

# HOW DOES REMOTE WORKING ENHANCE FLOW EXPERIENCE? THE ROLE OF EMPLOYEES' PSYCHOLOGICAL WELL-BEING

**Ayşe DEMİRHAN**

*Faculty of Economics and Administrative Sciences, Yildiz Technical University, Istanbul, Turkey  
aysedemirhan74@gmail.com*

**Nazlı Ece BULGUR**

*Faculty of Economics and Administrative Sciences, Yildiz Technical University, Istanbul, Turkey  
nazliecebulgur@gmail.com*

## Abstract

The main purpose of this research was to explore the moderating role of psychological well-being in the relationship between remote working and flow. Based on that, a survey was conducted on 238 managers and administrative staff who are working in the IT industry, Telecommunications industry, Retail industry and Banking sector in Istanbul, Turkey. Remote working scale developed by Grant has been used to measure e-working (17 statements). Flow scale developed by Bakker has been used to measure the flow, a scale consisting of 13 statements. The scale developed by Diener, Scollon & Lucas and adapted to Turkish version by Telef was used to measure the level of psychological well-being (8 items). According to the results of the analysis, there is a relationship between remote working and flow. Also, it was revealed that psychological well-being has a mediating role between remote working and flow. The value of this study consist in highlighting the related aspects concerning remote working and flow experience of Turkish employees working in the IT industry, Telecommunications industry, Retail industry and Banking sector and their psychological wellbeing levels.

**Keywords:** Remote Working, Flow Experience, Psychological Well-Being

## 1. INTRODUCTION

With the onset of the Covid-19 period, it has caused both uncertainty and change in the work/business models that have been maintained in a customary order and certain patterns. In this case, the high or low level of psychological well-being of employees in an environment of change and uncertainty has led to the question of how and why it affects organizational phenomena (Taukari, 2022). In working models, the transition to a flexible working system and the emergence of remote working opportunities have been in question. At that time, the question of how this organizational phenomenon might have an impact on the flow experience of employees was the main question that guided the research.

The necessity of being isolated during the Covid-19 period has brought many problems with it. It has caused problems that can affect their working situation both in the organizational field and in the individual sense. Apart from the beneficial aspects of remote working, the question of how it affects the flow experience of employees has been a matter of curiosity. According to the studies carried out by the researchers, it has been revealed that there are positive aspects for the employees, both spiritually and financially. Since employees are advantageous in terms of time, they have the advantage of using their time effectively, immersing themselves in more business processes, and concentrating better on their work. Therefore, it has been seen that working remotely has a positive effect on the flow experience. However, although it has been demonstrated by the studies that remote work has a positive effect on the flow experience, it is seen that the psychological well-being of the employees has a negative effect. The reason for this is that employees are deprived of social interactions, distance in communication networks, not being able to connect actively with other people at all times, and the transition from a social environment to an isolated life has created this situation.

Even if the employees have negative relationships with some organizational phenomena, it cannot be ignored that they have a positive relationship with other organizational phenomena. Another question was how and why

the effect of psychological well-being, which is also in the model of the research, on the flow experience of the employees could have a positive effect. According to the expand-build theory, it is emphasized that the positive emotions accumulated in the emotion pools of the employees have a supportive role in the positive emotions (Fredrickson, 2001). Therefore, it has been suggested that emotional resources and emotional well-being will play a developing role in the flow experience. The flow experience can be put in a way that can show a positive trend with the intensities of positive emotional resources. Therefore, even if it is an isolated environment brought by the pandemic, the presence of emotional resources can enable employees to concentrate in their work activities at a level that will immerse themselves.

The importance of the study in this sense is to explain how the change in working models caused by the pandemic period has an effect on the flow experience of the employees. Likewise, while examining the relationship between these organizational and individual phenomena, supporting how and why changes in employees' well-being levels occur with empirical findings reveals the purpose and importance of the study. In this direction, conceptual information about the variables of the research question to be examined and the hypothesis development process are presented respectively, following the next headings.

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### 2.1. *The Relationship Between Remote working and Flow Experience*

The concept of flow was first used by Csikszentmihályi in 1975. The content of the concept constitutes the meaning of experience at the optimal level. When it is wanted to be expressed as a psychological state, it is defined as individuals being mentally productive, motivated and experiencing happiness (Bricteux et al., 2017). It has been used in many different fields (entertainment, education, sports, music, games) until the 1970s, with a focus on explaining its maximum experience in different fields. It is used as the state of being the center of any work that is mentally engaged. According to the flow theory, the flow experience is experienced at a high level where the difficulties are high and the balance between talent and skills is high (Van Oortmerssen et al., 2019 ; Zito, Cortese & Colombo, 2016;nFullagar & Kelloway, 2009; Fagerlind et al., 2013). The reason why flow experience is used with the concept of maximum is the motivation and well-being created by the flow experience. It is a concept that includes concentrating completely on a job, focusing, enjoying, keeping the situation under control, having clear goals, a high level of commitment and a sense of inclusion (Zito, et al, 2019, 2). Flow makes experiences satisfying. The concept is also used as having a good time, intrinsic motivation, and being completely immersed in the event. At the same time, combining and using the flow experience with work is expressed as the absorption of the individual in his work, job satisfaction and internal work motivation (Makikongas et al., 2010). According to Csikszentmihalyi (1997), employees are more likely to experience flow if they have clear information about the goals that the organization has set and if they have full knowledge of what to do about their duties. The results of the study by Taser et al., (2022) revealed that remote e-work experience has a significant and positive effect on employee flow levels. This has enabled employees to perceive remote e-work as a positive experience provided by the organization. In this current study, it is thought that it would be useful to provide information on the underlying mechanisms if employees are experiencing flow experiences during remote remote working processes. Few can explain the relationship between streaming experience and remote work. It is important to explain the flow experience in this context, as it is a very important work-related situation that can successfully increase the emotional well-being, satisfaction and participation of employees in times of stressful uncertainty (Taser et al., 2022).

*H1: Remote working is positively associated with flow experience*

### 2.2. *The Relationship Between Remote working and Psychological Well-being*

Remote work has become an external environmental element brought by the pandemic period and causing a change in the way of working (Molino et al., 2020). The change in working conditions has allowed employees to carry out their work activities in different environments (Kniffin et al., 2021). Thus, the scope of digitalization in business processes has expanded (Stadin et al., 2021). The fact that an expanding scope of work has an important place today has led to the emergence of effects on the psychological well-being of the employees. In this case, before explaining the relationship between remote work and the psychological well-being of

employees, a few definitions of what the psychological well-being of employees mean can be mentioned. Psychological well-being is the use of one's potential at the highest level and the potential to reveal it at the highest level (Ryff, 1989). In a way, psychological well-being emerges by meeting the basic psychological needs that an individual should have. For example, it is defined as having autonomy in working life, having talents and being good in social interaction (Ryan & Deci, 2001). One of the most important reasons why psychological well-being is emphasized so much is the curiosity about the maximum benefit that can be obtained from the activities of individuals and the factors that may form the basis for the emergence of these benefits (Ryff & Singer, 2006). It is emphasized that psychological well-being is important for the individual to search for the meaning of life, to give a meaning to his life and to use his potential, as well as the effects of mental and physical well-being (Ryff et al., 2004). While the existence of social interaction, which is included in the concept of psychological well-being, plays a supporting role in the individual's well-being in social environments, social isolation caused by remote work has been seen to play a negative role on well-being in a sense. According to the study of Allen (2021), it was found that working from home causes social isolation and along with it, psychological well-being is at a lower level. Likewise, Becker et al., (2022) revealed that working from home causes loneliness and affects the psychological well-being of those who work together. According to another study conducted by Van zoonen and Sivunen (2021), it was emphasized that with the transition of employees to remote working models, employees experience more stress and the feeling of isolation from social environments negatively affects employees. According to the results of the studies, it is seen that remote work causes a negative outcome on psychological well-being, and the hypothesis put forward in this direction is expressed as follows:

*H2: Remote working is negatively associated with psychological well-being*

### **2.3. The Relationship Between Psychological Well-being and Flow Experience**

The concept of psychological well-being, as explained in the previous titles, is seen as meeting the self-actualization needs of an individual working in any institution (Bradburn, 1969), revealing the meaning of life and revealing their potentials as supporting elements of psychological well-being (Keyes et al., 2002). According to the studies carried out by Hefferon and Boniwell (2014), factors that support the well-being of individuals are mentioned. These are especially being in contact with other individuals, taking into account the factors that support the individual's well-being, being in a continuous learning system, focusing on factors that will improve oneself, and doing good, helping others, and the development of helping others seem to play an important role in the development of individuals' psychological well-being. In order to better explain the relationship between the concept of psychological well-being and flow experience, it is appropriate to give a few definitions of flow experience. Flow experience is used to mean that the individual concentrates on a subject or a situation at any given moment and is completely immersed in the work he has done (Csikszentmihalyi, 1990). There are various studies that reveal the relationship between psychological well-being and flow experience. For example, according to the study conducted by Carpentier et al., (2012), they emphasized that when individuals experience flow at the highest level, their psychological well-being is at a higher level in parallel. If well-being is viewed from the subjectivity side, Fritz and Avsec (2007) found that there is a significant and positive relationship between flow experience and subjective well-being, according to the empirical findings of their study. In the details of the study, it is stated that the factors that will strengthen the relationship between these two variables, the effort of the employee to do more difficult work, to set more difficult goals and to try to achieve them, paves the way for both well-being and experiencing the flow experience at the highest level.

*H3: Psychological well-being is positively associated with flow experience*

### **2.4. The Relationship Among Remote working, Flow, Psychological Well-being**

Remote working business models, which have started to take an important place in the lives of employees with the pandemic, have been emphasized by the studies that affect the employees physically and mentally. The transition to remote working models has become an issue that cannot be ignored, which affects both the flow experiences of the employees and their psychological well-being. While there are studies proving that remote work has a positive effect on the flow experience, there are studies showing a negative relationship on psychological well-being. It has been observed that the reason for this is the adaptation of working individuals

HOW DOES REMOTE WORKING ENHANCE FLOW EXPERIENCE? THE ROLE OF EMPLOYEES' PSYCHOLOGICAL WELL-BEING

to remote working systems and the accompanying isolation from the social environment, which gives the employee the highest flow experience, but results in a negative result in terms of psychological well-being. The reason for the low level of psychological well-being is that work-family life is not carried out at a balanced level. Therefore, the psychological well-being variable, which may increase the level between remote work and flow experience, was included in the research model as a mediating variable (Figure 1). Although the relationship between the two variables has been found in previous studies, the question of how much the strength of these two relationships will increase when the psychological well-being of the employees is considered as a mediating variable in the model has come to the fore.

*H4: Changes in the psychological well-being mediate the relationship between remote working and flow.*

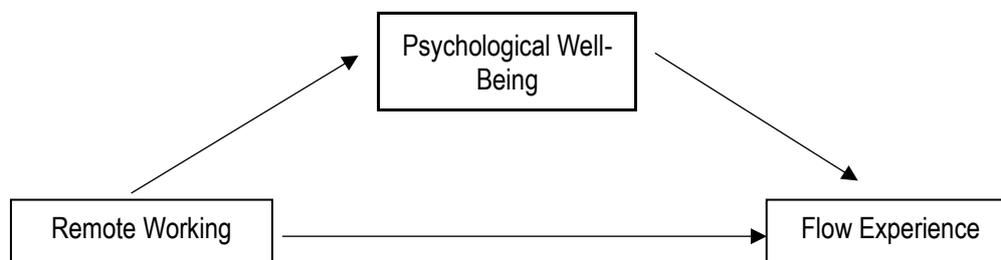


FIGURE 1- RESEARCH MODEL  
TABLE 1- DEMOGRAPHIC CHARACTERISTICS

Variables	Frequency Distribution	Percentage
Gender		
• Male	57	%23.9
• Female	181	%76.1
Marital Status		
• Single	75	% 31,5
• Married	163	% 68,5
Age Bracket		
• 18-30yrs	28	% 11,8
• 31-40yrs	204	% 85,7
• 41-50yrs	6	% 2,5
• 51yrs & above	0	% 0
Educational Qualifications		
• Associate Degree	3	% 1.3
• Bachelor's Degree	48	% 20.2
• Master's Degree	106	% 44.5
• Ph.D	81	% 34.0
Sector		
• Public	155	% 65.1
• Private	83	% 34.9
Position in Organization		
• Manager	219	% 92.0
• Administrative Staff	19	% 8.0
Work Experience		
• 1-5yrs	85	% 35.7
• 6-12yrs	148	% 62.2
• 13-20yrs	4	% 1.7
• 20yrs & above	1	% 0.4
Total Work Experience		
• 1-5yrs	43	% 18.1
• 6-12yrs	182	% 76.5
• 13-20yrs	9	% 3.8
• 20yrs & above	4	% 1.7
Total	238	100

### 3. METHOD

#### 3.1. Sample and Data Collection

The study was conducted with 238 managers and administrative staff who are working in the IT industry, Telecommunications industry, Retail industry and Banking sector in Istanbul, Turkey. Table 1 represents the demographic characteristics of participants. The majority of the participants were female (181/ %76,1). 204 (%85,7) of the employees are between 31-40 ages. 106 (%44,5) of the employees have graduate and master degree. 81 (%34) of the employees were graduated from Ph.D. The main data collection tool used in the research is the online questionnaire. The data obtained in the research were analyzed through IBM SPSS Statistics 24.0 and JAMOVI 2.3.21 package program. The research was carried out within the framework of quantitative research method and scanning design. In the research, the survey method was preferred as the data collection technique. Participation in the surveys was carried out on a voluntary basis. Data were collected between November 2022 and February 2023. Convenience sampling method were used for the reason of convenience and accessibility of the participants. The reason for using convenience sampling is that it is not costly, simplistic, and not as time-consuming as other sampling techniques (Stratton, 2021).

#### 3.2. Measurement

All of scales were translated into Turkish from the original forms. The online questionnaire form consists of four parts. In the first part, items about measuring the remote working; in the second part, items to measure the flow of the participants; items to measure the psychological well-being in the third part; In the fourth section and in the last section, there are items about determining the demographic characteristics of the participants. Detailed information about the scales used in the relevant sections is given below.

*Remote Working Scale:* Remote working scale developed by Grant et al., (2018) will be used to measure remote working. The scale consists of 17 items. At the same time, the scale consists of four dimensions. These; Work Life Interference, Effectiveness/Productivity, Organisational Trust, Flexibility. The internal consistency coefficient of the scale is 0.88 (Taser et al, 2022). Some of the items in the scale are include "I trust my organisation to provide good remote working facilities to allow me to e-work effectively" and "remote working makes me more effective to deliver against my key objectives and deliverables" .. Participants will be evaluated according to the 5-point Likert Scale prepared as "1: I strongly disagree, 2: I do not agree, 3: I neither agree nor disagree, 4: I agree, 5: I strongly agree".

*Flow Scale:* Flow scale developed by Bakker (2008) will be used to measure flow The scale consists of 13 statements. At the same time, the scale consists of three dimensions. These; Absorption, Work Enjoyment, Intrinsic Work Motivation. The internal consistency coefficient of the scale is 0.87. Some of the items in the scale are include "When I am working, I forget everything else around me and "When I am working on something, I am doing it for myself." Participants will be evaluated according to the 5-point Likert Scale prepared as "1: I strongly disagree, 2: I do not agree, 3: I neither agree nor disagree, 4: I agree, 5: I strongly agree".

*Psychological Well-being Scale:* The scale developed by Diener, Scollon, & Lucas, (2009) and adapted to Turkish version by Telef (2013) to measure the level of psychological well-being has 8 items. The internal consistency coefficient of the scale is 0.87. The adaptation study of the Psychological Well-Being Scale into Turkish was carried out by Telef (2013). Participants will be evaluated according to the 5-point Likert Scale prepared as "1: I strongly disagree, 2: I do not agree, 3: I neither agree nor disagree, 4: I agree, 5: I strongly agree"

### 4. RESULTS

The results of the relationship between the research variables will be examined in this section. First, factor analysis and reliability test results will be presented. Hypothesis testing results are shown at the end.

#### 4.1. Factor Analysis

Factor Analysis of Remote Working Scale: As a result of principal components analysis, the KMO sample adequacy value was calculated as .741. The Barlett Test of Sphericity was found to be significant as 554 ( $p < .000 < .01$ ). The fact that the result of the Bartlett sphericity test is significant indicates that the data obtained are suitable for factor analysis (Tabachnick & Fidell, 2013). As a result of the factor analysis, it was decided to remove 2 items (10th item and 16th item) from the 17 items that make up the remote working scale, since they have a value lower than the factor load determined as 0.45. The total variance explanation rate of the factors was found to be 44.0%.

Factor Analysis of Flow Scale: As a result of principal components analysis, the KMO sample adequacy value was calculated as .686. The Barlett Test of Sphericity was found to be significant as 494 ( $p < .000 < .01$ ). The fact that the result of the Bartlett sphericity test is significant indicates that the data obtained are suitable for factor analysis (Tabachnick & Fidell, 2013). As a result of the factor analysis, it was decided to remove one item (8th item) from the 13 items that make up the flow scale, since it had a value lower than the factor load determined as 0.45. The total variance explanation rate of the factors was found to be 46.1%.

Factor Analysis of Psychological Well-being: As a result of principal components analysis, the KMO sample adequacy value was calculated as .684. Barlett Test of Sphericity was found to be significant as 156 ( $p < .000 < .01$ ). The fact that the result of the Bartlett sphericity test is significant indicates that the data obtained are suitable for factor analysis (Tabachnick & Fidell, 2013). As a result of the factor analysis, it was decided to remove one item (4th item) from the 8 items that make up the psychological well-being scale, since it has a value lower than the factor load determined as 0.45. The total variance explanation rate of the factors was found to be 30.3%.

In order to evaluate the reliability of the scales, the Cronbach Alpha coefficient was calculated. The values of Cronbach's Alpha coefficients showing the reliability of the scales used in the research are respectively; e-work scale ( $\alpha = .713$ ), flow scale ( $\alpha = .703$ ) and psychological well-being scale was found to be ( $\alpha = .613$ ).

#### 4.2. Correlation Analysis

According to Table 2, correlations between e-work, flow and psychological well-being variables were found to be positive and statistically significant at the 1% significance level.

TABLE 2- CORRELATIONS ANALYSIS OF THE VARIABLES

Variables	Remote working	Flow	Psychological well-being
remote working	1		
Flow	,339*	1	
Psychological well-being	,203*	,339*	1

In this framework, there is a moderate relationship between flow and e-work ( $r = .339, p < .01$ ), a moderate relationship between psychology well-being and e-work ( $r = .203, p < .01$ ), and also a moderate relationship between psychology between well-being and flow ( $r = .339, p < .01$ ) were found at the end of the analysis.

#### 4.3. Mediation Analysis

When the analysis results in Table 3 are examined, all steps are given in order in order to analyze the mediation effect. In the first stage, remote working had a significant impact on flow ( $p = .000$  and  $\beta = .442$ ). The second stage is that remote working has an effect on psychological well-being. This effect was also found to be statistically significant ( $p = 0.000$  and  $\beta = .216$ ). It was also determined that flow had a statistically significant effect on psychological well-being ( $p = .000$  and  $\beta = .319$ ). In the last stage, remote working and psychological well-being were included in the model together and its effect on flow was examined. This effect was also found to be statistically significant ( $p = .000$  and  $\beta = .389$ ). In this framework, there is partial mediation as the mediating

variable partially explains the relationship between the two theoretical constructs. In order to determine whether the partial mediation effect found as a result of the research was significant, the Sobel Test was performed and this test result was found to be significant ( $p = .000 < .01$ ; Sobel Z Score (Test statistic) = 2.763; standard error = .0528). The significance of the Sobel test result confirms the existence of a partial mediation effect of the PWB variable between these variables. Indirect effect:  $(0.216) \cdot (0.319) = 0.069$ , Direct effect: 0.442, Total effect was found as  $(0.069) + (0.442) = 0.511$ .

TABLE 3- THE MEDIATING EFFECT OF PSYCHOLOGICAL WELL-BEING ON THE EFFECT OF REMOTE WORKING ON FLOW

Mediation analysis stages	$\beta$	t	p	R Square	F	p
Remote working and Flow	,442	11,590	,000	,115	30,596	,000*
Remote working and Psychological well-being	,216	12,153	,002	,041	10,176	,002*
Psychological well-being and Flow	,319	11,590	,000	,115	30,596	,000*
Remote working Psychological well-being Flow	,389 ,244	5,397	,000	,260	41,220	,000*

\* $p < .01$

## 5. DISCUSSIONS

Due to the importance given to human capital in working life, it is considered valuable both in terms of academic and application areas to touch on the factors that affect organizational actors. Accordingly, the purpose of this study is to investigate whether psychological well-being mediates remote working's effect on flow. According to the expand-build theory, positive emotions that individuals accumulate in their emotional pools enrich the individuals' pool of positive emotions. Therefore, it is understood that when individuals experience positive emotions, their emotional pools are enriched in this direction. As individuals try to expand or expand their pool of positive emotions in this process, the emotions experienced by individuals are built on top of each other, helping individuals achieve positive outcomes. This theory, which was examined within the scope of the study, also supported the hypotheses established between the facts. Expanding the psychological well-being of the employees, which are considered to be positive emotions, has been a quality that will positively support the work flow experiences of the employees. Therefore, the positive reflection of the expansion of psychological well-being resources has also ensured the construction of resources that will provide the work flow experience.

First, when the results of the research were examined, it was determined that remote working had a positive effect on the flow experience. This result is similar to the studies in the literature (Taser et al., 2022; Csikszentmihalyi, 1998). There are studies that are not similar to the results of the research (Vander Elst et al., 2017; Vittersø et al., 2003). The most important reason why remote working has positive effects on employees' work flow experiences is due to the wide range of work control and decision ranges of the employees. The more control an employee has over their work, the more their concentration levels increase while performing their responsibilities. Therefore, according to the result obtained within the scope of the data obtained, it was obtained as a result of the concentration of the employees when the conditions of remote working are at a good level, and the employee's self-indulgence while fulfilling his responsibilities. In the study conducted by Taser et al., (2022), it was determined that remote working has a positive effect on the work flow experiences of the employees. In this study, it supported the outputs of the hypothesis that was put forward within a certain literature review. Even if the demographic and sample differences are between studies, it is important that the data obtained in different samples give the same result. In the study conducted by Schade et al., (2022), it was determined that remote working has a positive effect on the workflow experiences of the employees. It has been determined that providing remote working conditions will increase the motivation of the employees and the increase in the motivation levels will have positive effects on the work flow experiences of the employees.

Second, according to the general information obtained as a result of the literature review, it was in favor of the negative effect of remote work on psychological well-being. However, according to the data collected during the research, it has been observed that remote working has a positive effect on the psychological well-being of the employees. Likewise, remote working has been found to have a positive effect on the psychological well-being of employees (Xiao et al., 2021; Standen et al., 1999). When we look at the studies that will support this, working remotely, especially working in the home environment, has made the physical fatigue of the employees less. Therefore, when we consider it as a factor affecting psychological well-being, it has been shown that good physical condition has a positive effect on the well-being of employees (Song & Gao, 2020). According to research conducted by Greer and Payne (2014), they found in the results of the research that the creation of channel richness in communication and the flow of information support the well-being of the employees. In this direction, the existence of open communication processes, which is put forward as a factor that will support the psychological well-being of the employees, ensures the psychological well-being of remote workers. On the contrary, it has been shown that working remotely or working from home increases the emotional well-being of organizational actors (Dingel & Heiman, 2020; Pabilonia & Vernon, 2022). In this case, it can be interpreted that the results are due to sample differences and demographic differences.

Third, another result is that the psychological well-being of the employees have a positive effect on flow experiences of the employees (Burke, 2010; Haworth, 1993). According to their study, Haworth and Hill (1992) also show that pleasure from both work and leisure time is related to aspects of psychological well-being. In this direction, outputs have been obtained that the work flow experiences of the employees will increase their interesting and motivational levels in the process where skills and difficulties are perceived equally. Considering the effects of work flow on psychological well-being, it has been determined that the increase in work flow experiences in the study on nurses has important effects on the psychological health of nurses. Even if the direction of the effects of the same variables used in this study on each other is reversed, the changes in the directions of the variables did not cause a change in their effects on each other (Fredrickson & Joiner, 2002; Ryan & Frederick, 1997). Lastly, in this study, it was also determined that there was a partial mediation effect when the mediating effect of the psychological well-being of the employees on the flow experience of remote work was examined.

## 6. PRACTICAL IMPLICATIONS

During the Covid-19 pandemic period, changes have been made in the way they work in their organizations, as in many areas. The diversity in the way they work has led to changes in the physical and cognitive resources of the employees. There have been various changes in the resources of employees in research based on certain theories, for example, as the expand-build theory is mentioned in this study. With this change, it can be said that the effects of the employees on the level of concentration on work, the level of self-employment and psychological well-being are seen in a concrete way. In this respect, it is important to take various steps to adapt to changes in the management policies, practices, business processes and activities of organizations. Therefore, a great deal of work falls on senior managers and human resources professionals in making the regulations. In the light of the data obtained from the study, there are points that are thought to be beneficial to be recommended to organizations. These; organizing working environments where employees can adapt to their working conditions, introducing applications that can meet the growth and development needs of employees, providing internet infrastructures that can support their working style and taking steps to improve the existing ones, arranging working conditions at a level where employees can concentrate on their work, offering activities that can support the psychological well-being of employees ( implementation of modern motivation methods) will be able to support organizational effectiveness and efficiency and will support the cognitive, emotional and social resources of its employees to show a positive tendency.

## 7. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

This study was conducted to investigate and evaluate the effects of telecommunication and informatics employees on the work flow experiences of remote working systems and the role of their psychological well-being in this relationship. In this empirical study, it has been tried to show to what extent the psychological well-being of the employees affects the relationship between the remote working and flow variables as a result of

the analysis. According to the results obtained, it has been seen that remote work has an effect on the workflow experience and the psychological well-being of the employees plays a mediating role in this relationship.

This study was conducted among managers and administrative staff who are working in the IT industry, Telecommunications industry, Retail industry and Banking sector in Istanbul, Turkey. Therefore, the results cannot be generalized to other sectors or to the overall country. Another limitation of the study is the use of questionnaires to collect data as data is limited to only the items that took place in the form. No further data could be collected in more detail. As convenient sampling was used, the number of the sample is limited and questionnaires were delivered on voluntary bases of the participants. Future studies can further extend this research by addressing several of the limitations to our research. First, future research could expand the current scope by including other psychological variables and can adopt a broader perspective on remote working and its consequences. Finally, future longitudinal research can be conducted to increase the generalizability of the results. The longitudinal research would contribute to a further understanding of remote working, flow and psychological well-being.

## REFERENCES

- Allen, S. F., Stevenson, J., Lazuras, L., & Akram, U. (2022). The role of the COVID-19 pandemic in altered psychological well-being, mental health and sleep: an online cross-sectional study. *Psychology, Health & Medicine*, 27(2), 343-351. DOI: 10.1080/13548506.2021.1916963
- Bricteux, C., Navarro, J., Ceja, L., & Fuerst, G. (2017). Interest as a Moderator in the Relationship Between Challenge/Skills Balance and Flow at Work: An Analysis at Within-Individual Level. *Journal of Happiness Studies*, 18, 861-880. DOI:10.1007/s10902-016-9755-8
- Bradburn, N. M. (1969). *The Structure Of Psychological Well-Being*. Chicago: Aldine Publishing Company
- Bakker A. B. (2008). The work-related flow inventory: Construction and initial validation of the WOLF. *Journal of Vocational Behavior*, 72(3), 400–414. <https://doi.org/10.1016/j.jvb.2007.11.007>
- Becker, W. J., Belkin, L. Y., Tuskey, S. E., & Conroy, S. A. (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*, 61(4), 449-464. <https://doi.org/10.1002/hrm.22102>
- Burke, R. J. (2010). Flow, Work Satisfaction and Psychological Well-Being at the Workplace. *IUP Journal of Soft Skills*, 4,(1), 37-48. <http://dx.doi.org/10.17352/2581-4265.000007>
- Csikszentmihalyi, M. (1997). *Finding flow: the psychology of engagement with everyday life*, 1997. New York
- Csikszentmihalyi, M. (1998). *Flow: The psychology of engagement with everyday life*. New York; HarperCollins
- Carpentier, J., Mageau, G. A., & Vallerand, R. J. (2012). Ruminations and flow: Why do people with a more harmonious passion experience higher well-being?. *Journal of Happiness studies*, 13(3), 501-518. <https://psycnet.apa.org/doi/10.1007/s10902-011-9276-4>
- Diener, E., Scollon, C. N., & Lucas, R. E. (2009). The evolving concept of subjective well-being: The multifaceted nature of happiness. *Social Indicators Research Series*, 39, 67-100. [https://awsprntest.apa.org/doi/10.1007/978-90-481-2354-4\\_4](https://awsprntest.apa.org/doi/10.1007/978-90-481-2354-4_4)
- Dingel, J. I., & Neiman, B. (2020). How many jobs can be done at home?. *Journal of Public Economics*, 189, 104235. DOI: 10.1016/j.jpubeco.2020.104235
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218–226. <https://psycnet.apa.org/doi/10.1037/0003-066X.56.3.218>
- Fredrickson, B. L., & Joiner, T. (2002). Positive Emotions Trigger Upward Spirals toward Emotional Well-Being. *Psychological Science*, 13, 172-175. <https://doi.org/10.1111/1467-9280.00431>

- Fullagar, C.J., & Kelloway, E.K. (2009). Flow at work: An experience sampling approach. *Journal of Occupational and Organizational Psychology*, 82, 595-615. <https://psycnet.apa.org/doi/10.1348/096317908X357903>
- Fagerlind, A., Gustavsson, M., Johansson, G., & Ekberg, K. (2013). Experience of work-related flow: Does high decision latitude enhance benefits gained from job resources? *Journal of Vocational Behavior*, 83, 161-170. <https://psycnet.apa.org/doi/10.1016/j.jvb.2013.03.010>
- Fritz, B. S., & Avsec, A. (2007). The experience of flow and subjective well-being of music students. *Horizons of psychology*, 16(2), 5-17.
- Grant, C, Wallace, L, Spurgeon, P, Tramontano, C & Charalampous, M 2018, 'Construction and initial validation of the E-Work Life scale to measure remote eworking. *Employee Relations*. 41(3). <https://dx.doi.org/10.1108/ER-09-2017-0229>
- Greer, T. W., & Payne, S. C. (2014). Overcoming telework challenges: Outcomes of successful telework strategies. *The Psychologist-Manager Journal*, 17(2), 87-111. <https://psycnet.apa.org/doi/10.1037/mgr0000014>
- Hefferon, K. & Boniwell, I. (2014). Pozitif Psikoloji Kuram, Araştırma ve Uygulamalar (Doğan, T., Çev.). İstanbul: Nobel Akademik Yayıncılık.
- Haworth, J. T. (1993). Skill-challenge relationships and psychological well-being in everyday life. *Loisir et Société/Society and Leisure*, 16(1), 115-128. <http://dx.doi.org/10.1007/s41042-023-00098-2>
- Haworth, J. T., & Hill, S. (1992). Work, leisure, and psychological well-being in a sample of young adults. *Journal of Community & Applied Social Psychology*, 2(2), 147-160. <https://psycnet.apa.org/doi/10.1002/casp.2450020210>
- Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., et al.(2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist*, 76(1), 63–77. <https://psycnet.apa.org/doi/10.1037/amp0000716>
- Keyes, C. L. M., Shmotkin, D. & Ryff, C. D. (2002). "Optimizing Well-Being: The Empirical Encounter of Two Traditions". *Journal of Personality and Social Psychology*, 82(6), 1007–1022. <https://psycnet.apa.org/doi/10.1037/0022-3514.82.6.1007>
- Mäkikangas, A., Bakker, A.B., Aunola, K., & Demerouti, E. (2010). Job resources and flow at work: Modelling the relationship via latent growth curve and mixture model methodology. *Journal of Occupational and Organizational Psychology*, 83, 795-814. <https://psycnet.apa.org/doi/10.1037/0022-3514.82.6.1007>
- Molino, M., Ingusci, E., Signore, F., Manuti, A., Giancaspro, M. L., Russo, V., et al. (2020). Wellbeing costs of technology use during COVID-19 remote working: An investigation using the Italian translation of the technostress creators scale. *Sustainability*, 12(15), 5911. <https://doi.org/10.3390/su12155911>
- Pabilonia, S. W., & Vernon, V. (2022). Telework, wages, and time use in the United States. *Review of Economics of the Household*, 20(3), 687-734. <https://doi.org/10.1007/s11150-022-09601-1>
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual review of psychology*, 52(1), 141-166. <http://dx.doi.org/10.1146/annurev.psych.52.1.141>.
- Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of personality*, 65(3), 529-565. <https://doi.org/10.1111/j.1467-6494.1997.tb00326.x>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and social psychology*, 57(6), 1069. <https://psycnet.apa.org/doi/10.1037/0022-3514.57.6.1069>

- Ryff, C. D., Singer, B. H., & Dienberg Love, G. (2004). Positive health: connecting well-being with biology. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 359(1449), 1383-1394. <https://doi.org/10.1098%2Frstb.2004.1521>
- Ryff, C. D. & Singer, B. H. (2006). Best news yet on the six-factor model of well-being. *Social Science Research*, 35(4), 1103-1119. <https://psycnet.apa.org/doi/10.1016/j.ssresearch.2006.01.002>
- Stadin, M., Nordin, M., Broström, A., Magnusson Hanson, L. L., Westerlund, H., & Fransson, E. I. (2021). Technostress operationalised as information and communication technology (ICT) demands among managers and other occupational groups – results from the Swedish Longitudinal Occupational Survey of Health (SLOSH). *Computers in Human Behavior*, 114, 1–9. <http://dx.doi.org/10.1016/j.chb.2020.106486>
- Stratton, S. J. (2021). Population research: convenience sampling strategies. *Prehospital and disaster Medicine*, 36(4), 373-374. <https://doi.org/10.1017/s1049023x21000649>
- Schade, H. M., Digutsch, J., Kleinsorge, T., & Fan, Y. (2021). Having to work from home: Basic needs, well-being, and motivation. *International Journal of Environmental Research and Public Health*, 18(10), 5149. <https://doi.org/10.3390/ijerph18105149>
- Song, Y., & Gao, J. (2020). Does telework stress employees out? A study on working at home and subjective well-being for wage/salary workers. *Journal of Happiness Studies*, 21(7), 2649-2668. <https://link.springer.com/article/10.1007/s10902-019-00196-6>
- Standen, P., Daniels, K., & Lamond, D. (1999). The home as a workplace: Work-family interaction and psychological well-being in telework. *Journal of occupational health psychology*, 4(4), 368. <https://psycnet.apa.org/doi/10.1037/1076-8998.4.4.368>
- Taser, D., Aydin, E., Torgaloz, A. O., & Rofcanin, Y. (2022). An examination of remote e-working and flow experience: The role of technostress and loneliness. *Computers in Human Behavior*, 127, 107020. <http://dx.doi.org/10.1016/j.chb.2021.107020>
- Telef, B. B. (2013). The Adaptation of Psychological Well-Being Into Turkish: A Validity and Reliability Study [in Turkish]. *Hacettepe University Journal of Education*, 28(3), 374-384.
- Taukari, A. (2022). Can 'Flow' Enhance Psychological Well-being in the COVID-19 Pandemic and Lockdowns?. *Indian Journal of Positive Psychology*, 13(1), 19-22.
- Van Oortmerssen, L.A., Caniëls, M.C., & van Assen, M.F. (2019). Coping with Work Stressors and Paving the Way for Flow: Challenge and Hindrance Demands, Humor, and Cynicism. *Journal of Happiness Studies*, 21, 2257-2277. <https://link.springer.com/article/10.1007/s10902-019-00177-9>
- Van Zoonen, W., & Sivunen, A. E. (2022). The impact of remote work and mediated communication frequency on isolation and psychological distress. *European Journal of Work and Organizational Psychology*, 31(4), 610-621. <http://dx.doi.org/10.1080/1359432X.2021.2002299>
- Vander Elst, T., Verhoogen, R., Sercu, M., Van den Broeck, A., Baillien, E., & Godderis, L. (2017). Not extent of telecommuting, but job characteristics as proximal predictors of work-related well-being. *Journal of occupational and environmental medicine*, 59(10), 180-186. <https://doi.org/10.1097/jom.0000000000001132>
- Vittersø, J., Akselsen, S., Evjemo, B., & Julsrud, T. B. Yttri en S. Bergvik (2003). 'Impacts of home-based telework on quality of life for employees and their partners. Quantitative and qualitative results from a European Survey'. *Journal of Happiness Studies*, 4(2) 201-233. <http://dx.doi.org/10.1023/A:1024490621548>
- Xiao, Y., Becerik-Gerber, B., Lucas, G., & Roll, S. C. (2021). Impacts of working from home during COVID-19 pandemic on physical and mental well-being of office workstation users. *Journal of occupational and environmental medicine*, 63(3), 181. <https://doi.org/10.1097/jom.0000000000002097>

Zito, M., Cortese, C.G., & Colombo, L.A. (2016). Nurses' exhaustion: the role of flow at work between job demands and job resources. *Journal of nursing management*, 24 (1), 12-22. <https://doi.org/10.1111/jonm.12284>

Zito, M., Cortese, C. G., & Colombo, L. (2019). The Role of Resources and Flow at Work in Well-Being. *SAGE Open*, 9(2). <https://doi.org/10.1177/2158244019849732>