satisfaction can be reduced. This in turn can lead to higher levels of job satisfaction that is undoubtedly influential on performance, and can enable positive organizational behavior.

2. Theoretical framework

While the subject of virtual work is not new for scholars, the literature suggests that it requires further investigation (Chanana, 2021; John et al., 2020; Yu and Wu, 2021). This is seen especially regarding the concept of job satisfaction as there is a call by scholars to examine this factor in different sectors especially, those with high demands and shifted settings (i.e., traditional to online) (Burman and Shastri, 2016; John et al., 2020; Orhan et al., 2016; Niebuhr et al., 2022; Qui and Dauth, 2021). It has been also noted in the literature that the linkage between VWI and job satisfaction cannot be regarded as a mere linear relationship (Qui and Dauth, 2021), implying that there are other factors involved in this regard (e.g., organizational support, wellbeing, leadership, exchanges and interactions among peers and supervisors, organizational culture, and work-life balance) (Hirawati, 2022; Niebuhr et al., 2022; Sapta et al., 2021). This shows that the subject at hand is complex by nature and thus, requires empirical evidence to yield in a better comprehension of underlying effects. Accordingly, it can be said that the intensity of virtual work is not the only factor influencing job satisfaction, and therefore, existence of mediator or moderating variables should be assessed (Cho and Park, 2021; Rodríguez-Modroño and López-Igual, 2021). This research also justifies its conduct as there are limited number of empirical studies that address the effects of VWI, especially during Covid-19

pandemic and in the context of Middle East (i.e., Jordan).

Following what was mentioned above, this study embeds a number of theories that address employees' perception of job satisfaction through HRM initiatives during the pandemic. In this sense, through Transactional Stress Model (Lazarus and Folkman, 1984) it is emphasized that crises such as, the pandemic are highly impactful on life of individuals that ranges from physical threats to psychological and mental wellbeing. This model addresses the capacity of individuals in adjusting to a crisis that impacts environment-individual interactions (i.e., lockdowns and other restrictions during the pandemic). This model has been used in recent and relevant studies (Zacher and Rudolph, 2021) in the literature that examine similar contexts. This theory is relevant as it encompasses stress caused by the pandemic and hindered wellbeing due to restrictions and threats. Within the current context, this model can guide HRM to initiate training and support programs for staff to positively affect their wellbeing by recognizing stress caused by the pandemic. The direct effect of VWI on job satisfaction has been reported in the extant literature from earlier studies (Powell et al., 2004) to more recent studies conducted during the pandemic (Chanana, 2021; Yu and Wu, 2021). Building on the recent findings, the current study includes organizational support and work-life balance as mediators that better explain the relationship between VWI and job satisfaction. In this respect, this research deploys modern analytical method that can yield in more accurate results based on the narrative and context under examination as well as the proposed theoretical model (i.e., PLS-SEM) (Cho and Park, 2021; Qiu and Dauth, 2021; Zacher and Rudolph, 2021).

Working from home, insecurity related to job, autonomy, and support have been reported as important factors during the Covid-19 pandemic that affect employees' satisfaction, and overall performance (Hirawati, 2022; John et al., 2020; Niebuhr et al., 2022; Sapta et al., 2021; Zakhem et al., 2022). Researcher have reported that women with children are more exposed to burnout, and exhaustion. Thus, certain demographics require more autonomy and support, when their work-life balance is affected by virtual work system (Meyer et al., 2021), especially in education sector due to its high demands (Khawand and Zargar, 2022; Telyani et al., 2021). Job demands-resources model (JD-R), and transactional stress model, are able to address negative outcomes in terms of work behavior among employees, when crises occur that affect/change demands, resources, and cause stress to the individuals (Syrek et al., 2021). Through JD-R model that addresses the features of job through demand and resources entailing strain and motivation (Demerouti et al., 2001), this research establishes the importance of work-life balance, and influence of support that can reduce stress by providing mental and/or developmental communications. This model is used in crisis situations as such events create visible changes for job settings (e.g., emotional demand, cognitive sources, reduced resources, and job insecurity). Therefore, it is emphasized in this study that HR departments have a major role in lowering negative effects such as, stress, work-life imbalance, and insecurity by enhancing working settings of employees through organizational support (i.e., meetings, training, social events, and counseling) (Zacher and Rudolph, 2021).

In addition to what was mentioned, Event System Theory (Morgeson et al., 2015) is embedded within the context of this research. In the premise of this theory, the global pandemic had extreme features (e.g., strength, scale, unexpectedness,

disruptiveness, and critical) with severe impacts on global societies, businesses, and individuals. Thus, this theory is used to support the argument that academic employees' experiences has been significantly affected by abrupt changes in their working systems from traditional to virtual workspaces with significantly higher intensity (Shoss et al., 2021; Zacher and Rudolph, 2021). This reportedly has been linked to various work outcomes particularly, job satisfaction (Bellmann and Hubler, 2020; Cho and Park, 2021; Como et al., 2021). In addition, virtual teamwork, work-family conflict, job search behavior and insecurity, and loneliness have been examined in recent studies related to Covid-19 (Klonek et al., 2021; Krug et al., 2021; Lin et al., 2021; McFarland et al., 2020; Vaziri et al., 2020). Embedded within the premise of Social Identity Model of Identity Change, it is taken into account that memberships in social groups is a crucial matter during times of extreme change for wellbeing of individuals (Haslam et al., 2021, 2009). The current study focuses on the role of HRM regarding provision of group interactions (virtual) and other supportive initiatives to positively affect job satisfaction. Based on this contextualization and combination of aforementioned theories, the current research investigates the effects of VWI on job satisfaction among academic staff in Jordanian universities to contribute to the current understanding of the subject. As individuals in this sector were deprived of their social groups, which normally would be a constant part of their daily work, the following hypothesis is emerged:

Hypothesis 1: VWI has a negative impact on academic staffs' job satisfaction during Covid-19 pandemic.

It is important to note that upon the lockdown during the pandemic, academic staff were not able to interact with others (i.e., peers and/or students) (social identity model of identity change theory), nor were they able to attend initiatives offered by organizations as traditional means of support were disrupted. This is also linked to the premises of JD-R model, transactional stress model, and event system theory as noted above. Virtual platforms that were introduced required training (for some staff), while the structure of platforms were erroneous as updates were needed to eliminate bugs. Considering the changes in job demands, and lack of adequate resources alongside stress related to the job and the environment (health hazards), the need for appropriate support becomes more vivid. In this sense, the current research argues that organizational support (specifically conducted by HRM) is vital as it can lower stress, provide resources, and establish sense of social group through practices such as, training, meetings, counseling, and virtual social groups that can positively impact the wellbeing of academic staff during Covid-19 pandemic (Cho and Park, 2021). Organizational support can be explained as the perception of staff regarding the extent of which their firms exhibit value to their work and contributions as well as their overall wellbeing, and quality of life (Gillet et al., 2013).

Notably, work engagement and job satisfaction of academic staff can be diminished as loneliness and stress interfere with work-life balance (Telyani et al., 2021). In the aftermath of the global pandemic, academic were forced to work from home, which combined with curfews and other restrictions, posed risks to their wellbeing and their performance (e.g., stress, loneliness, lack of social interactions and more). In this sense, this research argues that organizational support can mediate the linkage between virtual work intensity and job satisfaction as it can negate the

aforementioned negative impacts through provision of adequate and needed care. This is linked to the premises of Self-determination Theory (Deci and Ryan, 2012), as organizations can provide means for their staff to fulfill their need for autonomy, connection and competence. Similarly, JD-R model, Social Identity Model of Identity Change, and event systems theory are embedded in this context as they explain and encompass the issues that arise in workplace and settings due to the pandemic. These theories layout a premise that should be taken into consideration by organizations to aid their staff in handling crises. This is emphasized in this research as a vital matter for overall wellbeing of academic staff through increased job satisfaction. The focus of academic organizations on personal and professional development of their staff establishes an atmosphere of positive feelings towards work environment (Crucke et al., 2021; Qui and Dauth, 2021), especially when work and life realms are collided (due to Covid-19 pandemic in this case). In the light of what was noted, the following hypothesis has emerged:

Hypothesis 2: Organizational support mediates the relationship between VWI and job satisfaction during Covid-19 pandemic.

This study further develops the work of Qui and Dauth (2021) by inclusion of work-life balance (WLB) as opposed to work-family balance (WFB) as a comprehensive concept entailing a broader spectrum of an individuals' life with regards to their work (Joseph et al., 2019). While WFB addresses the family and work domain linkage, WLB incorporates family, personal life/self-care, friends, society, and religion. Linked to the aforementioned theories (i.e., event systems theory, and Social Identity Model of Identity Change), the concept of WLB encompasses the context of current research in a more profound manner. The mediating role of WLB on job satisfaction for virtual work environments has been reported in the extant literature (Bellmann and Hubler, 2020; Felstead and Henseke, 2017; Sandoval-Reyes et al., 2021). While organizations can have an influence on creation of work-life balance in a higher level, the current research considers this factor as a mediating element to analyze the proposed model with regards to the presented in **Figure 1**. If work-life balance is low and jeopardized, it negatively impacts job satisfaction and vice versa (Bellmann and Hubler, 2020). As the intensity of virtual work suddenly increased for academic staff during the early stages of global pandemic, its impacts are assumed to be negative on job satisfaction in this research, which can be mediated through both WLB. Accordingly, the following hypothesis is derived:

Hypothesis 3: WLB poses a mediating effect on VWI-job satisfaction linkage as its positive range can improve job satisfaction of academic staff.

As the analytical method of this research is PLS-SEM, all paths defined in the proposed model below are analyzed (6 arrows) to provide a thorough understanding on the effects and relationships with regards to the stated hypotheses (**Figure 1**). Thus, in the analytical process, each path is given a hypothesis number pertaining to the abovementioned arguments as it can be seen in **Figure 1**.

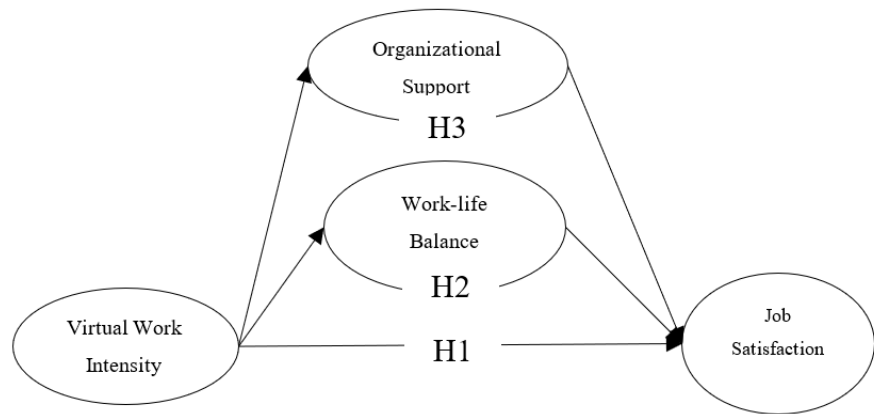


Figure 1. Proposed model.

3. Research methodology

3.1. Sampling procedure

This research uses a quantitative approach through a questionnaire survey to evaluate the proposed model from the perspective of employees as the core subject. Accordingly, academic staff of two universities in Jordan were selected as the sample that each had over 300 employees at the time. School authorities were notified in prior to data collection and the researcher was granted permission. Data was collected through a convenience sampling method which enabled the researchers to obtain the required data based on the availability and willingness of participants, and cross-sectional during a 3-week period from teachers, and administrative staff via email. A pilot test was conducted with 25 academicians to assess understandability, and validity of constructs. The pilot test samples were taken from a third university that was excluded from the final data collection procedure. With statistical power of 80% and effect size of 0.01 (Hair et al., 2017, 2019), minimum of 176 samples were necessary, for which a total of 230 questionnaires were distributed. From distributed surveys 25 were not replied, and 22 were whether incomplete, retracted, or had response error (e.g., single answer or patterned response for all items); 183 qualified and remained for final analysis, which yields in 78.26% response rate. To reduce common method bias, all emails sent to each respondent included a brief explanation on the purposes of the research and informed participants of data confidentiality and the fact that participation was completely voluntary. Moreover, following proximal separation, respondents were asked about their daily routines (e.g., “how many hours do you work on a normal week”) (Jordan and Troth, 2020; Podsakoff et al., 2003). A collinearity test was conducted to minimize common method bias concerns, where VIF value did not cross the threshold of 3.3 (Kock, 2015). Descriptive statistics showed that 85 respondents were male while 98 were female. In addition, only 25 participants reported work experience less than 3 years, while majority had experience between 3 to 5 years with 106 participants and remaining 52 had over 5 years of work experience. Average age range of respondents was 34.7 (SD = 5.8).

4. Measurements and analysis

Measurement of Virtual Work Intensity is adopted from the work of Spilker (2014) and Qui and Dauth (2021). This is calculated on a percentage basis, where the higher the score, the more intense each respondent works remotely during a typical working week. Furthermore, work-life balance scale has been derived from the work of Haar (2013) as a common measurement used in the extant literature (e.g., I am satisfied with my work-life balance, enjoying both roles). Moreover, job satisfaction scale has been selected from Macdonald and MacIntyre (1997) (e.g., I feel delighted doing my work); and organizational support scale has been taken from the work of Kwak et al. (2010) and has been edited to fit the context of this research (e.g., Adequate support services allow me to spend time with my students). All items were designed in a 5-point Likert scale from 1= strongly disagree to 5 = strongly agree. As noted earlier, this research builds on the existing gaps within the literature (Qui and Dauth, 2021), and thus, deploys Partial Least Square Structural Equation Modeling (PLS-SEM) using Smart-PLS software.

Table 1 presents the analysis conducted to measure the model, which shows acceptable values within recommended thresholds (outer loadings are above 0.710) for internal consistency (Cronbach’s alpha and Rho A), composite reliability (CR), convergent validity (CV) (Average Variance Extracted—AVE) (above 0.7) (Hair et al., 2019, 2017; Dijkstra and Henseler, 2015; Jöreskog, 1971; Sarstedt et al., 2019). **Table 2** represents discriminant validity (HTMT) test that is well within the acceptable threshold of < 0.85 (Henseler et al., 2015). The results show satisfactory levels, which approves the proposed model (**Figure 1**) in terms of its items, constructs, and measurements.

Table 1. Measurement model.

Constructs	Indicators	Outer Loadings	Alpha	Rho A	CR	AVE
Virtual Work Intensity	VW11	0.701				
	VW12	0.872				
	VW13	0.902	0.819	0.823	0.807	0.613
	VW14	0.773				
	VW15	0.761				
Job Satisfaction	JS1	0.833				
	JS2	0.810				
	JS3	0.813	0.866	0.870	0.863	0.727
	JS4	0.825				
	JS5	0.831				
Organizational Support	OS1	0.843				
	OS2	0.863				
	OS3	0.872	0.890	0.875	0.883	0.585
	OS4	0.740				
	OS5	0.882				

Table 1. (Continued).

Constructs	Indicators	Outer Loadings	Alpha	Rho A	CR	AVE
Work-life Balance	WLB1	0.882				
	WLB2	0.854				
	WLB3	0.713	0.821	0.833	0.824	0.715
	WLB4	0.725				
	WLB5	0.843				

Table 2. Heterotrait-Monotrait ratio (HTMT).

	VWI	JS	OS
VWI			
JS	0.632		
OS	0.741	0.458	
WLB	0.593	0.484	0.534

VWI: virtual work intensity; JS: job satisfaction; OS: organizational support; WLB: work-life balance.

In accord with the purpose of this study, the hypotheses testing incorporates each path within the proposed model (number of arrows directed to JS—three main hypotheses; and direct paths VWI-OS and VWI-WLB). Following the work of Qui and Dauth (2021), a number of variables were listed as control variable. In this sense, cultural difference (nationality) was not included in the questionnaire. As the current research focuses on WLB, gender is enlisted as control variable alongside, age (higher age levels can have higher satisfaction) (Besen et al., 2013; Kaiser, 2007). Similarly, compensation has been controlled as it is an essential element for job satisfaction (Qui and Dauth, 2021; Smith et al., 1969). The participants were informed (in the email) of considering their compensation as an annual worth. However, to reduce common method bias, such sensitive information was not acquired.

The results of structural model assessment and factor loading values as described are presented in **Table 3** and **Figure 2**, respectively. As it can be seen, all hypotheses of the study have been found to be statistically significant. A negative linkage is found between VWI and JS ($\beta = -0.313$, $t = -4.243$), supporting H1. Moreover, the mediating effect of OS on VWI-JS relationship is found to be significant ($\beta = 0.126$, $t = 2.740$). This provides support for H2. Similarly, mediation role of WLB on the aforementioned linkage has been found to be statistically significant resulted from the data collected specifically for this study ($\beta = 0.142$, $t = 2.587$). Hence, providing support for H3.

Table 3. Structural model assessment.

Effects	Relations	β	t -statistics	F^2	Decision
Direct					
H1	VWI → JS	-0.313	-4.243***	0.115	Supported
Mediation					
H2	VWI → OS → JS	0.126	2.740**	0.032	Supported
H3	VWI → WLB → JS	0.142	2.587*	0.026	Supported

Table 3. (Continued).

Effects	Relations	β	t-statistics	F ²	Decision
Control Variables					
	Gender → JS	0.141	2.471*		
	Age → JS	0.107	2.068*		
	Compensation → JS	0.126	2.137*		

$R^2_{OS} = 0.31/Q^2_{OS} = 0.22$
 $R^2_{WLB} = 0.30/Q^2_{WLB} = 0.20$
 $R^2_{JS} = 0.65/Q^2_{JS} = 0.41$
 SRMR: 0.027; NFI: 0.922

JS: job satisfaction; VWI: virtual work intensity; OS: organizational support; WLB: work-life balance.

Figure 2 presents the results of path coefficients that shows the linkage among all variables included in the current model. As it can be observed, the first hypothesis of the research is supported with negative impact of VWI on JS. This shows that there is a consensus between the current results and the extant literature in this respect (Krug et al., 2021; Lin et al., 2021; McFarland et al., 2020; Vaziri et al., 2020). This is while the current findings expand the boundaries of the literature by examining this relationship among university staff in Jordan. Similarly, second hypothesis is supported that states the mediating effect of organizational support on the VWI-JS relationship exists. This is also reported by scholars in different studies, showing that Jordanian university staffs’ job satisfaction can be improved through adequate support provided by the organization (Bentley et al., 2016; Crucke et al., 2021; Qui and Dauth, 2021). Lastly, the mediating effect of work-life balance is found significant in the results, which supports the third hypothesis of the research. Similar reports have been found in the extant literature, which shows that the theoretical setting behind this context is adequate for Jordanian university setting (Alfatihah et al., 2021; Aziz-Ur-Rehman and Siddiqui, 2019; Qui and Dauth, 2021). This suggests that the current model adequately describes the relationships among the variables that can contribute to the current understanding of Covid-19 pandemic and its effects on different sectors particularly, education and university staff.

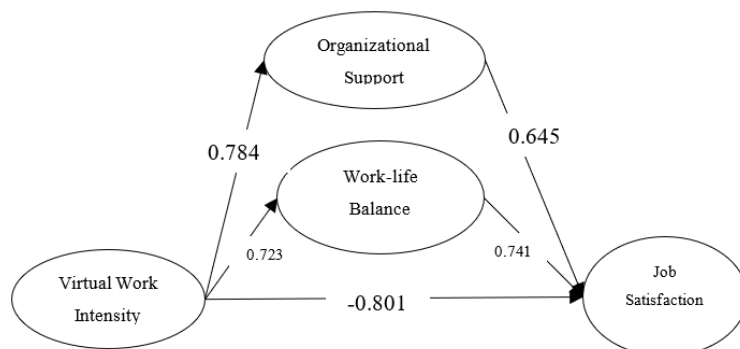


Figure 2. Path coefficients.

5. Conclusions and implications

As the core aim of the study was to examine the effect of VWI on job satisfaction and understand the mediating effect of WLB and organizational support on the

aforementioned linkage, it was noted that these effects are statistically significant. In this sense, the current results can be beneficial for scholars interested in this subject as combination of deployed theories in this study develops the current understanding. This is achieved by applying these theories in the context of Middle East and particularly, Jordan, which the literature shows scarcity in terms of empirical evidence. In this sense, theoretical contributions of this study to the literature are highlighted in the following passages. Moreover, the current results provide a means for practitioners in the HR department of universities and decision-makers for implementing initiatives that focus on employees' job satisfaction through provision of support, enhancing work-life balance, reducing stress, and establishing systems that can balance job demands and resources available for staff. The importance of such strategic planning can become more vivid when facing future crises and establish a certain degree of resilience and preparedness for universities (Alfatihah et al., 2021; Aziz-Ur-Rehman and Siddiqui, 2019; Krug et al., 2021; Lin et al., 2021; McFarland et al., 2020).

Related to social identity model of identity change, the HR team in universities can establish practices that address various groups among employees to create an atmosphere, where employees can identify with organization, and peers as a social community. During times of crisis and pressures of high-performing virtual work, such support systems can greatly enhance the job satisfaction of employees in academic sector. The current results show that organizational support (in an array of initiatives) have a positive influence on individuals' wellbeing during Covid-19 pandemic. This is due to the fact that through support initiatives, individuals can have a better sense of community and social identity with their peers and organizations, which is linked to social identity theory and social identity model of identity change (Crucke et al., 2021; Qui and Dauth, 2021; Vaziri et al., 2020).

It is noteworthy that work-life balance is significant in enhancing job satisfaction. Current findings are in consensus with prior studies in the same context and further provides empirical evidence regarding the importance of HRM practices for work environment through resilience and support (Haslam et al., 2021; Qui and Dauth, 2021; Rashmi and Kataria, 2021; Zacher and Rudolph, 2021). These results also show that stress is an important underlying factor that is increased during crises, which pertains to transactional stress model. This is based on psychological and physical threats of the health-related global pandemic. Similarly, JD-R model addresses stress as well as demands of jobs which have changed drastically for academic staff and thus, have disrupted their work-life balance and increased their need for organizational support (e.g., training or counseling) (Syrek et al., 2021).

In addition to what was mentioned above, event system theory is embedded in the current results as it addresses the disruptive and significant effect of the crisis on individuals. As noted in the findings, intensity of virtual work can directly affect job satisfaction in a negative manner that is considered an important matter for wellbeing of individuals (Bellmann and Hubler, 2020; Cho and Park, 2021; Como et al., 2021; Shoss et al., 2021; Zacher and Rudolph, 2021). Additionally, the current research focuses on self-determination theory, through which wellbeing of academic (university) staff is influenced by organizational support that can fulfill their needs and provide them autonomy, connection, training to gain competence, and emotional support (i.e., counseling). As a result, managers can implement strategies that are

designed to enhance overall quality of life of their employees. This in turn yields in higher performance levels and other positive outcomes such as, extra-role behavior, trust, commitment, and innovative work behavior. The mediation effect of work-life balance states that it is imperative to maintain a balance during high intensity virtual work situation for academic staff by training programs, resilience building, adequate management, and virtual group platforms for interactions. Such actions have vast impacts on both organization and its staff (i.e., performance and wellbeing). Current study highlights the importance of organizational support and work-life balance for academic institutions to ensure wellbeing of their staff. While the current research contributes to virtual work, organizational behavior and psychology literatures, notions of HRM and risk management are also embedded in its premises. Resilient and strategic HRM can adequately provide necessary means for the staff during times of crisis and ensure that their quality of life is not negatively affected (or minimized).

Within the context of Transactional Stress Model (Lazarus and Folkman, 1984), and as the pandemic posed severe health, and social risks on life of individuals, wellbeing was jeopardized. This explicitly shows the importance of HRM practices in maintaining work-life balance, reducing stress, and providing necessary resources for staff, when demands are heightened and/or changed. Current findings suggest that HR teams in universities can deploy various programs with emphasis on employees' wellbeing, taking into account factors such as, loneliness, work-life balance, motivation, stress, resilience, autonomy, job quality, and engagement. This is further linked to JD-R model as such practices can reduce strain and encourage motivation. These findings are in consensus with the extant literature (Bouwmeester et al., 2021; Como et al., 2021; Rodríguez-Modroño and López-Igual, 2021; Telyani et al., 2021; Zacher and Rudolph, 2021). However, the application and combined premises of included theories in this research expand the geographical and theoretical borders of the literature in this context. Furthermore, the current results show that organizational support should be emphasized by academic organizations to fulfill the needs of their staff, linked to self-determination theory (Crucke et al., 2021). This research further expands its implications (Coulombe et al., 2020; Rashmi and Kataria, 2021), making the suggested initiatives essential for school managers and subsequently HR department in coping with Covid-19 pandemic and its effects on academic staffs' wellbeing and job satisfaction. Managerial actions regarding provision of organizational support are key elements for employees as they can be motivated through effective management and leadership during uncertain and difficult times.

Limitations and future research directions

This research was limited in a number of aspects that consequently provide new pathways for scholars interested in the subject at hand. In this regard, the data for this study was gathered in a cross-sectional manner, limiting its generalizability. Importantly, the age of the majority of participants is low with an average of 34.7 which can create a bias with regards to the responses gathered and the results that have been generated. Future research can focus on demographic variables such as, age which can provide different results, when compared to the current sample. This can be addressed by longitudinal studies analyzing the current model and its variations in time.

Furthermore, the correlation between the two mediators have not been examined in the current model. Future studies can analyze the possibility of a correlation between organizational support and WLB. The model of this research is limited. This can be enhanced by including other influential elements in times of crisis and in the context of VWI and job satisfaction. These can be namely, proactive behavior, coping strategies, burnout, self-determination, commitment, and leadership. Future studies can provide a deeper understanding on underlying effects by tackling the issue from different aspects. This is of crucial importance as the effects of Covid-19 on psychological elements are yet to be fully understood. Similarly, this research is limited in terms of theoretical setting, and deployment of numerous theories that are relevant regarding behavior and attitude. As the concept of human behavior and psychology is complex by nature, risk management theories, personality traits, and other aspects can be included to provide a better understanding. This can be addressed by future studies in a qualitative manner that can include more theories and gather data through interviews, yielding in in-depth understanding of the subject. The scope of this research was also limited in terms of number of university that data was collected from. This can be avoided in future studies that increase the scale of data. Lastly, cultural elements were beyond the scope of current research. Future studies can provide a more thorough understanding by examining the role of culture and/or social aspects in Jordan, and neighboring countries.

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References

- Akanni, A. A., & Ajila, C. O. (2021). Social Support and Work-Family Balance of Manufacturing Companies' Employee with Self-Efficacy as a Mediator. *Management Dynamics in the Knowledge Economy*, 9(2), 177–183. <https://doi.org/10.2478/mdke-2021-0013>
- Alfatihah, I., Nugroho, A. S., Haessel, E., et al. (2021). The Influence of Work-Life Balance with Work Motivation as Mediating Factor on Job Satisfaction A Prediction toward Transition to New Normal Situation. *The Management Journal of Binaniaga*, 6(1), 79. <https://doi.org/10.33062/mjb.v6i1.431>
- Aziz-Ur-Rehman, M., & Siddiqui, D. A. (2019). Relationship between Flexible Working Arrangements and Job Satisfaction Mediated by Work-Life Balance: Evidence from Public Sector Universities Employees of Pakistan. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3510918>
- Bartsch, S., Weber, E., Büttgen, M., et al. (2020). Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic. *Journal of Service Management*, 32(1), 71–85. <https://doi.org/10.1108/josm-05-2020-0160>
- Bellmann, L., & Hübler, O. (2020). Working from home, job satisfaction and work–life balance – robust or heterogeneous links? *International Journal of Manpower*, 42(3), 424–441. <https://doi.org/10.1108/ijm-10-2019-0458>
- Bellou, V., & Dimou, M. (2021). The Impact of Destructive Leadership on Public Servants' Performance: The Mediating Role of Leader-member Exchange, Perceived Organizational Support and Job Satisfaction. *International Journal of Public Administration*, 45(9), 697–707. <https://doi.org/10.1080/01900692.2020.1868509>

- Bentley, T. A., Teo, S. T. T., McLeod, L., et al. (2016). The role of organisational support in teleworker wellbeing: A socio-technical systems approach. *Applied Ergonomics*, 52, 207–215. <https://doi.org/10.1016/j.apergo.2015.07.019>
- Besen, E., Matz-Costa, C., Brown, M., et al. (2013). Job Characteristics, Core Self-Evaluations, and Job Satisfaction: What's Age Got to Do with It? *The International Journal of Aging and Human Development*, 76(4), 269–295. <https://doi.org/10.2190/ag.76.4.a>
- Bouwmeester, O., Atkinson, R., Noury, L., et al. (2020). Work-life balance policies in high performance organisations: A comparative interview study with millennials in Dutch consultancies. *German Journal of Human Resource Management: Zeitschrift Für Personalforschung*, 35(1), 6–32. <https://doi.org/10.1177/2397002220952738>
- Burman, S., Shastri, S. (2016). Comparative Study of Job Satisfaction between Employees of Virtual Teams and Traditional Teams. *International Journal of Science and Research (IJSR)*, 5(1), 1536–1540. <https://doi.org/10.21275/v5i1.nov153068>
- Büssing, A., & Aumann, S. (1996). Teleworking in the conflicting interests of company stakeholders: implications for personnel management (German). *German Journal of Human Resource Management: Zeitschrift Für Personalforschung*, 10(3), 223–239. <https://doi.org/10.1177/239700229601000302>
- Butterick, M., & Charlwood, A. (2021). HRM and the COVID-19 pandemic: How can we stop making a bad situation worse? *Human Resource Management Journal*, 31(4), 847–856. <https://doi.org/10.1111/1748-8583.12344>
- Chanana, N. (2021). The impact of COVID-19 pandemic on Employees organizational commitment and job satisfaction in reference to gender differences. *Journal of Public Affairs*, 21(4). <https://doi.org/10.1002/pa.2695>
- Cho, J., & Park, I. (2021). Does Information Systems Support for Creativity Enhance Effective Information Systems Use and Job Satisfaction in Virtual Work? *Information Systems Frontiers*, 24(6), 1865–1886. <https://doi.org/10.1007/s10796-021-10208-7>
- Como, R., Hambley, L., & Domene, J. (2021). An exploration of work-life wellness and remote work during and beyond COVID-19. *Canadian Journal of Career Development*, 20(1), 46–56.
- Coulombe, S., Pacheco, T., Cox, E., et al. (2020). Risk and Resilience Factors During the COVID-19 Pandemic: A Snapshot of the Experiences of Canadian Workers Early on in the Crisis. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.580702>
- Crucke, S., Kluijtmans, T., Meyfrootd, K., et al. (2020). How Do Organizational Sustainable Practices Foster Public Service Motivation and Job Satisfaction? *Academy of Management Proceedings*, 2020(1), 1–27. <https://doi.org/10.5465/ambpp.2020.17172abstract>
- Crucke, S., Kluijtmans, T., Meyfrootd, K., et al. (2021). How does organizational sustainability foster public service motivation and job satisfaction? The mediating role of organizational support and societal impact potential. *Public Management Review*, 24(8), 1155–1181. <https://doi.org/10.1080/14719037.2021.1893801>
- Deci, E. L., & Ryan, R. M. (2012). Self-Determination Theory. In: *Handbook of Theories of Social Psychology*. Sage Publications Ltd. Volume 1. pp. 416–437. <https://doi.org/10.4135/9781446249215.n21>
- Demerouti, E., Bakker, A. B., Nachreiner, F., et al. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Felstead, A., & Henseke, G. (2017). Assessing the growth of remote working and its consequences for effort, well-being and work-life balance. *New Technology, Work and Employment*, 32(3), 195–212. <https://doi.org/10.1111/ntwe.12097>
- Fonner, K. L., & Roloff, M. E. (2010). Why Teleworkers are More Satisfied with Their Jobs than are Office-Based Workers: When Less Contact is Beneficial. *Journal of Applied Communication Research*, 38(4), 336–361. <https://doi.org/10.1080/00909882.2010.513998>
- Gastarena-Balda, L., Ollo-López, A., & Larraza-Kintana, M. (2021). Are public employees more satisfied than private ones? The mediating role of job demands and job resources. *Management Research: Journal of the Iberoamerican Academy of Management*, 19(3/4), 231–258. <https://doi.org/10.1108/mrjiam-09-2020-1094>
- Haar, J. M. (2013). Testing a new measure of work-life balance: a study of parent and non-parent employees from New Zealand. *The International Journal of Human Resource Management*, 24(17), 3305–3324. <https://doi.org/10.1080/09585192.2013.775175>
- Hair, J. F., Risher, J. J., Sarstedt, M., et al. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/ebur-11-2018-0203>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage.
- Haslam, S. A., Jetten, J., Postmes, T., et al. (2008). Social Identity, Health and Well-Being: An Emerging Agenda for Applied

- Psychology. *Applied Psychology*, 58(1), 1–23. <https://doi.org/10.1111/j.1464-0597.2008.00379.x>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hewitt, K. (1983). The idea of calamity in a technocratic age. In: Hewitt, K. (editor). *Interpretations of Calamity: From the Viewpoint of Human Ecology*. London: Allen and Unwin. pp. 3–32. <https://doi.org/10.4324/9780429329579-1>
- Hirawati, D. B. (2022). The Effect of Leader-Member Exchange (Lmx) Toward Organizational Commitment, Job Satisfaction, And Job Performance: Moderating Role of Virtual Work During Covid-19 In Universitas Islam Indonesia. Available online: <https://dspace.uui.ac.id/bitstream/handle/123456789/37967/16311054.pdf?sequence=1&isAllowed=y> (accessed on 13 December 2023).
- John, S. F., Varghese, M. G. M., & Varghese, M. S. (2020). The impact of job satisfaction on job performance: An empirical analysis of virtual work during the pandemic. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(9), 1503-1510.
- Jooss, S., McDonnell, A., & Conroy, K. (2021). Flexible global working arrangements: An integrative review and future research agenda. *Human Resource Management Review*, 31(4), 100780. <https://doi.org/10.1016/j.hrmr.2020.100780>
- Jordan, P. J., & Troth, A. C. (2019). Common method bias in applied settings: The dilemma of researching in organizations. *Australian Journal of Management*, 45(1), 3–14. <https://doi.org/10.1177/0312896219871976>
- Jöreskog, K. G. (1971). Simultaneous factor analysis in several populations. *Psychometrika*, 36(4), 409–426. <https://doi.org/10.1007/bf02291366>
- Joseph, J., Sebastian, J., & Deepu. (2019). Work-life Balance Vs Work-family balance—An Evaluation of Scope. *Amity Global HRM Review*, 9, 63.
- Kaiser, L. C. (2007). Gender-job satisfaction differences across Europe. *International Journal of Manpower*, 28(1), 75–94. <https://doi.org/10.1108/01437720710733483>
- Khawand, S., & Zargar, P. (2022). Job autonomy and work-life conflict: A conceptual analysis of teachers' wellbeing during COVID-19 pandemic. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.882848>
- Klonek, F. E., Kanse, L., Wee, S., et al. (2021). Did the COVID-19 Lock-Down Make us Better at Working in Virtual Teams? *Small Group Research*, 53(2), 185–206. <https://doi.org/10.1177/10464964211008991>
- Kniffin, K. M., Narayanan, J., Anseel, F., et al. (2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist*, 76(1), 63–77. <https://doi.org/10.1037/amp0000716>
- Kock, N. (2015). Common Method Bias in PLS-SEM. A full collinearity assessment approach. *International Journal of E-Collaboration (ijec)*, 11(4), 1–10. <https://doi.org/10.4018/ijec.2015100101>
- Krug, H., Haslam, S. A., Otto, K., et al. (2021). Identity Leadership, Social Identity Continuity, and Well-Being at Work During COVID-19. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.684475>
- Kwak, C., Chung, B. Y., Xu, Y., et al. (2010). Relationship of job satisfaction with perceived organizational support and quality of care among South Korean nurses: A questionnaire survey. *International Journal of Nursing Studies*, 47(10), 1292–1298. <https://doi.org/10.1016/j.ijnurstu.2010.02.014>
- Lazarus, R. S., & Folkman S. (1984). *Stress, Appraisal, and Coping*. Springer.
- Lin, W., Shao, Y., Li, G., et al. (2021). The psychological implications of COVID-19 on employee job insecurity and its consequences: The mitigating role of organization adaptive practices. *Journal of Applied Psychology*, 106(3), 317–329. <https://doi.org/10.1037/apl0000896>
- Macdonald, S., MacIntyre, P. (1997), “The generic job satisfaction scale: scale development and its correlates”, *Employee Assistance Quarterly*, 13(2), 1–6. https://doi.org/10.1300/J022v13n02_01
- Mansfield, R. K. (2018). *Employee job satisfaction and attitudes in virtual workplaces [PhD thesis]*. Walden University.
- McNall, L. A., Masuda, A. D., & Nicklin, J. M. (2009). Flexible Work Arrangements, Job Satisfaction, and Turnover Intentions: The Mediating Role of Work-to-Family Enrichment. *The Journal of Psychology*, 144(1), 61–81. <https://doi.org/10.1080/00223980903356073>
- McFarland, L. A., Reeves, S., Porr, W. B., et al. (2020). Impact of the COVID-19 pandemic on job search behavior: An event transition perspective. *Journal of Applied Psychology*, 105(11), 1207–1217. <https://doi.org/10.1037/apl0000782>
- Meyer, B., Zill, A., Dilba, D., et al. (2021). Employee psychological well-being during the COVID-19 pandemic in Germany: A longitudinal study of demands, resources, and exhaustion. *International Journal of Psychology*, 56(4), 532–550. <https://doi.org/10.1002/ijop.12743>

- Morgeson, F. P., Mitchell, T. R., & Liu, D. (2015). Event System Theory: An Event-Oriented Approach to the Organizational Sciences. *Academy of Management Review*, 40(4), 515–537. <https://doi.org/10.5465/amr.2012.0099>
- Niebuhr, F., Borle, P., Börner-Zobel, F., et al. (2022). Healthy and Happy Working from Home? Effects of Working from Home on Employee Health and Job Satisfaction. *International Journal of Environmental Research and Public Health*, 19(3), 1122. <https://doi.org/10.3390/ijerph19031122>
- Obenauer, W. G. (2021). Flexible by design: Developing human resource policies and practices that provide flexibility through the uncertainties created by a pandemic. *Industrial and Organizational Psychology*, 14(1–2), 101–104. <https://doi.org/10.1017/iop.2021.9>
- Orhan, M. A., Rijsman, J. B., & Van Dijk, G. M. (2016). Invisible, therefore isolated: Comparative effects of team virtuality with task virtuality on workplace isolation and work outcomes. *Revista de Psicología Del Trabajo y de Las Organizaciones*, 32(2), 109–122. <https://doi.org/10.1016/j.rpto.2016.02.002>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., et al. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Qiu, F., & Dauth, T. (2021). Virtual work intensity, job satisfaction, and the mediating role of work-family balance: A study of employees in Germany and China. *German Journal of Human Resource Management: Zeitschrift Für Personalforschung*, 36(1), 77–111. <https://doi.org/10.1177/2397002221998227>
- Rashmi, K., & Kataria, A. (2021). The mediating role of work-life balance on the relationship between job resources and job satisfaction: perspectives from Indian nursing professionals. *International Journal of Organizational Analysis*, 31(5), 1316–1342. <https://doi.org/10.1108/ijoa-04-2021-2722>
- Rodríguez-Modroño, P., & López-Igual, P. (2021). Job Quality and Work-Life Balance of Teleworkers. *International Journal of Environmental Research and Public Health*, 18(6), 3239. <https://doi.org/10.3390/ijerph18063239>
- Rosenthal, U., & Kouzmin, A. (1997). Crises and Crisis Management: Toward Comprehensive Government Decision Making. *Journal of Public Administration Research and Theory*, 7(2), 277–304. <https://doi.org/10.1093/oxfordjournals.jpart.a024349>
- Sandoval-Reyes, J., Idrovo-Carlier, S., & Duque-Oliva, E. J. (2021). Remote Work, Work Stress, and Work-Life during Pandemic Times: A Latin America Situation. *International Journal of Environmental Research and Public Health*, 18(13), 7069. <https://doi.org/10.3390/ijerph18137069>
- Sapta, I., Muafi, M., & Setini, N. M. (2021). The role of technology, organizational culture, and job satisfaction in improving employee performance during the Covid-19 pandemic. *The Journal of Asian Finance, Economics and Business*, 8(1), 495–505.
- Sarstedt, M., Hair, J. F. Jr, Cheah, J. H., et al. (2019). How to Specify, Estimate, and Validate Higher-Order Constructs in PLS-SEM. *Australasian Marketing Journal*, 27(3), 197–211. <https://doi.org/10.1016/j.ausmj.2019.05.003>
- Shoss, M. K., Horan, K. A., DiStaso, M., et al. (2020). The Conflicting Impact of COVID-19's Health and Economic Crises on Helping. *Group & Organization Management*, 46(1), 3–37. <https://doi.org/10.1177/1059601120968704>
- Spilker, M. (2014). Making telework work: The effect of telecommuting intensity on employee work outcomes [PhD thesis]. University of Pretoria, South Africa.
- Syrek C, Kühnel J, & Vahle-Hinz T, et al. (2021). Being an accountant, cook, entertainer and teacher—all at the same time: Changes in employees; work and work-related well-being during the coronavirus (COVID-19) pandemic. *International Journal of Psychology*. <https://doi.org/10.1002/ijop.12761>
- Telyani, A. E., Farmanesh, P., & Zargar, P. (2021). The Impact of COVID-19 Instigated Changes on Loneliness of Teachers and Motivation-Engagement of Students: A Psychological Analysis of Education Sector. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.765180>
- Turan, E., Bozkurt, S., Çelebi, U. B., et al. (2021). The role of burnout in the effect of work-family conflicts on job satisfaction: A research for key players in the maritime industry. *Maritime Policy & Management*, 49(8), 1155–1168. <https://doi.org/10.1080/03088839.2021.1950859>
- Vaziri, H., Casper, W. J., Wayne, J. H., et al. (2020). Changes to the work-family interface during the COVID-19 pandemic: Examining predictors and implications using latent transition analysis. *Journal of Applied Psychology*, 105(10), 1073–1087. <https://doi.org/10.1037/apl0000819>
- Yu, J., & Wu, Y. (2021). The Impact of Enforced Working from Home on Employee Job Satisfaction during COVID-19: An Event System Perspective. *International Journal of Environmental Research and Public Health*, 18(24), 13207.

<https://doi.org/10.3390/ijerph182413207>

- Zacher, H., & Rudolph, C.W. (2021). Researching Employee Experiences and Behavior in Times of Crisis: Theoretical and Methodological Considerations and Implications for Human Resource Management. <https://doi.org/10.31234/osf.io/653zp>
- Zakem, N. B., Farmanesh, P., Zargar, P., et al. (2022). Wellbeing during a pandemic: An Empirical research examining autonomy, work-family conflict and informational support among SME employees. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.890265>