Effect of remote working on psychological well-being of IT employees: An empirical analysis during covid-19 pandemic

[1]Dr.C.Sonia, Assistant Professor, SSKV College of Arts and Science for Women, Kanchipuram, Tamilnadu. sonia.ece87@gmail.com, 07708929397

[2] Mr.D.Krishnamoorthy, Assistant Professor, Adhiparasakthi College of Engineering, Kalavai, Tamilnadu. krishnaraj_ace@yahoo.co.in, 09600634273

Abstract

Purpose

The COVID-19 pandemic sweeping the world has triggered paradigm shifts in the alternative work arrangements for diminishing the spread of the virus. Suddenly, many IT companies around the globe are forcing their employees to work remotely. As a result, this has blurred the line between work and family roles because professional and personal obligations often pull employees in opposite directions. This research aims to explore the influence of remote work challenges (Emotional Loneliness, Access to Organizational Resources, Work Family Conflict, Work Disengagement) on Psychological Well Being.

Design/methodology/approach

A convenience sample of 340 Chennai IT professionals who were working from home for the past one year (Jan 2021-Dec 2021) was invited to fill an online questionnaire (Google Forms). A closed-ended questionnaire was used with three subsections covering the following areas, 1) Demographic Profile 2) Challenges faced in remote work 3)Psychological well-being. Statistical analyses were conducted using SPSS 23.0 and AMOS 23.0. The study employing structural equation modeling (SEM) to analyze the influence of remote work challenges on psychological well-being.

Findings

The proposed model yields good fit indices. One finding shows that dimension of remote work challenges such as emotional loneliness, access to organizational resources, work family conflict and work disengagement influence the psychological well-being of employees. In the model, gender, parental status, working hours and marital status are considered as moderating variables.

The result reveals that compared to men, women felt work family conflict is significantly influencing psychological well-being during remote work. Surprisingly, the relationship between emotional loneliness, access to organizational resources and work disengagement did not differ by gender. In parental status, employees with children show significant influence of work family conflict on psychological well-being when compared to employees with no children. The study also interprets that married employees face interference of work family conflict on psychological well-being when compared to unmarried employees. Employees working more than eight hours feel emotional loneliness, access to organizational resources; work family conflict and work disengagement impact psychological well-being of an individual.

Keywords Emotional Loneliness, Organizational Resources, Work Family Conflict, Work Disengagement, Psychological Well-being and Remote Work

1. Introduction

The spread of COVID-19 across the globe has imposed many challenges in the society. In India government announced lockdowns which urged people to stay at home and adopting a different way to deal with the spread of the virus. One of such practice was social distancing to limit the physical interaction with others and restriction for mass gatherings. As the situation was prolonged for months together many organization was looking for alternative work arrangements. During a pandemic situation remote work was popularized in IT industry due to the advancement of ICTs. Remote work refers to flexible workplace enabling the technology to execute work duties from home (Grant et al. 2019). Remote work is otherwise known as work from home, telecommuting or telework. The situation at home was quite different as the family members were together in the lockdown, which in fact gave them an opportunity to spend time with family member. On the other hand meeting the professional responsibility was quite challenging. In India, especially working women prefer servant maid for household chores. Because of the lockdown, there was a restriction on the movement which held back servant maid. On the other hand, online classes were going on for children who seek parent's help which is additional burden to them. In these circumstances, many of the remote work employees get loaded with household chores, taking care of children's online classes and professional obligations, resulting in emotional exhaustion. Due to overwhelming demand from family and work, most of the remote employees feel intimidating by 0the worklife balance for both single and with family.

This research attempts to explore the influence of remote work challenges (Emotional Loneliness, Access to Organizational Resources, Work Family Conflict and Work Disengagement) on psychological well-being. Subsequently, the model is tested with moderating variables such as gender, working hours, marital and parental status.

2. Review of Literature and Hypotheses

During COVID-19, most of the organization was looking for alternative work arrangements. So they have shifted from the current process to remote work context. Nowadays organization is sticking to a remote work model for the foreseeable future and it has become a SOP (standard operating procedure). Some of the employees enjoyed themselves and others were fatigued with new experience. The people were experiencing mood swings and were emotionally unbalanced. For some employees, productivity was high and for others it has declined (Boland et al., 2022). Employees lost social interaction and struggle to navigate the new age of worklife.

2.1 Work Family Conflict

For many families, the COVID-19 crisis has shoved home and work life under the same roof (Thomason and Williams, 2020). Children were at home and seeking help with online learning, partner also working within the same space, inconsistent internet speed, endless official email replies and countless zoom meetings were major challenges in remote work. They feel longer working hours which blurs their personal space. Employees were connected to work all the time and the organization was expecting response round the clock, resulting in stress, emotional exhaustion, loneliness, well-being and work-life imbalance (Thomason and Williams, 2020; Chanceupon blog, 2022). Work life balance is performing effectively in both work and family role by avoiding conflict and experiencing satisfaction (Clark, 2000). The change in work load resulting in a shadow between personal and profession life which compelled me to look for a job change (Maurer, 2020; Arneson, 2022). Most of the employees are under surveillance by employers, leading them to work hard for a long time and being unable to cope with mounting work pressure (Vyas and Butakhieo 2021). Thus, it is resulting in a Work-Family Conflict. Work-Family Conflict happens when work pressure and problems interrupt the family life and has negative impacts on the quality of family life, well-being and health of an employee (Liu et al., 2015; Sirgy, 2018). In remote work, many employees have experienced work-family conflict during the pandemic (Bhumika, 2020). In remote work over workload and longer working hours there are frequent and poor work-life balance (Bjarntoft, 2020; McCulley, 2020). Therefore, the following prediction is made with literature support:

Hypothesis 1: Work Family Conflict is positively related to Psychological Well-being

2.2 Emotional Loneliness

In previous research it was found that workplace relationship will build social need satisfaction (Deci et al., 2000) whereas if social need is not met will result in loneliness (Deci et al., 2000). Work related loneliness is negative feeling which occurs when there is a discrepancy between actual and desired social relationship with others in the workplace (Cacioppo et al., 2009). Now a day work related loneliness is growing issue across the globe because of change in society, technology and work set up (Gabriel et al., 2021). During pandemic remote work has outbreak workplace relationship and there was a cutoff in personal contact with peer groups resulting in

isolation of employees (Becker et al., 2022). The sudden move to remote work of individual employee impacted social baseline network. Disruption to social baseline increases then work related loneliness will increase exponentially (Beckes and Coan, 2011). Being isolated if any work related issues arise there is no clarity whom to approaching, how and when which ends up in work delay and frustration (Bick et al., 2020). Quaid et al. (2021) found that women with lower income level and living alone are experiencing greater level of loneliness. Loneliness was the key challenges and has detrimental influence on well being (Savolainen, 2021; Makiniemi et al., 2021). Therefore with support of literature the following hypothesis is framed:

Hypothesis 2: Emotional Loneliness is positively related to Psychological Well-being

2.3 Access to Organizational Resources

The abrupt shift in remote work has pressured many employees with the lack of resource to perform the task. Initially they lack PC/Laptop, no proper furniture to work for longer hours which in fact tending to poor ergonomic, lack of backup of documents and rise in electricity bill. Many were concerned about the resource which subsequently impacted psychological well being. Based on this hypothesis is formulated:

Hypothesis 3: Access to Organization Resources is positively related to Psychological Well-being

2.4 Work Disengagement

In remote work the employer does surveillance of employees which adversely affect their commitment, work engagement and job autonomy. Because of close monitoring and micro ruling there is likely to increase work disengagement in remote work (Clarke, 2020).McParland and Connolly (2020) said that digitally enabled surveillance/monitoring will have a inevitable impact on performance, work motivation, lack of trust on employer, organizational commitment and work disengagement. Therefore with literature support the below hypothesis is stated:

Hypothesis 4: Work Disengagement is positively related to Psychological Well-being

2.5 Moderating Variable

Remote work model is moderated by variables such as gender, working hours, marital and parental status. In remote work gender issue is ambiguous. Eurofound, 2020 found that remote working women employee with children facing more difficulties in managing work and personal life than men. The other finding was women employees are getting exhausted after work to do household chores. Women's are experiencing more conflict than men as they have to play multiple roles simultaneously and mental illness is less for men when compared to women in remote work.

Hypothesis 5: Emotional Loneliness, Access to Organizational Resources, Work Family Conflict and Work Disengagement is positively impacting psychological well being moderated by gender, working hours, marital and parental status.

3. Methods

A convenience sample of 340 Chennai IT professionals who were working from home for the past one year (Jan 2021-Dec 2021) was invited to fill an online questionnaire (Google Forms). A closed-ended questionnaire was used with three subsections covering the following areas, 1) Demographic Profile 2) Challenges faced in remote work 3) Psychological well-being. All the questionnaire were measured in Likert Scale (Strongly agree – Strongly Disagree) except demographic profile. Statistical analyses were conducted using SPSS 23.0 and AMOS 23.0. Factor Analysis was used to explore the variables related to challenges in remote work and its impact. After Exploratory Factor Analysis, measurement model was tested to identify the model fit and also to validate the proposed model. Later Structural Equation Modeling (SEM) is applied to test the formulated hypotheses. Additionally the hypothesized model is tested with different moderating variables such as gender, working hours, marital and parental status. The moderation test is done through AMOS 23.0 software to verify whether the model is yielding different result based on moderating variable.

4. Results

4.1 Demographic Characteristics

Questionnaires were dispersed through social media and the responses received were 400 across Chennai. Out of 400 responses, 340 were completely filled, thirty two with missing data and no response from twenty eight. Therefore 340 responses are used for further analysis. The representation of male and female were almost in equal proportions (56 percent male and 43 percent female). 100 percent of the respondents were remote workers in which 65.8 percent married and 34.2 percent were unmarried. The majorities of the respondents are in the age group between 26-35 years (51.8 percent) followed by 36-45 years (31.3 percent). 43.8 percent of the respondents are with children and 56.1 percent are without children. The majority of the respondents are in junior designation with 66.1 percent followed by middle level designation. In case of experience, 85.7 percent posses 5-9 years of experience in IT sector and they work for at least 8-12 hours in a day during remote work (66.4 percent).

4.2 Exploratory Factor Analysis

EFA were applied to identify the factors for challenges in remote work and its impact. In EFA, it is important to check the KMO and Bartlett's Test of Sphericity value for further proceeding. The value of KMO is 0.852 which is above the recommended value of 0.50 and Bartlett's Test of Sphericity value is significant. Therefore EFA is applied and communalities value for the variable which is less than 0.40 is removed for further analysis. Five factors were

explored and the factor loading for all variables is above 0.70 (recommended value is 0.50). The total variable explained is 79.147 approximately 80 percent the model is explained by the study variables. From the below table 1 it is inferred that all the factors loading were above 0.7. In the first factor all the variables representing the work family conflict, second factor all the variables representing the Psychological Well-Being, third factor all the variables representing the Work Disengagement, fourth factor all the variables representing the Access to organizational resource and fifth factor all the variables representing the Emotional Loneliness. To test the reliability Cronbach's Alpha is applied and the reliability value for all the variables is above 0.90 exhibiting high scale reliability.

Table 1

Rotated Component Matrix[a]						
	Component					
Variables	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**	**Reliability**
My work keeps me from my family activities more than I would like	.873					**0.924** **Work Family Conflict**
The time I must devote to my job keeps me from participating equally in household responsibilities and activities.	.862					
The time I spend with my family often causes me not to spend time at work activities that could be helpful to my career	.856					
Due to all the pressures at work, sometimes I am too stressed to do the things I enjoy	.848					
Due to stress at home, I am often preoccupied with family matters at work	.758					
Maintaining close relationships has been difficult and frustrating for me		.919				**0.909** **Psychological Well-Being**
For me, life has been a continuous process of learning, changing, and growth		.881				
I am quite good at managing the many responsibilities of my daily life		.853				
I sometimes feel as if I've done all there is to do in life.		.821				
The demands of everyday life often get me dow…………………………………………….n		.810				

I think of work all the time			.845			**0.88** **Work Disengagement**
I keep myself logged late in the evenings even after my work timings			.836		
I make sure to check work related emails/phone calls before going to bed			.805		
It is difficult for me to disengage from work.			.744		
I can access all necessary information on my computer, smart phone/tablet				.940		**0.920** **Access to Organizational Resource**
I am generally stressed as I have only limited resources to completed the necessary work				.911	
I am not able to perform to the fullest extent.				.898	
I miss having people around me					.930	**0.916** **Emotional Loneliness**
I often feel isolated/rejected					.928
I experience a general sense of emptiness					.905
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 5 iterations.						

Source: Computed Primary Data

4.3 Measurement Model

Using Confirmatory Factor Analysis the proposed model is verified for fit indices of the proposed structural model. The common parameters used to check fit indices are GFI, TLI, CFI, NFI, IFI, RMR, RFI, Chi-square/Df and RMSEA. The result obtained as following: Chi-square/Df=1.909 (Lesser then suggested values of 3); GFI=0.917, NFI=0.942,RFI=0.931, IFI=0.971, TLI=0.966, CFI=0.971 and are greater than the suggested value of 0.90; RMR=0.043 (Lower than the recommended value of 0.05) and RMSEA= 0.052 (Lower than the suggested value of 0.08) (Hair et al., 2010). Since the model resulted in good fit indices it is further used to test the hypothesis.
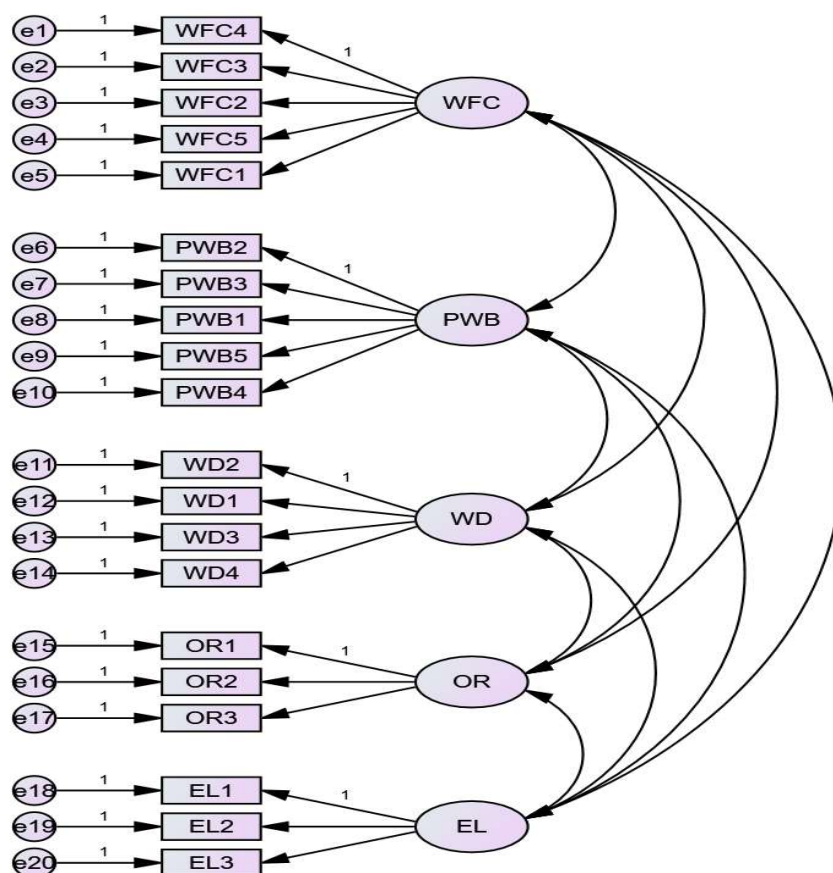
Figure 1
Measurement Model for Remote Work

Note: WFC- Work Family Conflict; PWB- Psychological Well-Being, WD- Work Disengagement, OR- Access to Organizational Resource and EL- Emotional Loneliness

4.4 Testing of Hypotheses

To identify the relationship with the construct, Structural Equation Modeling is adopted. The main advantage of SEM is multiple variables can be analyzed at a time. Table 2 demonstrates the hypothesis testing. The four exogenous variables i.e, Emotional Loneliness, Access to Organizational Resources, Work Family Conflict and Work Disengagement are the important antecedents of Psychological Well-Being. Therefore hypotheses 1,2,3 and 4 are supported which means Emotional Loneliness, Access to Organizational Resources, Work Family Conflict and Work Disengagement are impacting Psychological Well-Being of IT employees in remote work. The model is again tested with moderating variable such as gender, working hours, marital and parental status. The result of the hypotheses is shown in table 3.

Table 2
Testing of Hypotheses Using SEM

Variable Relationship			Estimate	S.E.	C.R.	P	Conclusion
PWB	<---	WFC	125	.071	1.761	.078**	Supported
PWB	<---	WD	120	.080	2.632	.014**	Supported
PWB	<---	AOR	.035	.057	1.893	.082***	Supported
PWB	<---	EL	.041	.051	2.687	.027***	Supported

***Significant at 5%; **Significant at 10%; *Arrows exhibit the direct relationship between the independent and dependent variable.*

4.5 Moderating Variable

Moderation test checks the effect of variable intervention across groups (Farooq et al., 2007). In the multi-group moderation analysis group model is estimated by calculating path estimates for each group separately (Hair et al., 2010). Moderation analysis is used to check the effect of moderation variable on the model for different groups. In this study, moderating variable such as gender, working hours, marital and parental status are used in the model for testing. The result of the hypotheses is shown in table 3.
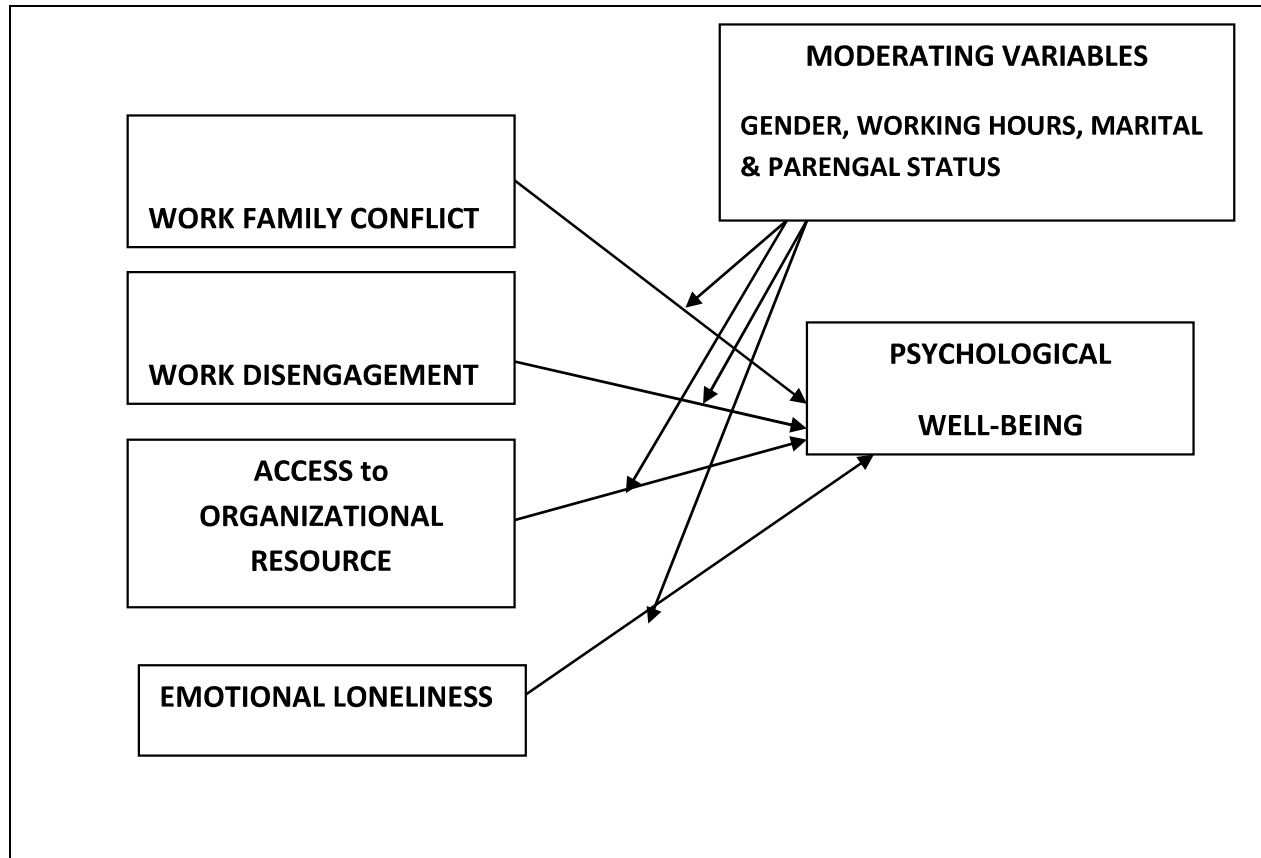
	Gender (Sig.)		Parental Status (sig.)		Working Hours (sig.)			Marital Status (Sig.)	
Variable Relationship	Male	Female	With Children	Without Children	<8 hrs	8-12 hrs	> 12 hrs	Married	Unmarried
PWB<---WFC	.191	.107	0.006	***	.163	.404	***	***	.124
PWB<---WD	***	.006	***	0.623	.285	.127	.084	.012	.174
PWB<---AOR	.030	.060	0.065	0.125	.518	***	***	.725	***
PWB<---EL	.018	.094	0.008	0.020	.395	.499	.412	.059	.014

***Significant at 5%; *Arrows exhibit the direct relationship between the independent and dependent variable.*

The results of the multi-group moderation analysis indicate that gender moderates the relationship between work disengagement, access to organization resource and emotional loneliness. When parental style is used as moderator, the parents with or without children is having impact of work family conflict on psychological well-being. The parental status with .hildren having influence of work disengagement and access to organizational resource on psychological well-being. The

employees with or without children feels emotional loneliness and having impact on psychological well-being in remote work. The result of working hour's exhibit, working more than 12 hours having effect on work family conflict and work disengagement which in turn impacting psychological well-being. Whereas working between 8 to 12 hours and more than 12 hours having are worried about accessing to organizational resources and which subsequently having effect on psychological well-being. When marital status is used as moderator, married employees are having impact on work family conflict, work disengagement and emotional loneliness which later influence psychological well-being. Whereas for unmarried access to organizational resource and emotional loneliness impacting psychological well-being.

5. Conclusion

The adverse effect of COVID-19 in India has transited from current working model to remote work. During this circumstance many employees psychological well-being was questionable and also debatable. There was struggle to shift to remote work model as it amplify work family conflict, work disengagement, hard to access organizational resources and increase in emotional loneliness. With this ideology the model was developed to test the effect of work family conflict, work disengagement, access to organizational resources and emotional loneliness on psychological well-being.

The model proves that psychological well-being is highly influenced by work family conflict as they were struggling to balance between professional and personal chores because entire family were in same roof due to lockdown. Moreover children were in home occupying the workspace and online classes was going on for the children who seeks help for learning and using online platform created conflict between work and family. In remote work, married employees who engaged more than 12 hours per day was facing work family conflict ridiculously.

It is understood from the study that remote work employees feels work disengagement irrespective of gender. Especially employees with children, working more than 12 hours per day were not able to accomplish their task before deadline and works were pile up. As a consequence emotional fatigue was high with impacted psychological well-being.

The study also proves that unmarried employees working remotely were struggling to access organizational resource when work for more than eight hours per day. In remote work, emotional loneliness is another bothering factor because of sudden long term disconnects from social interactions at the workplace and also isolation from colleagues and friends amplifies stress which impact psychological well-being.

In remote work, the organization must take measures to improve psychological well-being of employees by organizing various programs on stress relief mechanism, confined working hours, facilitating resource and initiating virtual social gatherings. The present study has various

limitations which can be addressed in future research. Emotional Exhaustion and Stress can be taken as study variable for further research. The study covered only IT employees in Chennai so further study can focus on other region. Third, future research can focus on other moderating variables such as income, designation and experience.

Reference

Arneson, K. (n.d.-a). *How companies around the world are shifting the way they work*. Retrieved January 10, 2022, from https://www.bbc.com/worklife/article/20210915-how-companies-around-the-world-are-shifting-the-way-they-work

Becker, William & Belkin, Liuba & Tuskey, Sarah & Conroy, Samantha. (2022). Surviving remotely: How job control and loneliness during a forced shift to remote work impacted employee work behaviors and well-being. Human Resource Management. 10.1002/hrm.22102.

Beckes, L., & Coan, J. A. (2011). Social baseline theory: The role of social proximity in emotion and economy of action. Social and Personality Psychology Compass, 5, 976–988.

Bhumika (2020). Challenges for work-life balance during COVID-19 induced nationwide lockdown: exploring gender difference in emotional exhaustion in the Indian setting. Gender in Management: An International Journal. Emerald Publishing Limited, 35(7), 705-718. https://10.1108/GM-06-2020-0163.

Bick, R. et al. 2020. A blueprint for remote working: Lessons from China. McKinsey & Company. 23 March.

Bjarntoft, S.; Hallman, D.M.; Mathiassen, S.E.; Larsson, J.; Jahncke, H. (2020). Occupational and Individual Determinants of Work-life Balance among Office Workers with Flexible Work Arrangements. Int. J. Environment, 17, 1418.

Cacioppo, J. T., & Hawkley, L. C. (2009). Perceived social isolation and cognition. Trends in Cognitive Sciences, 13(10), 447–454.

Clarke, L.. (2020). Employers face legal minefield over Covid-19 workplace surveillance tech, New Stateman. https://tech.newstatesman.com/coronavirus/workplace-surveillance-tech-legal.

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. Psychological Inquiry, 11, 227–268.

Eurofound (2020d). COVID-19 could permanently change teleworking in Europe. https://www.eurofound.europa.eu/news/news-articles/COVID-19-could-permanently changeteleworking-in-europe.

Gabriel, A. S., Lanaj, K., & Jennings, R. E. (2021). Is one the loneliest number? A within-person examination of the adaptive and maladaptive consequences of leader loneliness at work. Journal of Applied Psychology, 106(10), 1517–1538.

If the future is remote work, will work-life balance thrive or suffer? (n.d.). Https://Www.Chanceupon.Co/. Retrieved January 10, 2022, from https://www.chanceupon.co//blog/if-the-future-is-remote-work-will-work-life-balance-thrive-or-suffer.

Liu, Y., Wang, M., Chang, C.H., Shi, J., Zhou, L. and Shao, R. (2015). Work–family conflict, emotional exhaustion and displaced aggression toward others: the moderating roles of workplace interpersonal conflict and perceived managerial family support. Journal of Applied Psychology, 100 (3), 793-808.

Makiniemi, J, Oksanen, A., Makikangas, A. (2021). Loneliness and Well-Being during the COVID-19 Pandemic: The Moderating Roles of Personal, Social and Organizational Resources on Perceived Stress and Exhaustion among Finnish University Employees. International Journal of Environmental Research Public Health, 18, 7146. https:// doi.org/10.3390/ijerph18137146

Maurer, R. (2020, December 16). *Remote employees are working longer than before*. SHRM. https://www.shrm.org/hr-today/news/hr-news/pages/remote-employees-are-working-longer-than-before.aspx

McCulley, L. 2020. Lockdown: Homeworkers putting in extra hours - instant messaging up 1900%. 27 April.

McParland, C. and Connolly, R. (2020). Data vigilance in the Workplace: Managing the Impact of Innovation, Business Systems Research, 11 (1).https://www.researchgate.net/publication/340799980_Dataveillance_in_the_Workplace_Managing_the_Impact_of_Innovation.

McQuaid, R.J.; Cox, S.M.L.; Ogunlana, A.; Jaworska, N. (2021). The Burden of Loneliness: Implications of the Social Determinants of Health during COVID-19. Psychiatry Research, 296, 113-648.

Reimagining the office and work life after COVID-19 | McKinsey. (n.d.-a). Retrieved January 10, 2022, from https://www.mckinsey.com/business functions/people and organizational performance/our-insights/reimagining-the-office-and-work-life-after-covid-19.

Savolainen, I., Oksa, R, Savela, N., Celuch, M., Oksanen, A. (2021). Covid-19 Anxiety—A Longitudinal Survey Study of Psychological and Situational Risks among Finnish Workers. International Journal Environmental Research Public Health. 18, 794.

Sirgy, M.J. and Lee, D.J. (2018). Work-life balance: an integrative review. Applied Research in Quality of Life, 13(1), 229-254.

Thomason, B., & Williams, H. (2020, April 16). What will work-life balance look like after the pandemic? *Harvard Business Review*. https://hbr.org/2020/04/what-will-work-life-balance-look-like-after-the-pandemic.

Vyas, L., & Butakhieo, N. (2021). The impact of working from home during COVID-19 on work and life domains: An exploratory study on Hong Kong. *Policy Design and Practice*, *4*(1), 59–76. https://doi.org/10.1080/25741292.2020.1863560.

Wang, B.,Liu, Y., Qian, J., Parker, S.K. (2021). Achieving Effective Remote Working during the COVID-19 Pandemic: A Work Design Perspective. Applied Psychology, 70, 16–59.