

# Study on Perceived Stress and Physical Stress associated with WFH during COVID 19 Pandemic

Suruchi Pandey<sup>1</sup>, Anamika Pandey<sup>2</sup>

<sup>1</sup>Associate Professor, Symbiosis Institute of Management Studies, SIU, Pune, <sup>2</sup>Professor, School of Business, Galgotia University, Noida

## Abstract

Covid 19 changed the rules of way corporate world functioned months back. Normal was no more normal for the people, cities and countries of the world. The future of work arrived and people were compelled to shift their offices at their home. Employees working in every industry adopted to this change whether it was education or banking or IT or services or any other.

Present study investigates the stress and physical health of the employees who adopted to this change and were working from home during the pandemic. The questionnaire was used to seek inputs from the participants on perception and feelings about work from home along with infrastructure issues at forefront, perceived stress and physical stress. The collected data was analysed using SPSS. The study is based on primary data and feedback collected from 228 professional working from home. Out of which there were 124 male and 104 female respondents.

The finding of the study is interesting revealing several aspects of work from home. Study revealed infrastructure issues while working from home added to the stress levels, perception about work from home was correlated to stress, female employees working from home found infrastructure more challenging than male counterparts.

The study implies changes in policies to make work from home work in favour of employees and thereby for employers. Organisations will have to adopt to newer ways of taking care of employee's wellbeing.

**Key words:** *Work from Home, Remote working, Stress and Mental health, Employees*

## Introduction

The spread and outbreak of Covid19 throughout the world has changed the usual way of working and concept of workplace. Many organisations and its employees started to work from home to meet the organisational requirements and complete the task in hand. While it was adoption which was forced but it is interesting to look at the finding of Stress and Mental health of employees. Stress and Mental health of employees is

concern of employers and Human resources department. Work associated factors like timely completion, quality, customer expectations, compliance, internal and external issues were major cause of stress for employees. This directly affects the work performance, quality of life, longevity, retention of employees in organisation and helps build a psychological environment in the organisation. The study by Cooper and Cartright<sup>3</sup> (1994) discussed proactive measures to have positive mental health of employees.

---

### Corresponding Author :

**Dr. Suruchi Pandey,**

Associate Professor, Symbiosis Institute of Management Studies, SIU, Pune. suruchi.p@sims.edu

### Objective of the Study

The present study aims at

1. To investigate the physical stress symptoms of employees while work from home during Covid 19 pandemic

2. To identify the relationship between perceived stress of employees and their feelings about working from home during Covid 19 pandemic

3. Examine the effect of infrastructural issues and problems on people perceived stress and physical stress during Covid 19 for performing their jobs from home.

4. Examine Role of infrastructure in enabling work from home

### Literature Review

Work today is more intense than before. Pressures from peers and boss customers, WFH (work from home) is considered as innovative and employee friendly policy.

Felstead<sup>14</sup>*et al* (2002) There are terms and boundaries decided for this contract however often there is negotiation in these terms of employment. Work from home is one such adjustment. This negotiation goes through employee life cycle. Shamir and Salomon<sup>17</sup>(1985) study related work from home having negative impact to quality of life. As Quality of Work Life must allow combination of advantages of work at home and working outside. One of the factors chosen effecting quality of life is job stress..

Lack of Time structure and level of activity are enforced at the workplace through positive and negative reinforcements. WFH leads to denial of social support and adding to job stress of individual represented House<sup>8</sup> 1980. This social support is not only family with colleagues who help with complex tasks. Moreover, under present views, he or she may be looked upon as actually not working a view that may adversely affect the individual's identity, as well as his or her ability to perform uninterrupted work at home expressed Olson<sup>9</sup> 1981.

Leiter and Durup<sup>12</sup> (1996) Work family interference and family personal conflict had impact on work stress and emotional exhaustion further suggested interventions to support employees well being. This study was associated

with health workers and acknowledged that personal relationships effect the work and employee assistance programmes are needed. According to Kreiner<sup>10</sup> (2006) Person and the environment directly effect the outcome and job satisfaction. The term job sharing and flexibility at work can mean different things to different people. Workplace provides the segmentation which meets the preference of person leading to better outcome. P-E theory suggests excessive integration or segregation leads to situation arising stress. This also negatively effect job satisfaction. Contradicting it is also viewed as option of flexible work place providing work life balance. Similarly Felstead<sup>14</sup>*et al* (2002) mentioned Work from home can lead to long hours of working. Work from home is blessing for parents and others who have several responsibilities at home. WFH always had both aspects to it. Work life balance and stretching/ adjusting the bandwidth to work. Golden<sup>5</sup> (2008), Also discussed about preferences workers have about job flexibility at each stage of life.

Griffin<sup>6</sup>*et al* 2002 opined both women and men with low control either at work or at home had an increased risk of developing depression and anxiety . Working women have similar or even higher rates of psychiatric symptoms than housewives . Spillover model explains that breaking the boundaries of work and home can have effect can lead to work-family conflict that results in negative health outcomes . Job strain model explained cardiovascular disease symptoms and job events 17 of 25 studies showed a significant main effect of job control on the cardiovascular outcomes, Women and men did not differ by the amount of decision latitude that they reported, but men did report significantly less control at home. Hence WFH more strenuous for women Psychological distress, mental disorders and depressions and other effects of such stress.

Recent article published in forbes<sup>20</sup> magazine discussed mental health and burnout risk due to shift of working to home from office. This is due to isolation , adaption and change. Crosbie and Moore<sup>2</sup> (2015) concluded work from home supports work life balance, it should be carefully selected keeping in mind personality and individual characteristics and needs. Venkatesh and Vitalari<sup>18</sup> (1992) recognised work from home as

supplemented work arrangements and necessity to job design. Authors also acknowledge the infrastructure is key element in making it a success else it will not add value.

Live Mint<sup>19</sup> (2020) article quoted while discussing work from is cost saving proposition but with caution. The article mentioned Neuroscience issues associated with isolation leading to psychological insecurity, lack of creative thinking, acceptance to change and team spirit. Butterick<sup>1</sup> (2020) Human element of working with each other are equally important as much as productivity and efficiency issues. Human beings are social creatures and need to have human interaction. Human to human interactions among employees, subordinate and boss, colleagues, clients are needed and should not be as trivial aspect .

Mustafa and Gold<sup>13</sup>(2013) in their study highlighted issues pertaining to physical boundaries during work from home. The breach of time and space is what makes work from home different and many cases the both lead to frustrations and lack of concentration towards work. Recent SHRM<sup>4</sup> research found that more than 40% of employees feel symptoms of physical stress like burnt out, drained or exhausted from their work. Additionally, one out of four employees frequently reported symptoms of perceived stress like feeling down, depressed or hopeless. More than one in three employees reported having done nothing to cope with these feelings leading to further complications.

Review of various literature available indicated Work from home or home working is associated with work life balance and adding to job satisfaction of employees. At the same time most of these studies highlighted stress and mental health issues associated while working from home due to family issues, physical and psychological environment, time and space factors associated with it.

## Research Methodology

For the study, survey method was adopted to gathered the data with the help of structured questionnaire.

Convenience sampling was used for targeted the respondents. People from different professions like

banker, academicians, data analyst, services, relationship managers etc. participated in the study. Total 300 respondents participated in the study out of which 228 completely filled responses were considered for analysis. There were 124 male and 104 female respondents. 90% of these respondents were shifted to work from home due to present Covid 19 situation. Other 10% had work from home option earlier too.

To measure the physical stress, a standard questionnaire was adapted having the list of 10 symptoms where responses were taken using the scale ranging from Every day (5) to Never (1) (Kenneth Matheny & McCarthy<sup>11</sup>, 2000). Respondents were asked to provide ratings for their symptoms of stress like boredom, anxiety, headache, restlessness etc. in the duration of work from home. To understand how the Covid19 crisis, lockdown and work from home situations affect the feelings and perceived stress of people, the Perceived Stress Scale (PSS) was adapted for the present study. Respondents were asked to rate their feelings and thoughts during the last one month and responses were recorded ranging from very often (5) to Never (1). The scale aim to cover the stress level of the respondents due to work from home.

From the articles, literature review and interaction with the other people, it was identified that infrastructural issues playing a major role for working from home. Therefore, to cover the infrastructural issues and problems regarding performing the jobs from home, 5 items scale was designed and responses were taken on a 5-point scale ranging from 'to a great extent (5)' to 'Not at all (1)'. The scales items were like "availability of domestic help", "availability of internet" etc. Another measure which designed for the study was related to the people's feeling about working from home. There were total 6 items were constructed using the 5-point rating scale ranging from 'strongly agree (5)' to 'Strongly disagree (1)'. Examples of items include 'Work from home is a better option for all the time rather going to the office', 'More time is spent in WFH option compared to regular office hours' etc. Item score is reversed for negative statements for computing the mean score of the scale on feeling about work from home. The collected data were analyzed using SPSS 22.0 version whereby

descriptive analysis, t-tests, correlations and regression analyses were performed.

Hypothesis: The below mentioned 7 hypothesis were tested in the present study.

H1: There is a significant difference of infrastructure Issues and problems on people perceived stress and physical stress.

H2: Gender-wise there is significant difference on people perceived stress and physical stress

H3: Gender-wise there is significant difference on people feelings about working from home.

H4: Female felt more infrastructural problems as compared to their counterparts for working from home.

H5: Infrastructure problems at home have significant impact on people perceived stress and physical stress

H6: There is significant relationship between people perceived stress and physical stress

H7: People having positive feelings about work from home will have less physical stress.

### Results and Findings

For testing the hypotheses, descriptive analyses were performed for each scale used in the study which includes mean scores and Cronbach alpha for each variable.

The results are presented in the Table 1. The alpha score of physical stress for the present study is .906 which is on the higher side. Similarly, Cronbach alpha of Perceived stress, Feelings about WFH and Infrastructure problems are found .645, .654 and .676 respectively which indicate that all the scales had sufficient reliability.

The mean score of feelings about work from home is indicating that respondents have reported work from home positively. The reverse scoring was done for the two items which were reflecting the negative feelings about work from home. Thereafter, mean is calculated for the scale on feelings about work from home.

**Table 1: Descriptive Statistics**

	N	Mean	Minimum	Maximum	Std. Deviation	Cronbach Alpha
Feelings about Work from home (WFH)	228	18.1667	7.00	29.00	4.65916	.676
Infrastructure Problems	228	20.7719	10.00	30.00	4.58408	.654
Perceived stress	228	20.4342	8.00	35.00	4.79170	.645
Physical Stress	228	26.7895	10.00	49.00	9.30631	.906

In the study, responses were taken about problems related to the availability of the infrastructure for effectively working from home. An attempt was made to understand whether infrastructure problems create any difference for respondent’s physical stress and Perceived stress, a t-test is performed. The t-values demonstrating the significance of mean difference between high and

low infrastructure problems with respect to respondent’s Perceived stress and physical stress are presented in Table 2.

It clearly shows that people were stressed in case of high infrastructure problems as compared to those who had less infrastructural problems at home for performing their jobs. These people have also experienced physical

stress when they had more problem related to the availability of infrastructure to perform work from home.

**Table 2: Mean differences on Perceived stress and Physical stress for Infrastructure Issues**

		Infrastructure Issues		t-value	Significance (2-tailed)
		High	Low		
Perceived stress	N	170	58	-3.144**	.002
	Mean	21.01	18.76		
	SD	5.57	4.37		
Physical Stress	N	170	58	-2.289*	.023
	Mean	27.61	24.40		
	SD	8.78	10.41		

\*\* $p \leq .01$ ; \* $p \leq .05$

Further, to traces the difference of male and female with respect to the perceived stress, physical stress, facing infrastructure problems and feelings about work from home, t-test was administered. Table 3 indicates that there is a significant difference between male and female on perceived stress and physical stress as well as facing infrastructure problems.

The mean values of both male and female for their perceived stress clearly shows that females (21.12) were more stressed as compared to males (19.86) during work

from home. Similarly, females were found to be having more physical stress than male. The mean difference presented in the table 3 also indicates that female respondents were found to have more infrastructure problems for performing their jobs from home during lockdown.

No significant difference is found between female and male for perceiving work from home more positive rather going to the office regularly in the normal conditions as well.

**Table 3: Gender wise differences for Perceived stress, physical stress, Feelings about WFH and Infrastructure Issues**

		Gender		t-value	Significance (2-tailed)
		Male	Female		
Perceived stress	N	124	104	-1.978*	.049
	Mean	19.86	21.12		
	SD	4.75	4.77		
Physical Stress	N	124	104	-3.266**	.001
	Mean	24.98	28.94		
	SD	9.72	8.33		

**Cont... Table 3: Gender wise differences for Perceived stress, physical stress, Feelings about WFH and Infrastructure Issues**

Feelings about WFH	N	124	104	.751	.454 (NS)
	Mean	18.37	17.91		
	SD	4.97	4.27		
Infrastructure Problems	N	124	104	-3.435	.001
	Mean	19.84	21.88		
	SD	4.73	4.15		

NS= Not significant, \*\* $p \leq .01$ ; \* $p \leq .05$

During lock down, people had to work from home with no other options. Therefore, in the study it was tried to find out that whether infrastructure problems like availability of domestic help or facing noise during the office meeting at home etc. have any significant relationship causing physical stress and perceived stress.

Pearson Product-moment correlations between availability of infrastructure and Perceived stress and physical stress were computed and results are presented in the Table 4. The result presented in above table shows the significant negative relationship ( $p \leq .01$ ) between perceived stress and physical stress with availability of domestic help, internet connectivity and mobile/laptop. Also, significant ( $p \leq .05$ ) negative association was found between Perceived stress and availability of electricity, rooms or space for conducting meetings and noise from family during the meeting at home. This negative association indicates that those who had availability of domestic help (-.344), internet connectivity (-.310) and mobile /laptop (-.191) for working at home were less stressed. Similarly, availability of electricity and rooms or space at home for conducting meeting etc. were found to have less degree of significant association with people's stress during lockdown.

Result presented in Table 4 also indicate that availability of domestic help, internet connectivity followed by availability of mobile/laptop have significant negative relationship with respondent's physical stress. It is clear from the results that availability of domestic help had found to be cause for people stress and physical stress followed by internet connectivity. Other infrastructure issues like availability of mobile/internet, rooms or space at home were found to be cause for stress and physical stress but to a lower degree.

Certain questions were asked from the respondents to identify how do they feel about work from home since during lockdown people had no choice other than it. Pearson product moment correlation is also computed to determine the relationship between respondent's feeling about work from home and availability of infrastructure to perform their job. Result is reported in the table 4. A significant positive relationship between availability of infrastructure support and work from home clearly indicate that respondents who had sufficient infrastructure support like domestic help, internet connectivity and mobile/laptop for performing job from home preferred more work from home rather going to the office even in the normal days.

**Table 4: Correlation among infrastructure problems Perceived stress, physical stress and feelings about WFH**

	Availability of domestic help	Internet connectivity	Availability of mobile/laptop	Availability of Electricity	Rooms or space for conducting meeting etc at home	During meeting noise from family
Perceived stress	-.344**	-.310**	-.191**	-.145*	-.136*	.031
Physical Stress	-.278**	-.203**	-.145*	-.057	.062	-.011
Feeling for WFH	.774**	.671**	.152*	.021	.009	.009

\*\* $p \leq .01$ ; \* $p \leq .05$

It is evident from the results reported in the Table 4, among all infrastructure related problems, availability of domestic help found to have more effect on people’s physical stress and perceived stress. Problems related to the family during the work or meetings did not found to have any effect on people perceived stress and physical stress indirectly indicates that family affinity and support during the lockdown more appreciated rather than a hindrance for working from home.

In the study attempt is also made to find out that respondents who reported physical stress had perceived stress also. In addition to it, it was also tested that those who reported positive feelings for work from home experienced less physical stress and Perceived stress. To test it, Pearson Product-moment correlations among

Perceived stress, physical stress and positive feeling for work from home were computed. The result presented in the table indicates that there is a significant negative correlation between positive feeling for work from home and Perceived stress (correlation coefficient  $-.433$ ,  $p \leq .01$ ) followed by physical stress as well (correlation coefficient  $-.331$ ,  $p \leq .01$ ).

From the result, it is evident that those who found work from home positive had experienced less physical stress and Perceived stress as well which elaborates that those who found work from home much better than going to the office daily in the normal days had experienced less stress and physical stress during the lockdown for WFH.

**Table 5: Correlation among Perceived stress, physical stress and feelings about WFH**

		Perceived stress	Physical Stress
Perceived stress	Pearson Correlation	1	.671**
	Sig. (2-tailed)		.000
	N	228	228
Physical Stress	Pearson Correlation	.671**	1
	Sig. (2-tailed)	.000	
	N	228	228
	Sig. (2-tailed)	.000	.000
	N	228	228
Feelings about WFH	Pearson Correlation	-.433**	-.331**
	Sig. (2-tailed)	.000	.000
	N	228	228

\*\* $p \leq .01$ ; \* $p \leq .05$

From the Table 5, it is also evident that people who had experienced physical stress during this lockdown had highly Perceived stressed as well. The correlation coefficient .671 value indicates a significant positive relationship between physical stress and Perceived stress ( $p \leq .01$ ).

During the lockdown, people had to work from home with the available infrastructure facilities at

their home. Lack of such facilities are assumed to be having an impact on people’s stress physical wellbeing. To examine the impact of infrastructure problems on people’s Perceived stress and physical stress, regression analysis is done using the Infrastructure problems as dependent variable and Perceived stress and physical stress as independent variable.

**Table 6:**

Dependent Variables	Infrastructure Problems			
	Beta ( $\beta$ )	Adj. R2	t	F
Perceived stress	.364**	.119	-5.548**	31.403*
Physical Stress	.284**	.083	-4.449**	19.217**

\*\* $p \leq .01$ ; \* $p \leq .05$

It appeared in the result presented in the table 6 that infrastructure problems have significantly predicted Perceived stress and explained 11.9% of its variance which indicates that people were Perceived stressed when they faced infrastructure related problems ( $\beta=.364$ ) for working from home. Similarly, infrastructure problems were also found to have a significant impact on people’s physical stress. From the results it is evident that although infrastructure problems have an impact on both people’s Perceived stress and physical stress but it was found to have less effect on physical stress explaining only 8.3% of its variance as compared to Perceived stress (see Table 6). H7: Infrastructure problems at home have significant impact on people perceived stress and physical stress is acceptable.

**Conclusion**

The study revealed Infrastructure issues related to the physical and perceived stress symptoms. Though not all aspects of infrastructure negatively affect work from home. It was also found that female respondents reported more issues as compared to the male counterparts while WFH. The reasons could be multiple perhaps most of the

respondents were not prepared for sudden shift of work from home. However it can also be derived from the data that work from home is generally a acceptable concept among the respondents. People who perceived work from home positively reported less stress symptoms as compared to others who reported more of the stress symptoms.

**Conflict of Interest:** NIL

**Source of Funding:** Self

**Ethical Clearance:** Institutional Research Committee

**References**

- 1] Butterick M. Human Resource Management & Covid-19: Some Uncomfortable Truths. Posted on April 28, 2020. <https://cericleeds.wordpress.com/2020/04/28/human-resource-management-covid-19-some-uncomfortable-truths/>
- 2] Crosbie T, Moore J. Work–life Balance and Working from Home, *Social Policy & Society*, 2015; 3( 3): 223–233.

- 3] Cooper C, Cartwright S, Healthy Mind; Healthy Organization— A Proactive Approach to Occupational Stress, *Human Relations* 1994; 47(4): 455-471.
- 4] Gurchiek K. COVID-19 Takes a Toll on Employees' Mental Well-Being Employers can help their workers cope, *SHRM Research*, May 11, 2020
- 5] Golden L. Limited Access :Disparities in Flexible Work Schedules and Work-at-home. *Journal of Family Economic Issues* 2008; 29:86–109
- 6] Griffin J, Fuhrer R, Stansfeld S, Marmot M. The importance of low control at work and home on depression and anxiety: do these effects vary by gender and social class? *Social Science & Medicine* 2002; 54: 783–798
- 7] Giurge L, Bohns V. 3 Tips to Avoid WFH Burnout. *Harvard Business Review*, April 03, 2020
- 8] House J. S. Work stress and social support, Addison-Wesley New York 1980.
- 9] Olson M. Remote office work: Implications for individuals and organizations. Center for Research on Information Systems, Computer Application and Information Systems Area, New York University, 1981
- 10] Kreiner G. Consequences of work home segmentation or integration : a person environment fit perspective. *Journal of organizational Behaviour* 2006; 27; 485-507
- 11] Kenneth B, Matheny, C J McCarthy. Write your own Prescription for stress. New Harbinger Publications, USA 2000. ISBN: 9781372242159.
- 12] Leiter M, Durup M. *Work, Home and In between A longitudinal study of spillover. Journal of applied behavioural science* 1996; 32 (1): 29-47
- 13] Mustafa M, Gold M. Chained to my work? Strategies to manage temporal and physical boundaries among self-employed teleworkers. *Human Resource Management Journal* 2013. 23 ( 4):413–429
- 14] Felstead A, Jewson N, Phizacklea A, Walters S. Opportunities to work at home in the context of work-life balance. *Human Resource Management Journal* 2002; 12( 1): 54-76
- 15] Pasca R., Wagner S.L. Occupational Stress, Mental Health and Satisfaction in the Canadian Multicultural Workplace. *Soc Indic Res* 2012; 109 :377–393 <https://doi.org/10.1007/s11205-011-9907-5>
- 16] Rees D.W. Work-related stress in health service employees. *Journal of Managerial Psychology* 1995; 10( 3): 4-11. <https://doi.org/10.1108/02683949510081329>
- 17] Shamir B, Salomon I. *Work-at-Home and the Quality of Working Life*. Academy of Management Review 1985; 10 ( 3): 455-464.
- 18] Venkatesh A, Vitalari N. An Emerging Distributed Work Arrangement: An Investigation Of Computer-Based Supplemental Work At Home. *Management Science* 1992; 38(12):1687-1706.
- 19] [www.livemint.com/news/india/wider-cost-benefit-analysis-will-determine-if-wfh-is-a-success-11588528647759.html](http://www.livemint.com/news/india/wider-cost-benefit-analysis-will-determine-if-wfh-is-a-success-11588528647759.html)
- 20] Staglin, G. (2020), “When Home Becomes The Workplace: Mental Health And Remote Work”, Mar 17, 2020. <https://www.forbes.com/sites/onemind/2020/03/17/when-home-becomes-the-workplace-mental-health-and-remote-work/#671e28a81760>