

T.R.
GEBZE TECHNICAL UNIVERSITY
GRADUATE SCHOOL

**EVALUATION OF THE EFFECT OF TELEWORKING ON
EMPLOYEE ATTITUDE AND BEHAVIOUR**

MELİKE ARTAR

A THESIS OF DOCTORATE
DEPARTMENT OF BUSINESS ADMINISTRATION

ADVISOR: PROF. DR. OYA ERDİL

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ABSTRACT

The concept of teleworking, which emerged with the influence of developments in information and communication technologies, has begun to attract great attention, especially with the impact of the Covid-19 epidemic on the workforce. Various analysis methods such as structural equation modeling, sensitivity analysis and data mining were used in this study, which was designed to better understand the impact of the teleworking working system on employees. Through this comprehensive analysis, the thesis aims to provide actionable insights to improve telework practices and address the challenges faced by teleworkers.

In the first essay, investigates the relationship between teleworkers' interpersonal communication satisfaction and job satisfaction through mediating role of knowledge of information technologies (IT) and creative performance. Data were collected from 683 teleworkers working in various architectural offices and analyzed using structural equation modeling (SEM) and PROCESS Macro. The findings indicated that (1) teleworkers' interpersonal communication satisfaction is positively associated with job satisfaction (2) IT knowledge and creative performance mediates the relationship between interpersonal communication satisfaction and job satisfaction. In the results of the research, while emphasizing the role of interpersonal communication satisfaction on job satisfaction, it was also mentioned that both employees and companies should receive the necessary training in order to have sufficient level of employee IT knowledge.

In the second essay, data collected from 382 participants were examined using structural equation modeling analysis. The results indicate that (1) workplace isolation positively relates to perceived organizational support and negatively relates to psychological well-being, (2) perceived organizational support positively relates to psychological well-being, (3) perceived organizational support mediates the relationship between workplace isolation and psychological well-being, and (4) job insecurity moderates the perceived organizational support and psychological well-being.

In the third essay, focuses on the use of digital technologies and platforms to give a detailed evaluation of the potential and problems connected with teleworking during the COVID-19 period. Information on the teleworking experience was obtained using user-generated content (UGC) from "X" (n=216.485) and data mining methods such as sentiment analysis, topic modeling, and text analysis. Based on the research, it was determined that there are a total of twelve opportunities and four challenges associated with the use of technological advances and online platforms. This study fills a research vacuum and gives useful insights into the teleworking scene during the COVID-19 period by identifying key themes and investigating the attitudes of users.

Keywords: Teleworking, Workplace Isolation, Job Insecurity, Well-being, Interpersonal Communication Satisfaction, Information Technologies

ÖZET

Bilgi ve iletişim teknolojilerindeki gelişmelerin de etkisiyle ortaya çıkan uzaktan çalışma kavramı, özellikle Kovid-19 salgınının iş gücü üzerindeki etkisiyle birlikte büyük ilgi görmeye başladı. Uzaktan çalışma sisteminin çalışanlar üzerine etkisini daha iyi anlamak için tasarlanan bu çalışmadan yapısal eşitlik modellemesi, duyarlılık analizi ve veri madenciliği gibi çeşitli analiz yöntemleri kullanılmıştır. Bu kapsamlı analiz aracılığıyla tez, uzaktan çalışma uygulamalarını iyileştirmek ve uzaktan çalışanların karşılaştığı zorlukları ele almak için eyleme dönüştürülebilir bilgiler sağlamayı hedefliyor.

İlk makalede, uzaktan çalışanların kişilerarası iletişim tatmini ile iş tatmini arasındaki ilişki, bilgi teknolojileri (BT) bilgisi ve yaratıcı performansın aracılık rolü aracılığıyla araştırılmaktadır. Çeşitli mimarlık ofislerinde çalışan 683 uzaktan çalışandan veriler toplandı ve yapısal eşitlik modellemesi (SEM) ve PROCESS Makro kullanılarak analiz edildi. Bulgular, (1) uzaktan çalışanların kişilerarası iletişim tatmininin iş tatmini ile olumlu bir şekilde ilişkili olduğunu (2) BT bilgisi ve yaratıcı performansın, kişilerarası iletişim tatmini ile iş tatmini arasındaki ilişkiye aracılık ettiğini göstermiştir. Araştırma sonuçlarında kişilerarası iletişim memnuniyetinin iş tatmini üzerindeki rolü vurgulanırken, çalışanların yeterli düzeyde BT bilgisine sahip olabilmesi için hem çalışanların hem de şirketlerin gerekli eğitimleri alması gerektiğine de değinildi.

İkinci makalede uzaktan çalışan katılımcılardan toplanan veriler yapısal eşitlik modelleme analizi kullanılarak incelenmiştir. Sonuçlar, (1) işyeri izolasyonunun algılanan örgütsel destekle pozitif yönde, psikolojik iyi oluşla negatif yönde ilişkili olduğunu, (2) algılanan örgütsel desteğin psikolojik iyi oluşla pozitif yönde ilişkili olduğunu, (3) algılanan örgütsel desteğin, işyeri izolasyonu ile psikolojik iyi oluş arasındaki ilişkiye aracılık ettiğini ve (4) iş güvensizliğinin, algılanan örgütsel destek ve psikolojik iyilik arasındaki ilişkide düzenleyici etkisini göstermektedir.

Üçüncü makalede, COVID-19 döneminde uzaktan çalışmayla bağlantılı potansiyel ve sorunların ayrıntılı bir değerlendirmesini yapmak için dijital teknolojilerin ve platformların kullanımına odaklanılıyor. Uzaktan çalışma deneyimine ilişkin bilgiler, “X”den (n=216.485) kullanıcı tarafından oluşturulan içerik (UGC) ve duygu analizi, konu modelleme ve metin analizi gibi veri madenciliği yöntemleri kullanılarak elde edildi. Araştırmaya göre teknolojik gelişmelerin ve çevrimiçi platformların kullanımıyla ilgili toplam on iki fırsat ve dört zorluğun olduğu belirlendi. Bu çalışma, bir araştırma boşluğunu dolduruyor ve temel temaları belirleyerek ve kullanıcıların tutumlarını araştırarak, COVID-19 döneminde uzaktan çalışma ortamına ilişkin yararlı bilgiler sunuyor.

Anahtar Kelimeler: Uzaktan Çalışma, İşyeri İzolasyonu, İş Güvensizliği, Refah, Kişilerarası İletişim Tatmini, Bilgi Teknolojileri

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LIST OF SYMBOLS AND ABBREVIATIONS

KMO	:	Kaiser-Meyer-Olkin
CFA	:	Confirmatory Factor Analysis
POS	:	Perceived organizational support
AVE	:	Average Variance Extracted
CR	:	Composite Reliability
S. dev.	:	Standard Deviation
d.f.	:	Degrees of Freedom
RMSEA	:	Root Mean Square Error of Approximation
CFI	:	Comparative Fit Index
SDT	:	Self-Determination Theory
TLI	:	Tucker Lewis Fit Index
IFI	:	Incremental Fit Index
CI	:	Confidence Interval
LL	:	Lower Limit
UL	:	Upper Limit
ICS	:	Interpersonal Communication Satisfaction
ITK	:	Information Technology Knowledge
IT	:	Information Technology
CP	:	Creative Performance
JS	:	Job Satisfaction
UGC	:	User-Generated Content
API	:	Application Programming Interface
RTs	:	Retweets
LDA	:	Latent Dirichlet Allocation
Fq	:	Frequency
Wf	:	Weighted Frequency
LDA	:	Latent Dirichlet Allocation
KNN	:	K-Nearest Neighbors and Naive Bayes
CATA	:	Computer-Aided Text Analysis
NLP	:	Natural Language Processing
SVM	:	Support Vector Machine
LR	:	Logistic Regression
RF	:	Radio Frequency
DT	:	Decision Trees
NLTK	:	Natural Language Toolkit
TAM	:	Technology Acceptance Model
JD-R	:	Job Demand-Resources
NB	:	Naive Bayes
JI	:	Job Insecurity
WSI	:	Workplace Social Isolation
PW	:	Psychological Well-Being

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1. INTRODUCTION

Telework is the practice of working remotely, usually from one's home or another location other than the standard office environment (Hosogaya, 2021). Teleworkers, also known as teleworkers or telecommuters, are people who work remotely and use technology and communication tools to stay in touch with coworkers and complete tasks (Tunk and Kumar, 2022).

Different ideologies approach teleworking from a variety of angles. One such idea is technological determinism, which contends that advances in communication and information technology have facilitated the emergence of telework (Rusdi et al., 2017). According to this idea, the availability and accessibility of digital tools has enabled and increased the prevalence of teleworking in today's culture (Vafin, 2021).

Another theory that tackles teleworking is the work-family interface theory, which emphasizes the compatibility of work and personal life. Teleworking gives people more control over their schedules, which can help them combine their job and family duties (Ninaus et al., 2021). This hypothesis contends that teleworking improves employee well-being and satisfaction by decreasing work-family conflicts (Herrera et al., 2022).

The social exchange theory provides insight into the connection between teleworkers and their employers (Caesens et al., 2017). According to this hypothesis, teleworking might strengthen employee-employer trust and commitment. When firms provide flexible work arrangements, such as teleworking, employees may feel valued and respond by demonstrating higher levels of engagement and loyalty (Evanoff et al., 2020). Studies have shown that workplace experiences positively influence psychological well-being level (Eisenberger et al., 2020).

The environmental theory investigates the ecological effects of teleworking. Teleworking allows employees to work from home, which lowers the need for transportation, cutting carbon emissions and traffic congestion (Wilson et al., 2020). This idea emphasizes the environmental benefits of teleworking and promotes its use as a sustainable work practice (Galanti et al., 2021).

From a managerial standpoint, the contingency theory investigates the efficacy of teleworking in various organizational settings. According to this idea, the success of telework arrangements is determined by several elements, including the nature of the work, employee autonomy, and company culture (Poymanova, 2020). It proposes that firms take these contingencies into account when developing teleworking strategies.

Individual differences theory emphasizes the importance of individual traits in teleworking. It acknowledges that not all employees are equally suited to telework and that some personality attributes, such as self-control and autonomy, are critical for remote success (Ng et al., 2022). This approach urges firms to evaluate their employees' suitability for teleworking before implementing such arrangements.

The motivation theory investigates the elements influencing teleworkers' performance and productivity (Chatterjee et al., 2022). It implies that intrinsic motivation, such as the desire for autonomy and flexibility, plays an important part in teleworking success (Blahopoulou et al., 2022). Organizations can establish a supportive atmosphere for teleworkers by aligning job tasks with their objectives.

Telework is the activity of working remotely, and teleworkers are people who work outside of traditional office settings. Different theories approach teleworking from different perspectives, such as technological determinism, work-family interaction, social exchange, environmental, contingency, individual differences, and motivation theories (Courpasson et al., 2021). These ideas provide insights into the aspects that influence teleworking's adoption, efficacy, and outcomes.

This dissertation transcends academic analysis to deliver meaningful recommendations for improving telework practices. It aims to influence policymaking, guide organizational leadership, and empower teleworkers in adjusting to the dynamic world of digital work. This study intends to define the future of work in an era where the virtual office is a permanent fixture by paving the way for an agile, resilient, and human-centric workforce. The purpose of this study is to provide a comprehensive examination of the telework paradigm, examining many aspect that both influence and are influenced by telework arrangements. Specifically, it aims to:

- Investigate how teleworkers' pleasure with interpersonal communication affects their job satisfaction, emphasizing the mediating roles of creative performance and IT knowledge.

- Investigate the psychological effects of telework, including how workplace isolation affects employee well-being and the function role of perceived organizational support.
- Evaluate the moderating effect of job insecurity on the relationship between teleworkers' psychological well-being and perceived organizational support.
- Use advanced data mining techniques to analyze social media information to assess public mood and find opportunities and issues with telework during the COVID-19 epidemic.
- Contribute theoretically to telework research by merging empirical investigations and user-generated content analysis.
- Recommendations and insights for improving telework procedures, meeting teleworkers' needs, and guiding policy decisions for telework in post-pandemic scenarios.

The dissertation's comprehensive analysis aims to enhance our understanding of the consequences of telework on job satisfaction, well-being, and sociotechnical systems, with the goal of creating more supportive and successful teleworking settings.

1.1. Study Contribution

The commitments of this ponder to the existing body of information on telework are complex and critical, traversing a few measurements that are basic to understanding and optimizing inaccessible work hones within the modern time. This area depicts the key commitments made by this doctoral proposal.

Firstly, this dissertation enriches the telework literature by establishing a clear link between interpersonal communication satisfaction and job satisfaction among teleworkers. By employing structural equation modeling, the research delineates the pathways through which satisfaction with communication directly influences overall job contentment, with IT knowledge and creative performance emerging as pivotal mediators. This finding not only validates the importance of effective communication in teleworking environments but also emphasizes the need for ongoing IT education to facilitate better communication and enhance job satisfaction.

Furthermore, the ponder wanders into the less investigated region of teleworkers' well-being. By spotlighting the relationship between working environment separation and

representative well-being, this inquires about brings to light the mental costs related with telework. The dissertation creatively shows how supportive actions from the organization can serve as a protective shield, thus offering a new perspective on how businesses can develop a strong telework culture that lessens the adverse psychological effects of feeling isolated.

Thirdly, the consider utilizes a groundbreaking approach by analyzing user-generated substance from social media to get it open recognitions of telework amid the widespread. Through estimation investigation, theme modeling, and content examination, the inquire about captures real-time open supposition and distinguishes vital openings and challenges characteristic in telework. This not as it were fills a crevice in observational inquire about but too gives a voice to the teleworking community, whose encounters and states of mind are frequently underrepresented in scholarly considers.

In conclusion, this proposal has far-reaching suggestions for professionals and policymakers. By interpreting its discoveries into noteworthy bits of knowledge, the think about offers an outline for improving telework hones. It empowers the advancement of focused on preparing programs, well-being activities, and vigorous administrative systems to bolster the advancing needs of a teleworking population. In doing so, it points to impact long term of work and contribute to the creation of a flourishing, flexible, and versatile telework environment within the post-pandemic world.

1.2. Outline of Dissertation

Within the scope of this dissertation, following the introduction section, including the purpose, scope and outline of the dissertation, prior research on the concept of teleworking has been included in the literature review section.

The third chapter has included the essay entitled "How Interpersonal Communication Satisfaction Impacted Teleworkers' Job Satisfaction? The Role of IT knowledge and Creative Performance". In essay 1, we focused on the interpersonal communication satisfaction of teleworkers who began working outside the office. In this study, the effect of teleworkers' interpersonal communication satisfaction on job satisfaction and

the mediator effect of creative performance and IT knowledge on this relationship were examined.

The fourth chapter has included the essay entitled "Does Workplace Isolation Benefit or Harm Employee Well-Being? The Role of Job Insecurity and Organizational Support". Essay 2 addresses workplace isolation for employees who are unexpectedly forced to work outside the office during the COVID-19 pandemic. Additionally, considering its impact on Covid-19, the psychological well-being of employees was added to the research as a variable.

The fifth chapter has included the essay entitled "Analyzing The Impact of Teleworking On “X” User Sentiments: Navigating The Shift from Technological Advancements to A Post-Pandemic World". Essay 3 investigated use of digital technologies and platforms by performing a thorough analysis of the benefits and drawbacks of telecommuting during the COVID-19 pandemic. Data on telecommuting experiences were obtained by analyzing user-generated content (UGC) from 216,485 “X” postings using data mining techniques like sentiment analysis, topic modeling, and text analytics.

Finally, in the last section, the research findings have been discussed, the dissertation has been concluded with the theoretical implications, practical implication, managerial implication, and the limitations and suggestions for future research.

2. LITERATURE REVIEW

2.1. Evolution of Telework Over Time

Telework is a form of work that was addressed by researchers in the early 1970s with the influence of a number of socio-cultural factors such as the oil crisis (Elbaz et al., 2023). Jack Nilles, known as the "father of telecommuting," undertook epoch-making research at the University of Southern California, investigating the viability of working remotely to decrease urban pollution and road congestion. His study setted a essence understanding of telework and its potency efficacies for both employees and employers (Gajendran et al., 2015).

Telework became more applicable as computing technologies and telecommunications developed in the 1980s and 1990s. The presentation of the mobile communication technologies the internet and personal computer presented the tools for telework to proceed from a theoretical concept to a possible employment arrangement (Baker et al., 2006). Companies began experimenting with telework, motivated by the promise of higher productivity, lower overhead costs, and the opportunity to attract talent beyond geographical boundaries (Hosogaya, 2021).

Telework acceptance shifted dramatically in the early 2000s, thanks to the widespread availability of high-speed internet and cloud-based technologies, which made remote collaboration more efficient and accessible (Morgan, 2004). The concept of a digital nomad began to emerge since professionals were no longer tied to a single place and could execute their jobs from anywhere. This period saw a rising acknowledgment of work-life balance and the significance of telework in enabling flexible work hours, resulting in a gradual cultural shift in workplace norms (White, 2007).

The 2010s saw widespread cultural acceptance of telework, with many organizations implementing 'work-from-home' or 'telecommuting' rules as part of their routine operations (Smith et al., 2018). Telework became more ingrained in modern business practices as sophisticated project management software, video conferencing tools, and other collaboration technology emerged (Messenger and Gschwind, 2016). Despite this expansion, telework remained a privilege reserved mostly for knowledge workers and those in certain industries, rather than a universal.

The COVID-19 pandemic in 2020 acted as a spur for telework, resulting in a global experiment in telework as lockdowns and social distancing measures were established around the planet (Parent-Lamarche and Boulet, 2021). Organizations and people had to adapt quickly to the new normal, frequently without the benefit of a gradual transition (Moens et al., 2022).

Businesses in a variety of industries switched to remote operations almost overnight due to necessity. This period saw telework redefined as a vital tool of ensuring business continuity (Ng et al., 2022). As businesses navigate post-pandemic realities, many are implementing hybrid models that blend remote and on-site work, recognizing that telework is no more a passing fad but a necessary component of current employment practices.

2.1.1. Impact of Technology on The Rise of Telework

The advancement of technology has had a huge impact on the growing trend of telework, allowing many professionals to work from areas other than typical office premises (Ma, 2021). Advancements in communication technology, such as high-speed internet, cloud computing, and different collaborative tools, have played a significant role in this change. These advancements have allowed information to be transferred immediately across great distances, thereby reducing the planet and creating a more flexible work environment (He et al., 2021). Teams may collaborate in real time using video conferencing and shared digital workspaces, resulting in ongoing productivity regardless of physical location (Orhan et al., 2016).

Telework has also been influenced by shifts in organizational structures and employee expectations. Modern workers frequently want a better work-life balance and cherish the opportunity to work remotely since it gives them more control over their surroundings and schedules (Hosogaya, 2021). Employers, in turn, have adapted by harnessing technology to provide teleworking options, realizing that such flexibility can result in increased job satisfaction, lower turnover rates, and access to a larger talent pool that is not limited by geography. As a result, this technology revolution is changing the dynamic between businesses and employees (Naotunna and Zhou, 2021).

Another important factor to consider is the environmental impact of teleworking enabled by technology. With a large number of employees working from home or

satellite offices, there are fewer cars on the road during peak commute hours, resulting in less traffic congestion and air pollution (Rodríguez-Modroño and López-Igual, 2021). Furthermore, organizations can reduce or remove actual office space, resulting in lower energy use and carbon footprint. However, this transition creates new issues about household energy use and the need for green technology solutions in residential locations (Galanti et al., 2021).

On an economic level, the growth of telework has created both obstacles and opportunities. As technology advances, organizations are adopting teleworking agreements, which has the potential to save money on real estate and facility maintenance (Hosogaya, 2021). Additionally, thanks to teleworking, employees can migrate from metropolitan centers to suburbs or rural areas. This could positively impact local economies.

In terms of societal impact, modern technology-enabled telework has helped to increase workforce inclusion. Individuals with disabilities or those living in rural places who were previously barred from regular office jobs now have greater access to career prospects because to teleworking choices (Poymanova, 2020). Indeed, technology opens up opportunities for a broader range of people to participate actively in the workforce.

2.1.2. Changes in Telework Prevalence and Attitudes Over The Decades

The prevalence and attitudes about telework have shifted dramatically during the last few decades (Blahopoulou et al., 2022). Teleworking was initially an exception rather than the norm, serving largely as a business continuity plan during disruptions or to accommodate particular tasks that required teleworkers. Employers were first skeptical, concerned about lost productivity and the potential erosion of business culture (Labrecque et al., 2023). Meanwhile, teleworkers experienced stigma and were perceived as less devoted than their in-office counterparts.

With technology developments, notably in the late 1990s and early 2000s, the scenario began to change (Morgan, 2004). The widespread availability of high-speed internet and collaborative technologies makes telework increasingly possible and appealing. Companies began to recognize the benefits of teleworking, such as cost savings on office space, reduced travel time for employees, and access to a larger talent pool that

is not limited by geography (Baker et al., 2006). As attitudes altered, more organizations began to offer telework as a benefit or in response to employee desires for better work-life balance.

The 2010s saw an even more pronounced shift toward teleworking. When given the correct tools and support, teleworkers may be just as productive as their office-based counterparts, if not more so. The popular literature on management approaches began to include chapters on efficient virtual team management (Messenger and Gschwind, 2016). This decade also saw an increase in digital nomadism, or people working remotely while traveling, reflecting a larger cultural acceptance of non-traditional employment arrangements (Smith et al., 2018). However, nothing pushed telework into the forefront like the COVID-19 epidemic in 2020. Lockdowns were implemented globally, forcing firms to quickly adapt to telework models in order to continue operations (Moens et al., 2022). This unanticipated experiment revealed that many professions could be done efficiently outside of traditional office environments, resulting in increased acceptance of telework across several industries.

Following the epidemic, several firms have adopted a hybrid strategy in which workers work from home and at the office. Employers and employees alike have recognized the benefits of telework, including increased productivity, better work-life balance, and shorter commuting times (Chong et al., 2020). Current conversations about telework usually center on how it might be improved for employee engagement and company effectiveness, rather than whether it should be allowed. Looking ahead, telework is anticipated to evolve alongside emerging technologies such as virtual reality, which may further improve teleworkers experiences (Orhan et al., 2016). As attitudes toward flexible work arrangements continue to improve, future decades may define telework as part of the modern workflow paradigm, rather than an alternative way of working—a fundamental shift reflecting an interconnected world in which work can take place at any time and from any location (Tunk and Kumar, 2022).

2.2. Theoretical Frameworks Relevant to Telework

Telework, often known as telework, is a burgeoning trend that has piqued the curiosity of many experts from numerous disciplines. Various theoretical frameworks have been used to examine telework, each providing unique insights into the dynamics (Herrera

et al., 2022). One such concept is the job characteristics theory, which suggests that employment can be classified into five fundamental dimensions: skill variety, task identity, task significance, autonomy, and feedback (Smith et al., 2018). When applied to telework, this theory indicates that remote occupations with high levels in these characteristics will result in increased job satisfaction and motivation among teleworkers (Kucharska and Erickson, 2019). Autonomy is particularly important in telework since it signifies workers' control over their work environment and schedule.

Another relevant paradigm is the technology acceptance model (TAM), which investigates how users accept and use technology. In the context of telework, TAM can help explain the factors influencing employees' adoption of telecommunications technology that are essential for telework. TAM's fundamental concepts include ease of use and perceived usefulness, which determine technology acceptance among teleworkers (Baghdarnia et al., 2018).

Social exchange theory, which focuses on the connections between employers and employees, can also help us comprehend telework. It highlights the mutual benefit and contribution in maintaining a partnership (Hosogaya, 2021). Telework arrangements can be viewed as an organizational approach to provide flexibility to employees, who may in turn respond with higher loyalty and productivity. The border theory investigates how to manage the boundaries between work and personal life, which is an important part of telework. The transition from typical office work to teleworking tests the customary boundaries between these areas. This paradigm examines how people manage and negotiate the boundaries between their professional and personal lives when working remotely (Ma 2021).

Finally, self-determination theory (SDT), which highlights human motivation motivated by the requirements for autonomy, competence, and relatedness, can shed light on telework dynamics by explaining how telework can either meet or disappoint these needs (Nakrošienė, Bučiūnienė and Goštautaitė, 2019). For example, while telework may provide autonomy and flexibility, it may also result in feelings of isolation or a lack of connection with coworkers (Palumbo et al., 2022). Each of these frameworks goes into distinct aspects of telework, contributing to a more comprehensive knowledge of its influence on both enterprises and individuals (Rodríguez-Modroño and López-Igual, 2021). Researchers can evaluate and address the complex issues and opportunities given by telework using the lenses of job design,

technological interaction, interpersonal connections, personal life integration, and intrinsic motivation.

2.2.1. Psychological Implications of Telework

The transition to telework has drastically impacted the traditional workplace, bringing both benefits and challenges, as well as profound psychological ramifications for employees. The elimination of commuting and the flexibility of work hours can lead to improved work-life balance and lower stress levels for many employees (Rañeses et al., 2022). However, this increased flexibility may blur the distinctions between professional and personal lives, making it difficult for people to unplug from their work duties. Telework offers a distinct set of pressures, including isolation owing to less face-to-face encounters with coworkers, which may have an impact on mental health over time (Wong et al., 2009). Without casual talks and in-person meetings, employees may miss out on social support that is easily available in a traditional office atmosphere. This lack of social interaction can lead to feelings of loneliness and separation from the organization's culture, potentially hurting job satisfaction and commitment (Blahopoulou et al., 2022).

Furthermore, teleworking can have an impact on a person's professional development. On the one hand, it can lead to increased autonomy, allowing staff to demonstrate their effectiveness without constant direct monitoring (Labrecque et al., 2023). On the other hand, "out of sight, out of mind" scenarios may develop in which teleworkers miss out on chances or feedback simply because they are not physically present in the office. This may limit recognition and create impediments to progress within a corporation (Belostecinic et al., 2021).

Another major concern is the effect of home workspaces on occupational health. Physical difficulties such as eye strain or musculoskeletal disorders might result from non-ergonomic household settings (Wilson et al., 2020). Psychological difficulties include difficulty distinguishing between work and family tasks, which can lead to longer working hours and higher stress levels. Failure to set clear boundaries between personal and professional responsibilities can result in burnout, poor productivity, and detrimental effects on mental health (Toscano and Zappalà, 2020).

To summarize, telework is a multidimensional phenomena with various psychological repercussions on employees. It has the potential to increase job satisfaction through flexibility, but it also entails hazards such as isolation, stifled professional progress, and health issues associated with suboptimal work settings at home (Adams et al., 2019). Companies must consider these implications when implementing telework policies to ensure that while capitalizing on its benefits they are also addressing its possible downsides effectively.

2.2.2. Research on Isolation and Mental Health in Telework

With the introduction of telework, the dynamics of professional environments have shifted dramatically, generating concerns about teleworkers' psychological well-being (Labrecque et al., 2023). Isolation, a common issue in telework, has been linked to poor mental health results. The concept of perceived organizational support for teleworkers could play an important role in minimizing these negative consequences.

Perceived organizational support refers to employees' perceptions of how much their organization values their efforts and cares about their well-being. In teleworking circumstances, the lack of traditional office support structures and direct supervisory interactions may heighten feelings of isolation (Blahopoulou et al., 2022). However, when firms intentionally develop a friendly virtual environment — through regular contact, an inclusive online culture, and recognition of employees' accomplishments — the psychological impact of isolation is reduced (Cacioppo et al., 2011).

Job insecurity is another possible concern for teleworkers, and it can have a substantial impact on their mental health. The telework approach may exacerbate concerns about job security due to physical separation from the core workstation and apparent replaceability (Orhan et al., 2016). The stress of job uncertainty can cause anxiety, sadness, and decreased job satisfaction. Organizations that clearly express job requirements and long-term goals can assist to alleviate these worries among teleworkers (Smith et al., 2018).

Notably, isolation in telework does not impact everyone equally. Personal characteristics such as resilience, social support outside of work, and the ability to maintain work-life boundaries all influence how isolation affects mental health (Wang et al., 2020). Employees who are skilled at developing disciplined routines and

employing technology for social connections may be able to more successfully mitigate the negative impacts of telework isolation (Huyghebaert et al., 2019).

The global trend to telework needs research into measures that businesses can use to improve mental health and handle the unique issues that teleworkers encounter (Blahopoulou et al., 2022). It is critical to ensure that teleworkers, regardless of physical distance, feel included into the company culture. This could include virtual team-building exercises, online recognition programs, or professional development opportunities that promote a sense of belonging and advancement.

2.2.3. Communication Theories in The Context of Telework

The introduction of telework necessitates the use of diverse communication theories to better comprehend the dynamics of remote workplaces. One such idea is Social Presence idea, which states that teleworkers must have a sense of "presence" in order to communicate effectively (Jämsen et al., 2022). This presence can be enhanced by video calls, regular check-ins, and team collaboration platforms. In a telework setting, these tools aid in simulating physical proximity and can considerably improve job satisfaction by offering a platform for social interaction and support (Marlow et al., 2018).

Job satisfaction theories, like Herzberg's Two-Factor Theory, are also important in telework settings. The approach differentiates between hygiene elements and motivators; in telework contexts, the former comprises home-office ergonomics, whereas the latter includes difficult work demands (Tippins and Sohi, 2003). Teleworkers who can meet both criteria are more likely to find their occupations rewarding, resulting in higher job satisfaction ratings.

IT competency and knowledge are critical in telework situations because they influence employees' capacity to properly use communication platforms and productivity tools (Ravichandran, 2018). IT competency enables professionals to shift fluidly between jobs, stay organized, and perform efficiently while working remotely (Pérez-López and Alegre, 2012).

It is also vital to evaluate how IT proficiency might act as a catalyst for cognitive presence, a notion borrowed from the Community of Inquiry paradigm and critical to successful teleworking (Mitić et al., 2017). The ability to create a workplace in which

employees feel intellectually engaged is dependent on their technological skills, as the majority of intellectual engagements take place via digital platforms (Ravichandran, 2018).

Finally, combining motivational theories such as Self-Determination Theory (SDT) with IT expertise produces the best results in teleworkers (Pérez-López and Alegre, 2012). SDT emphasizes autonomy, competence, and relatedness as crucial motivators; successful teleworkers not only want agency over their work schedules, but they also need IT skills for competency and virtual settings that encourage community relatedness (Kucharska and Erickson, 2019),

In conclusion, when communication theories are combined with job satisfaction models, they provide a holistic view on improving the teleworker experience, although IT competency remains a vital aspect in the implementation of these theories (Marlow et al., 2018). All combined, they offer a cohesive blueprint for designing successful telework methods that increase enjoyment, engagement, and, ultimately, organizational productivity.

2.2.4. Public Perception and Social Discourse on Telework

The widespread use of social media as a venue for public expression and debate has had a considerable impact on current telework discourse. Analyzing social media content reveals an inherent link between user-generated content and public attitudes toward remote labor (Liu et al., 2021). The transition to telework, prompted by a variety of global reasons, has heralded a new era of occupational flexibility, as well as socioeconomic stratification and altered professional dynamics (Chipidza et al., 2021).

Nonetheless, a review of user comments and postings reveals concerns about the decline of community and professional camaraderie. Employees express concern about the possibility of impaired interpersonal interactions owing to a lack of face-to-face engagement (Saura et al., 2023). Furthermore, there is concern about job advancement chances, which some users believe will be hampered without physical visibility in the office.

On the other hand, social media influencers and career lifestyle coaches praise the benefits of telework, citing increased autonomy over one's work environment and schedule (Tadesse et al., 2019). These ideas are particularly popular among younger

populations that value flexibility and work autonomy, mirroring broader generational shifts in work values documented by online content makers.

Discussions about the mental health implications of remote employment are also common in online communities (Chipidza et al., 2021). Users share personal stories and scholarly studies that explore the benefits of less stressful commutes as well as the problems of blurring the lines between work and personal life. These talks are active on platforms such as “X”, where hashtags related to wellbeing in teleworking environments are trending (Wang et al., 2022).

Recently, discourse analysis technologies have been used to track sentiment patterns around telework across multiple social media platforms (Liu et al., 2021). Preliminary findings indicate an initial rise in positive feeling toward telework during its widespread adoption phases, which appears to have plateaued or slightly reduced when issues with long-term teleworking arrangements became more apparent (Tadesse et al., 2019).

To summarize, while public view of telework remains complex and occasionally contentious, social media provides a rich tapestry through which to monitor these shifting cultural perspectives (Saura et al., 2023). Phrases taken from postings, tweets, and comments provide a real-time snapshot of opinions, providing essential insights into this complex but increasingly common component of modern working life (Liu et al., 2021). It will be critical to be sensitive to the narratives created within these digital environments as we continue to adapt to this trend known as 'the future of work'.

2.2.5. Telework During The COVID-19 Pandemic

The abrupt transition to remote labor during the COVID-19 epidemic dramatically altered the worldwide workplace scene (Galanti et al., 2021). Employers and employees alike have to adjust rapidly, implementing new tools and tactics to stay productive while managing the issues of work-life balance (Ma, 2021). This abrupt transition revealed gaps in access to dependable internet and technology, accentuating the digital divide.

The pandemic's short-term effects on telework were characterized by an improvised attitude as firms shifted to different degrees of success (Yıldırım et al., 2021). Many firms faced a steep learning curve as they dealt with cybersecurity issues, data

protection, and adjusting to a new organizational culture that accommodated teleworking habits (Kelleher et al., 2022). Employees first welcomed the removal of commuting hours and increased flexibility, but they soon encountered concerns such as "Zoom fatigue," loneliness, and difficulty separating work and home life. Nonetheless, these short-term modifications pave the way for more substantial shifts in organizational culture (Balasubramanian et al., 2022).

Long-term, telework methods implemented during the epidemic are expected to endure in many businesses. Organizations have witnessed cost savings from reduced office space, as well as the ability to maintain or even increase staff productivity through flexible working arrangements (Toscano and Zappalà, 2020). Such activities foreshadow a future in which hybrid work models—combining remote and in-office employment—become the norm, with enormous implications for urban planning, transportation, and real estate (Blahopoulou et al., 2022).

Academic inquiries, on the other hand, revealed opportunities such as enhanced job satisfaction as a result of improved work-life balance for some employees, lower carbon emissions from reduced commuting activity, and broader employment opportunities as regional limits were lifted (Belostecinic et al., 2021). Innovation in virtual collaboration technologies, driven by necessity, has also been identified as a key opportunity area, allowing for more efficient workflow management and team interaction regardless of physical location (Chatterjee et al., 2022).

More research is needed to properly comprehend these processes over time. This includes longitudinal studies that look at how persistent telework influences career advancement, team cohesion, innovation rates within firms, and the environmental impact of less commuting but potentially greater home energy use (Toscano and Zappalà, 2020). Furthermore, socioeconomic variations influencing telework experiences must be carefully examined to promote equitable working circumstances for all segments of the workforce.

To summarize, telework during COVID-19 became more than just a stopgap measure, but an inflection point that reshaped future work practices (Ma, 2021). Its tremendous influence across multiple dimensions refers to a more mature workplace in which flexibility is integrated rather than unique. Continued scientific examination will be

critical in optimizing these emerging paradigms for the benefit of both individuals and organizations in the future.



3. HOW INTERPERSONAL COMMUNICATION SATISFACTION IMPACTED TELEWORKERS' JOB SATISFACTION? THE ROLE OF IT KNOWLEDGE AND CREATIVE PERFORMANCE

3.1. Introduction

In the Covid-19 pandemic, there has been a dramatic increase in the use of technology in the workplace. With the development of communication technologies, employees can perform their duties within the team while outside the workplace (Franklin and Gkiouleka, 2021). One of the most common working models emerging in this context is teleworking (Moens et al., 2022). Teleworking is the ability of employees to perform their workplace duties and responsibilities one or more days a week outside the office environment.

In comparison to "traditional teleworking" COVID-19 telework presents distinct differences that require adaptation in the current context. Firstly, traditional telework was often a choice made by individuals seeking flexibility or work-life balance (Nakrošienė et al., 2019), whereas COVID-19 telework was imposed upon organizations and employees abruptly (Blahopoulou et al., 2022). This sudden shift resulted in lack of preparation and adjustment time for many employees. Secondly, traditional telework often allowed employees the freedom to choose their work location, whether it be a home office or coffee shop (Smith et al., 2018). In contrast, COVID-19 telework restricts employees to their homes due to lockdowns and social distancing measures (Franklin and Gkiouleka, 2021). In conclusion, telework has become the new norm, and comparing it to traditional telework reveals distinct differences that require adaptation in the current context (Moens et al., 2022; Blahopoulou et al., 2022). These striking and sudden changes in organizational structures have also brought about radical changes in communication methods (Hill et al., 2023).

The Covid-19 pandemic is defined as a crisis period with some uncertainties (Blahopoulou et al., 2022). During this period, effective interpersonal communication is vital for teleworkers (Tunk and Kumar, 2022). Based on social penetration theory,

interpersonal communication is the interaction between two people using verbal or nonverbal communication tools and those who have access to immediate feedback (Taylor et al., 1973; Dainton and Zelley, 2017). The theory explains how interpersonal communication improves over time as individuals gradually reveal their true selves, thereby increasing understanding and satisfaction in a relationship. In traditional working methods, employees engaged with their coworkers in face-to-face conversations that facilitated easier information exchange through non-verbal cues such as gestures, body language, and eye contact (Peng and Chen, 2022). However, with the increase of teleworking in the Covid-19 pandemic, interpersonal communication has taken mediated and complex form (Morilla-Luchena et al., 2021). Since teleworkers have limited face-to-face communication opportunities, they complete their work using technological tools and programs. (Ma, 2021).

Teleworking models have made the use of various technological tools compulsory for employees. Therefore, IT knowledge can affect employees' attitudes (Kucharska and Erickson, 2019). IT Knowledge refers to the recognition and understanding by employees of a company's technical knowledge, especially in the field of computer-based systems. It is concerned with employees' perceptions of their company's competency and experience in utilizing and managing information technology resources (Ukpabi and Karjaluoto, 2017). Employees with high levels IT knowledge may experience higher levels of job satisfaction because they feel more confident and competent in their roles (Hill et al., 2023). On the other hand, communication with team members can positively affect their IT knowledge and enable them to do their jobs (Gubins et al., 2019). In the teleworking working model, where knowledge of technology has become one of the most fundamental factors, IT knowledge was included as a variable in the research (Dainton and Zelley, 2017).

Creative performance includes a number of cognitive processes, such as the ability of employees to produce different and fast solutions (Serrat, 2017; Dong et al., 2017). Although creative performance has been comprehensively discussed with personal experiences in previous studies, it is aimed to examine how much an employee's creative performance is affected by interpersonal communication and levels of IT Knowledge during the Covid-19 process (Naotunna and Zhou, 2021). Furthermore, when employees are encouraged to be creative and their ideas are valued, this can increase their sense of fulfillment and job satisfaction (VanLaar et al., 2020).

This study fills a gap in the literature by investigating the impacts of the Covid-19 pandemic transition to telework on employees' communication, creative performance, IT Knowledge, and job satisfaction. Previous research concentrating on traditional workplaces are no longer totally valid, as telework models have mainly supplanted traditional work environments throughout the pandemic (Mukhtar et al., 2020; Tunk and Kumar, 2022). Similarly, when the interpersonal communication literature is examined, it is seen that a significant part of the studies on job satisfaction examine employees with a traditional work environment (Ma, 2021; Smith et al., 2018). Interpersonal communication affects positive attitudes towards work, such as job satisfaction. It is an interesting question whether it is still critical for (Morilla-Luchena et al., 2021).

Furthermore, unlike earlier studies, this one was conducted in architectural offices. This is because designers gain success in creative performance by addressing user needs and expectations in organizations through ongoing communication (Beefink et al., 2012; Meneely and Portillo, 2005). There have been few investigations on the effects of the Covid-19 pandemic in commercial areas where architectural creativity is expected to perform well (He et al., 2021; Mikalef and Gupta, 2021).

The research addresses the following research questions:

1. How has the shift from traditional to COVID-19 telework influenced creative performance, IT knowledge and job satisfaction in the context of interpersonal communication?
2. How can organizations increase job satisfaction by understanding the experiences of teleworkers during the pandemic, and what targeted interventions and policies can be implemented to achieve this?

Teleworking, as an emergency strategy in the Covid-19 pandemic, has deviated from the standard working model, revealing a new working group that academics must investigate (Tunk and Kumar, 2022). The study adds to our understanding of telework communication, creative performance, IT knowledge and job satisfaction in teleworking environments, as well as highlighting its practical consequences (Blahopoulou et al., 2022). The study investigates the difficulties that shifting business models cause for employees' cognitive processes and problem-solving abilities. It focuses on the critical role interpersonal communication plays in teleworking

circumstances, particularly during the COVID-19 pandemic (Peng and Chen, 2022). Furthermore, the analysis focuses on increasing job satisfaction in order to create a better working environment and promote employee well-being. The study also emphasizes the impact of IT knowledge on job satisfaction and creative performance in cases where businesses are compelled to swiftly embrace new business models (He et al., 2021). Finally, it concentrates on teleworkers' creative talents in these exceptional circumstances caused by the COVID-19 pandemic.

3.2. Literature Review

3.2.1. Interpersonal Communication Satisfaction

The degree of satisfaction people have with their interpersonal communication is expressed by the term "interpersonal communication satisfaction." This idea is predicated on a number of elements, including the effectiveness and efficiency of communication channels, the experience of understanding and emotional support (Mitić et al., 2017). In a variety of social contexts, including the workplace, the family, and friendships, communication satisfaction is a crucial component of interpersonal interactions and can impact people's general contentment and psychological health (Mukhtar et al., 2020).

The social influence theory studies how direct or indirect interactions with other people can alter people's ideas, feelings, and behaviors. According to this hypothesis, the people in an individual's social surroundings have an impact on their pleasure with interpersonal communication (Friedkin, 1998). People are more satisfied with communication when they are exposed to good social influences; the opposite is true when negative social impacts are present.

According to the social exchange theory, people make decisions by weighing the relative benefits and drawbacks of their social contacts. Reciprocity relationships are the foundation of social exchange theory (Mitchell et al., 2012). This idea states that when an individual's rewards from communication outweigh his efforts and the challenges he faces in communicating, interpersonal communication pleasure rises. Communication satisfaction rises when a person gains from sharing information with colleagues. Similar to this, people are satisfied in their personal relationships when they get understanding and support from one another (Stafford and Kuiper, 2021).

These ideas clarify the various angles from which interpersonal communication satisfaction may be viewed as well as the variables that influence it. Theories of self-efficacy, social exchange, and social influence highlight significant aspects that affect people's happiness with communication (Baghdarnia et al., 2018). These theoretical frameworks are useful for developing ways to improve communication satisfaction in both practical applications and scholarly study.

3.2.2. Creative Performance

Creative performance refers to the ability of individuals or groups to come up with original and innovative solutions, ideas or products. This concept is discussed in the context of various theoretical frameworks and approaches (Beertink et al., 2012). Scientific creativity theory and other creativity theories explain from different perspectives how creative performance emerges, how it can be evaluated, and what factors it is related to (Goh et al., 2020).

Componential creativity theory is an approach that examines creative performance in the context of scientific research and discovery (Zhou, 1998). This theory addresses the process by which scientists develop innovative hypotheses, design experiments, and expand scientific knowledge (Peng and Chen, 2022). Within the scope of flow theory, explains creativity in terms of the experience of "flow". Flow theory is a state in which an individual is completely absorbed in an activity with a high level of concentration and satisfaction. (Scherer, 1998). The flow experience allows creative performance to peak. This theory views creative performance in the context of open systems and emphasizes interactions between the individual, the group, and the environment. Creativity defines the dynamic relationships between the components of the system (Meneely and Portillo, 2005).

Creative performance must have the characteristics of feasibility, originality and effectiveness. First of all, the resulting idea, product and application must be applicable (Ikhida et al., 2022). In addition to having appropriate environmental, financial and technical equipment, the person(s) must have technical skills. Secondly, in order to be original, the resulting product, application or idea must have unique features. Finally, it must have the intention of producing a solution to a specific need and problem. This will show that the new application will be effective (Peng and Chen, 2022).

3.2.3. IT Knowledge

Knowledge and abilities pertaining to computers, software, networks, and other digital technologies are included in IT knowledge (Pérez-López and Alegre, 2012). Specifically, IT knowledge is conceptualized as the belief of employees and colleagues that the firm has sufficient technical knowledge about objects such as computer-based systems (Ukpabi and Karjaluoto, 2017). The value of information in today's world is emphasized by information theory. Since information is essential to corporate operations, strategic choices, and gaining a competitive edge, it has emerged as the most valuable asset (López et al., 2009). The instruments and methods needed to process, store, transmit, and use information digitally are included in IT expertise. The infrastructure required to gather, examine, organize, and distribute information is provided by IT information. As a result, businesses and people may obtain and use information more efficiently, giving them a competitive edge (Khan et al., 2020).

Technology capability theory looks at how technology affects how well firms operate. The ability of a company to accept, integrate, and use technology is referred to as technology capability (Tippins and Sohi, 2003). The foundation of this technological competency is IT knowledge. A business can use digital technologies more efficiently, automate procedures, boost productivity, and give consumers better service if its IT staff is knowledgeable (Turulja and Bajgoric, 2018). Furthermore, having an understanding of IT promotes creativity and improves one's capacity to react swiftly to market demands. It is crucial that companies invest in IT expertise in order to increase their technological capacity (Sheng et al., 2013).

These theories show that IT knowledge plays a critical role in increasing the competitiveness of both individuals and firms and helping them sustain their success. Therefore, it is critical for individuals and businesses to invest in IT knowledge to gain competitive advantage and succeed (Yu et al., 2013).

3.2.4. Job Satisfaction

The general amount of contentment people have with their jobs and work settings is referred to as job satisfaction (Ninaus et al., 2021). This idea includes how much workers enjoy their occupations, how content they are with them, and how much they get positive experiences from them.

The social exchange viewpoint on job satisfaction is taken into account by Blau's theory of motivation (Smith et al., 2018). This idea holds that an employee's level of job satisfaction is determined by how much effort they put in to achieve their goals and how much compensation, recognition, and career advancement they receive from their employer (Bandara and Senanayaka, 2020). Furthermore, job happiness is positively correlated with the caliber of social contacts at work. Employees feel better at work when they have supportive and positive interactions with their superiors and coworkers (Vermeir et al., 2018).

The two primary components of Herzberg's two-factor theory of job satisfaction are hygienic factors and motivational elements. Motivational elements are inherent aspects of the workplace, such as achievement, acknowledgment, the task itself, and responsibility, that contribute to increased job satisfaction (Pond and Geyer, 1991). Conversely, hygiene factors refer to extrinsic elements that avert workplace discontent, such as pay, job security, working conditions, and corporate policies. Herzberg contends that while the existence of hygienic factors does not cause job satisfaction, it does prevent job unhappiness. The lack of these variables results in job dissatisfaction (Wu, et al., 2021).

In many ways, job happiness is vital for enterprises. Positive effects on total job performance and productivity are derived from high job satisfaction, which boosts employee motivation and productivity (Yu and Wu, 2021). Employee turnover is lower in companies when workers are happy in their jobs, which lowers the expense of hiring and training new employees. Employees that are happy in their occupations are also more dedicated to them and produce more original and creative work. This promotes long-term success and makes firms more competitive (Côté et al., 2021). Employee morale suffers in companies when job satisfaction is low, which raises the risk of absenteeism, low productivity, and high turnover (Ipsen et al., 2022).

3.2.5. Teleworking in COVID-19 Pandemic and Non-COVID Contexts

Before the pandemic, several studies had already explored the relationship between telework and job satisfaction in non-COVID contexts. For example, Smith et al. (2018) showed that teleworkers often experience increased job satisfaction due to flexible work arrangements and less time spent on commuting. Additionally, Vermeir, et al.

(2018) found that telework can have a positive effect on employee communication, which contributes to overall job satisfaction.

Although these studies did not focus explicitly on IT knowledge or interpersonal communication satisfaction among teleworkers, they highlight how various aspects of telework can influence job satisfaction in different contexts (Nakrošienė et al., 2019; Kucharska and Erickson, 2019).

During the COVID-19 pandemic, telework has surged worldwide as organizations and employees adapt to new ways of working. Investigating the connection between teleworking and job satisfaction during this period, Ninaus et al., (2021) revealed that, despite the difficulties brought by the pandemic, the job satisfaction of employees with higher frequency of teleworking increased and stress decreased. Similarly, a study conducted by Morilla-Luchena, et al. (2021) reported that telework during COVID-19 had both positive and negative impacts on job satisfaction and productivity across education sectors.

In conclusion, both COVID-19-related studies and research conducted in non-pandemic environments reveal the importance of telework and its implications on job satisfaction (Moens et al., 2022; Morilla-Luchena et al., 2021; Ma, 2021). While similarities exist across these contexts, studies conducted during the pandemic place additional emphasis on the role of IT knowledge, virtual communication, and adaptation mechanisms in enhancing job satisfaction among teleworkers.

3.3. Hypothesis Development

3.3.1. The Relationship Between Interpersonal Communication Satisfaction and IT Knowledge

This study claims that interpersonal communication satisfaction positively affects IT. IT knowledge is based on information theory, first proposed by Claude Shannon in 1948. This epochal theory focuses on the storage, processing and transmission of digital information. Information theory has been of great importance in shaping the modern IT information ecosystem (Shannon, 1948). Specifically, IT knowledge is conceptualized as employees' belief that the firm has sufficient technical knowledge about objects such as computer-based systems (Ukpabi and Karjaluoto, 2017). The correct use of IT by the workers leads to the correct planning of the work, tracking the

decisions, and predicting the results. In addition, organizations carry out many of their business processes planning, implementation, and control through their IT skills. Although the firm has trained enough software and hardware to perform IT skills, the IT knowledge of employees might be determinant (Ravichandran, 2018).

In the literature, three headings stand out that enable employees to increase their IT knowledge. These elements are in-company trainings, support from colleagues and information obtained during communication with external stakeholders. First of all, employees with high interpersonal communication satisfaction will exhibit high performance during trainings on technological developments in their companies and have high knowledge of these developments by establishing communication channels (Dainton and Zelle, 2017). Secondly, the quality of the employees' communication with their colleagues plays a critical role. Employees with high interpersonal communication naturally share high-level information with their colleagues (Mitić et al., 2017). Employees will share their ways of doing business, and during this communication, information will also be shared in the field of IT.

Finally, employees' communication with both internal and external stakeholders contributes significantly to their awareness and knowledge of the company's IT systems. Employees can gain a better understanding of the value of technology in the workplace through such encounters (Areed et al., 2020). Moreover, by supporting open channels of communication, employees are more likely to feel undisturbed asking for help or clarification about IT processes and systems (Yu and Wu, 2021). Employees can gain a comprehensive knowledge of how to use the organization's IT infrastructure to increase overall productivity by keeping information flowing. Employees will have gained sufficient knowledge about the IT used by the company during this communication (Ukpabi and Karjaluoto, 2017). Therefore, the following hypothesis is offered:

H1: Interpersonal communication satisfaction has a positive impact on IT knowledge.

3.3.2. The Relationship Between IT Knowledge and Job Satisfaction

Increasing the knowledge of the employees about the IT significantly affects the job satisfaction. In recent years, many investments have been made in IT technologies, especially in companies offering teleworking (Ninaus et al., 2021).

With the IT knowledge in business life, an environment that will affect the job satisfaction of the employee is created. First of all, employees with a high IT knowledge technologies will have a higher knowledge of the company's possibilities. Thus, employees might quickly understand the problems experienced in companies and contribute to the solutions (Ninaus et al., 2021). Contributing to the solution processes within the company and managing the problems positively affect the affirmative feelings of the employee towards the work and hence, effect their job satisfaction (Kucharska and Erickson 2019). In addition, employees with high IT knowledge might manage market and customer relations in a more controlled way (Ravichandran, 2018). IT knowledge will respond quickly to customers' expectations and requests. Positive feedback might increase employees' job satisfaction (Ninaus et al., 2021).

Employees' IT knowledge will be helpful when they need to make strategic or operational decisions (Kucharska and Erickson, 2019). IT knowledge leads employees to organize relations in the workplace and conduct interviews considering the results. (Mitić et al., 2017). Studies have shown that employees using their IT skills in decision-making have high job satisfaction levels (Baghdarnia et al., 2018).

As a result, the high IT knowledge of the employees enables them to easily control the technological devices they use. A number of technical and environmental disruptions (unexpected conversations, phone calls, e-mails and background noise) may occur that cause the employee's positive feelings towards work life to decrease (Kucharska and Erickson, 2019). However, the development of the features of the technologies used has made it easier to overcome these problems. Especially teleworkers often have to use their own skills to overcome the setbacks they experience (Baghdarnia et al., 2018). In the researches, it was emphasized that the high IT knowledge helps the employees to minimize the impact of these negative experiences. At the same time, there is an increase in positive feelings towards work (Rusdi et al., 2017). Therefore;

H2: IT knowledge has a positive impact on job satisfaction

3.3.3. The Relationship Between Interpersonal Communication Satisfaction and Creative Performance

This paper contends that interpersonal communication satisfaction is related to creative performance. Based on the componential creativity theory put forward by

Teresa Amabile in 1988, creative performance is the production of new products, ideas or courses of action for organizations (Amabile, 1988; Beefink et al., 2012). In other words, creativity in its simplest form can be defined as the ability to create original and valuable products or ideas for organizations. In recent studies, the importance of the interaction between the individual and the environment was emphasized, and it was stated that environmental factors were crucial for individuals to show creative performance (Ahmad et al., 2022). Therefore, almost all employees will exhibit adequate creative performance when the appropriate conditions and environment exist within the organization (Peng and Chen, 2022).

Interpersonal communication satisfaction is one of the essential factors in fulfilling duties and responsibilities in the organization and sharing formal and informal information (Marlow et al., 2018). With the increase in interpersonal communication in organizations, employees feel that they are involved in internal communication. Employees will feel part of the team and the company during this time. Studies have found high performance in employees involved in internal communication (Naotunna and Zhou, 2021). In addition, studies show that providing and acquiring information in interpersonal communication are positively related to employees' creative performance (Marlow et al., 2018). Having employees in a team where information sharing is intense provides sense of creativity that leads to exploring new and valuable ideas. Information shared during interpersonal communication increases employees' generation of new ideas (Naotunna and Zhou, 2021), and therefore, enhance their creative performance. In addition, having employees in a team where knowledge sharing is intense provides a sense of creativity that leads to the discovery of new and valuable ideas. Information shared during interpersonal communication increases employees' generation of new ideas and their creative performance. Therefore;

H3: Interpersonal communication satisfaction has a positive impact on creative performance.

3.3.4. The Relationship Between Creative Performance and Job Satisfaction

This paper support that high creative performance levels of employees will have positive effects on job satisfaction. Creative performance represents the flow of new and practically useful actions and thoughts (Goh et al., 2020). Employees offer some

practical ideas for both the company and themselves (Ye, 2020). Creativity-related processes, which are one of the important components of the componential creativity theory, indicate that employees will be more productive in their jobs by completing the work quickly and eliminating time loss (Shannon, 1948). Naturally, the employees whose productivity level increases will be self-confident and have positive feelings towards their work (Marlow et al., 2018).

The fact that the employees have fixed thought patterns negatively affects both their work relations and attitudes towards work (Rusdi et al., 2017). The fact that employees have unchanging ideas and behaviors in the workplace causes them to resist even the changes that should happen over time. Creative employees in the organization will not feel this resistance and will adapt faster in situations involving innovation and change (Peng and Chen, 2022).

At the same time, when necessary, employees with high creative performance tend to look at problems from different perspective, take risks and bring their own thoughts to the fore (Ikhide et al., 2022). Creative performance increases the ability of employees to overcome problems and develop long-term solutions. In this way, the employee has the potential to reconsider the work environment and working order, and to make new regulations to increase job satisfaction (Goh et al., 2020). Therefore, we emphasize that creative performance has an increasing effect on job and job satisfaction. Therefore;

H4: Creative performance has a positive impact on job satisfaction.

3.3.5. The Relationship Between Interpersonal Communication Satisfaction and Job Satisfaction

This paper contends that interpersonal communication satisfaction is related to job satisfaction to influence individuals' beliefs about the organization. Based on motivation theory, job satisfaction was formally developed by Hoppock (1935) to explain employee-organization relationships. Job satisfaction is the individual's perception of satisfaction with the work environment (Vermeir et al., 2018).

As the three basic combinations of the job satisfaction, we can point to satisfactory formal and informal friendships in the business environment, easy access to information within the company, and good relationships with managers. Interpersonal

communication is generally defined as communication between people who know little about each other (Goh et al., 2020). It has been argued that employees with high interpersonal communication in the organization are successful in their formal and informal relations with their colleagues. Employees with high interpersonal communication in the organization are successful in their formal and informal relations with their colleagues (Blahopoulou et al., 2022). Organizations are places where people who know little about each other work towards common goals. However, thanks to the established formal/informal relations, employees begin to learn about both the company and each other. Studies show that the relationships established in the work environment increase the positive emotions of the employees, especially the sense of belonging of the employee (Yıldırım et al., 2021).

Employees with high communication satisfaction have open and transparent communication with their managers. These employees can express themselves more comfortably and voice their complaints. In addition, studies on employees who go to work regularly confirm the positive relationship between interpersonal communication and job satisfaction (Okoro et al., 2017). We suggest that similar results will be obtained in the sample of teleworkers. Therefore;

H5: Interpersonal communication satisfaction has a impact on job satisfaction.

3.3.6. Role of IT Knowledge and Creative Performance

This paper support that IT knowledge levels of employees will have positive effects on creative performance. As the world becomes increasingly digital and interconnected, individuals with a strong understanding of IT have the potential to unlock their creative abilities and innovative thinking (Serrat, 2017). IT knowledge allows individuals to access vast amount of information and resources, which can greatly enhance their creative performance (Dong et al., 2017). This wealth of knowledge can inspire new ideas, fuel creativity, and lead to innovative solutions (Mikalef and Gupta, 2021).

Secondly, IT knowledge facilitates seamless collaboration and communication among individuals, regardless of their geographical location. Through digital platforms, such as video conferencing, instant messaging, and project management tools, teams can work together in real-time, exchange ideas, provide feedback, and brainstorm

creatively (VanLaar et al., 2020). Furthermore, IT knowledge enables individuals to automate repetitive tasks through various software applications and tools. By automating mundane activities like data entry or file organization, individuals can free up valuable time and mental energy for more creative endeavors. As information theory states, this automation not only increases efficiency, but also allows individuals to focus on generating innovative ideas and solutions (Shannon, 1948; Goh et al., 2020). Also, IT knowledge provides individuals with access to a wide range of creative software tools that can enhance their artistic abilities and creative performance (He et al., 2021).

Knowledge sharing within the organization is the transfer of information by employees to each other (Mukhtar et al., 2020). Having a high level of knowledge sharing within the business increases the productivity of the employees, while at the same time positively affects the success of the business. As mentioned in the research, an effective knowledge transfer is possible with high interpersonal communication satisfaction (Okoro et al., 2017).

With the increase in interpersonal communication satisfaction, employees find opportunities to learn new things. Knowledge and experiences that will be useful in their work are shared among employees (Ahmad et al., 2022). In an environment where information sharing is intense, a productive environment is created for the emergence of new ideas while employees learn about new developments in the business environment (Yıldırım et al., 2021).

On the other hand, high interpersonal communication satisfaction increases the cooperation between employees. Interpersonal communication satisfaction, based on social penetration theory, supports that trust and bond between people increase as they provide more information about themselves (Taylor et al., 1973). In this way, employees help each other and find the opportunity to benefit from each other (Naotunna and Zhou, 2021). In addition, different opinions arise during the information sharing of the employees. The different opinions that emerge encourage employees to think and develop new things. In this way, a positive contribution is made to the development of the employee (Vermeir et al., 2018).

In the light of the knowledge and experiences gained through interpersonal communication, there will be an increase in both employee awareness and creative

performance. This increase in employees' awareness and creative performance will naturally affect the positive attitudes of employees towards work (Goh et al., 2020). Therefore, current study contends that IT knowledge and creative performance mediate the relationship between interpersonal communication and job satisfaction.

H6: IT knowledge has a positive impact on creative performance.

H7: IT knowledge mediates the relationship between interpersonal communication satisfaction and job satisfaction.

H8: Creative performance mediates the relationship between interpersonal communication satisfaction and job satisfaction.

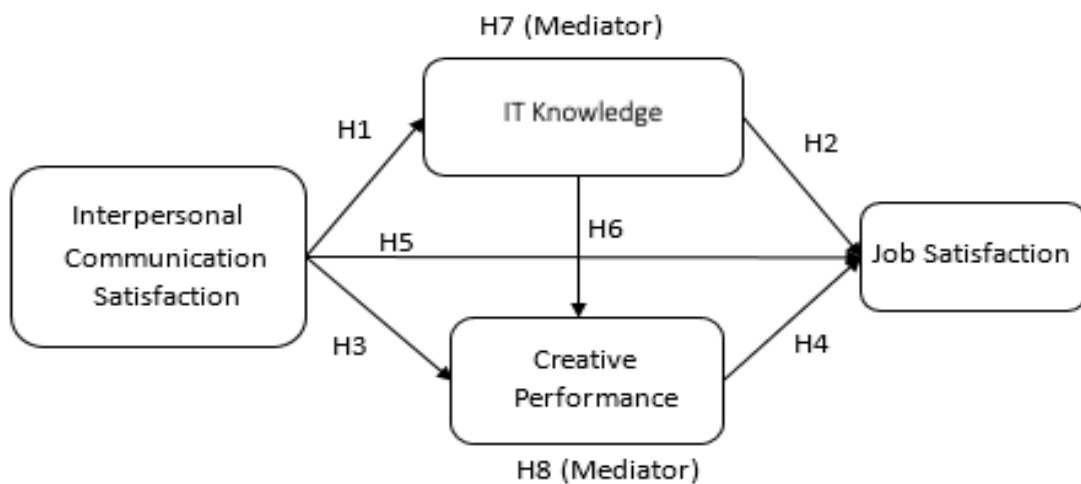


Figure 3.1: Research Model.

3.4. Research Design

3.4.1. Measures

To investigate the proposed research model, multi-item scales were adopted from the prior literature. All items were rated using the 5-point Likert Scale, ranging from “strongly disagree” (1) to “strongly agree” (5), which was used to investigate interpersonal communication satisfaction, knowledge IT, creative performance, and job satisfaction.

Interpersonal Communication Satisfaction was measured with the 5-item scale developed by Smith, et al. (2018). Smith, et al. (2018) developed a scale for

employees' satisfaction from coworker communications via specific channels. We measured overall communication channel satisfaction and adopted scale items in the current study. Sample items are "The conversation with coworkers flows smoothly when talking on the communication channel" and "I am satisfied with conversations I have on the communication channel with coworkers".

Creative Performance was measured with the 13-item scale developed by Zhou (1998). This scale was adopted for measuring respondents' perception of creative performance. Sample items are "Suggests new ways to achieve goals or objectives" and "Comes up with new and practical ideas to improve performance".

IT knowledge was measured with the 4-item scale developed by Tippins and Sohi (2003). Sample items are "Overall, our technical support staff is knowledgeable when it comes to computer-based systems" and "Our firm possesses a high degree of computer-based technical expertise".

Job Satisfaction was measured with the 5-item scale developed by Pond and Geyer (1991). Sample items are "If I had to decide again, I would still want to work in the job I am currently working in." and "I would recommend my friends to work in a job like mine

Translation back-translation procedure (Brislin, 1980) was used after determining the scales. In this context, the questionnaire was translated into Turkish by one researcher and then retranslated into English by another researcher by using the parallel translation method. The draft questionnaire has taken its final form as a result of the conciliation of translators on the differences. Academicians in management and organizational behavior evaluated the draft questionnaire, which was revised in line with their suggestions and feedback. A pilot study was then conducted with 30 full-time employees and respondents demonstrated the clarity of question items. Consequently, the questionnaire has taken its final form.

3.4.2. Sampling

Specifically, designers deliver high creative performance for creating a product meeting the needs, expectations and lifestyles of end users and customers (Beefink et al., 2012). In addition, it is necessary to constantly communicate with members of organizations for generating new ideas to solve a problem that may arise during or

after production. Architectural offices, which are responsible for managing relations with customers both inside and outside the company and adding creativity to their work, constitute one of the most appropriate occupational groups for current study (Meneely and Portillo, 2005).

In this vein, data were gathered during the COVID-19 pandemic in Turkey and lasted from April to May 2021. At the time of the survey, spread of the COVID-19 has rapidly increased and Turkey was the 5th country with the highest number of cases in the world. In this period, in addition to the social and educational restrictions, working life continued through flexible and teleworking practices during the COVID-19 outbreak. Hence, respondents worked from home during this time as teleworkers.

In the sampling process, we used a non-probability-based convenience sampling technique due to time, availability, convenience, and accessibility constraints for participants in the pandemic situation in the country (Krathwohl, 1993). To collect data, we selected key participants who were active employees of designers working in different positions in various architectural offices in Ankara and Istanbul. This sampling procedure is consistent with previous studies (Kirton, 1994; Feist, 1998).

Consistent with the literature, we contacted participants through telephone interviews, online, and office visits (Golden and Veiga, 2005). We used the following criteria for inclusion in the study: working in the architecture department (Beeftink et al., 2012); adapting to full-time working status (Smith et al., 2018) and teleworking conditions after COVID-19 (Ma, 2021). The specified criteria were determined after literature review.

Following the explanation of the purpose of the research, participants were asked to indicate that they agreed to participate in the current study by ticking the phrase "I agree to participate in the research" at the beginning of the survey. All participants were informed that all information shared would be kept confidential and used only for academic purposes.

For data collection, an online survey method was used in the current study. A total of 750 questionnaires were returned, and the final sample consisted of 683 respondents after eliminating incomplete or careless responses.

Of the participants, 60.5% were male. 66.5% of respondents were married and 33.5% were unmarried. The average age of the respondents was 36.88 years (SD=9.27) and

the average tenure with the current organization was 2.99 years (SD=1.04). 24.2% of respondents were working in the public sector, 75.8% in the private sector. The average duration of working time according to social isolation rules was calculated as 8.1 weeks (SD=2.43).

3.5. Analysis and Results

3.5.1. Measure Validity and Reliability

Following the data collection, the adequacy of the measurement model was assessed using confirmatory factor analysis (Fornell and Larcker, 1981).

Table 3.1: Comparison of Measurement Models

CFA model	χ^2/df	$\Delta\chi^2/\Delta df$	RMSEA	CFI	TLI	SRMR
4 factors: ICS, ITK, CP, JS	1265.12/314	—	.07	.94	.93	.037
3 factors: ICS+ITK, CP, JS	2109.54/317	844.42	.09	.88	.87	.061
2 factors: ICS+ITK+CP, JS	3737.13/319	2472.01	.13	.78	.76	.091
1 factor: ICS+ITK+CP+JS	5840.45/320	4575.33	.16	.64	.61	.115

Note: N = 683; ICS=interpersonal communication satisfaction; ITK= IT knowledge; CP=creative performance; JS= job satisfaction

In this regard, we compared the four-factor baseline model with alternative one-, two-, and three-factor nested models (see Table 3.1.). The results showed that the four-factor model of interpersonal communication satisfaction, IT knowledge, creative performance, and job satisfaction fitted the data better than the other nested models ($\chi^2(314)=1265.12$, CFI=.94 IFI=.94, TLI=.93, $\chi^2/df=4.03$, RMSEA=.067, PNFI=.82, GFI= .88, SRMR=.037), supporting the discriminant validity. Additionally, all indicators loaded onto their respective constructs with factor loadings ranging between .63-.90, thus supporting convergent validity.

Table 3.2: Confirmatory Factor Analysis

Constructs	Factor Loadings	CR	AVE	Cronbach's α
<i>Interpersonal Communication Satisfaction</i>		.93	.70	.92
When talking on the phone with coworkers, I feel that I am able to present myself as I want	.84			
The other person on the phone demonstrated to me that he or she understood what I said.	.89			
I am satisfied with conversations I have on the phone with coworkers	.86			

Table 3.2: Confirmatory Factor Analysis (Continued)

Constructs	Factor Loadings	CR	AVE	Cronbach's α
When communicating with coworkers over the phone, both people get to say what they want.	.81			
The conversation with coworkers flows smoothly when talking on the phone.	.78			
<i>IT Knowledge</i>		.89	.66	.88
Overall, our technical support staff is knowledgeable when it comes to computer-based systems	.82			
Our firm possesses a high degree of computer-based technical expertise.	.74			
We are very knowledgeable about new computer-based innovations.	.86			
We have the knowledge to develop and maintain computer-based communication links with our customers	.82			
<i>Creative Performance</i>		.95	.59	.95
Suggests new ways to achieve goals or objectives.	.63			
Comes up with new and practical ideas to improve performance.	.73			
Searches out new technologies, processes, techniques, and/or product ideas.	.74			
Suggests new ways to increase quality.	.73			
Is a good source of creative ideas.	.66			
Is not afraid to take risks	.71			
Promotes and champions ideas to others.	.77			
Exhibits creativity on the job when given the opportunity to.	.86			
Develops adequate plans and schedules for the implementation of new ideas.	.81			
Often has new and innovative ideas.	.86			
Comes up with creative solutions to problems.	.86			
Often has a fresh approach to problems.	.85			
Suggests new ways of performing work task.	.74			
<i>Job Satisfaction</i>		.94	.76	.94
If I had to decide again, I would still want to work in the job I am currently working in.	.83			
I would recommend my friends to work in a job like mine.	.87			
I work in an ideal job.	.87			
I am satisfied with the job I am doing at the institution I work for.	.89			
I love my job very much.	.90			

Note: AVE: average variance extracted; CR: composite reliability.

Table 3.2. presents the reliability estimates for variables of the study. Results show that Cronbach's alphas and composite reliability for each variable are well beyond the threshold value suggested by Fornell and Larcker (1981). Besides, the average variance extracted (AVE) for each variable is also greater than .50, demonstrating convergent validity Fornell and Larcker (1981).

Table 3.3: Discriminant Validity

Dimensions	1	2	3	4
Interpersonal Communication Satisfaction	(.84)			
Creative Performance	.54*	(.77)		
IT Knowledge	.58**	.57**	(.81)	
Job Satisfaction	.50**	.47**	.48**	(.87)
Mean	4.02	3.70	3.71	3.86
S. dev.	.96	.92	.97	1.17

** $p < .01$; Values along the diagonal are the square root of AVE.

Table 3.3 shows the descriptive statistics and correlations among interpersonal communication satisfaction, IT knowledge, creative performance and job satisfaction. Interpersonal communication satisfaction was significantly correlated with creative performance ($r=.54$, $p<.01$), IT knowledge ($r=.58$, $p<.01$), and job satisfaction ($r=.50$, $p<.01$). Creative performance was significantly correlated with IT knowledge ($r=.57$, $p<.01$), job satisfaction ($r=.47$, $p<.01$), and IT knowledge was significantly correlated with job satisfaction ($r=.48$, $p<.01$). As a result, moderate correlations among each variable also confirmed the discriminant validity. Also, the square root of AVE for each variable is greater than correlations between the pairs of variables, confirming discriminant validity.

3.5.2. Common Method Variance Assessment

We tested common method bias due to collecting self-reported data. Hence, we performed a common latent factor method and compared models with and without a common latent factor. Results showed that the change in fit indexes was not significant (model with common latent factor CFI=.94, IFI=.94, TLI=.93, $\chi^2/df=3.90$, RMSEA=.065, GFI= .88, SRMR=.041; model without common latent factor CFI=.94 IFI=.94, TLI=.93, $\chi^2/df=4.03$, RMSEA=.067, GFI= .88, SRMR=.037), confirming that common method bias is a non-issue in the current study.

3.5.3. Hypotheses Testing

The evaluation of a model's overall fit with a saturated structural model, or confirmatory factor/composite analysis, should come first in a joint assessment (Benitez et al., 2020). According to Henseler, et al. (2013), an SRMR value less than 0.080 denotes a good model fit. The goodness of fit indicated that our model was acceptable: $\chi^2(351)=1265,118$, CFI=.94, IFI=.94, TLI=.93, $\chi^2/df=4.03$, RMSEA=.067, PNFI=.82, GFI= .88, SRMR=.037) (Hu and Bentler 1999; Benitez et al., 2020).

As shown in Table 3.4, interpersonal communication satisfaction was positively related to IT knowledge ($\beta=.64$, $p<.001$), thus supporting H1. IT knowledge was positively related to job satisfaction ($\beta=.23$, $p<.001$), hence supporting H2. Also, interpersonal communication satisfaction was positively related to creative performance ($\beta=.30$, $p<.001$), thereby supporting H3. Creative performance was positively related to job satisfaction ($\beta=.19$, $p<.001$), thus supporting H4. Interpersonal communication satisfaction was positively related to job satisfaction, hence supporting H5. Finally, IT knowledge was positively related to creative performance ($\beta=.45$, $p<.001$), hence supporting H6. Additionally, results show that interpersonal communication satisfaction explains 41% of the variance in IT knowledge and 46% of the variance in creative performance. Finally, interpersonal communication satisfaction, IT knowledge, and creative performance explain 37% of the variance in job satisfaction. Structural equation modeling (SEM) was used to test the proposed research model. Important pathways are shown in Figure 3.2.

Table 3.4: Model Results

	Hypothesized path	Beta	Results
H1	Interpersonal Communication Satisfaction → IT Knowledge	.64**	Supported
H2	IT Knowledge → Job Satisfaction	.23**	Supported
H3	Interpersonal Communication Satisfaction → Creative Performance	.30**	Supported
H4	Creative Performance → Job Satisfaction	.19**	Supported
H5	Interpersonal Communication Satisfaction → Job Satisfaction	.28**	Supported
H6	IT Knowledge → Creative Performance	.45**	Supported

$\chi^2_{(315)}= 1265,118$, CFI=.94, IFI=.94, TLI=.93, $\chi^2/df=4.03$, RMSEA=.067, PNFI=.82, GFI= .88, SRMR=.037

**p < .001.

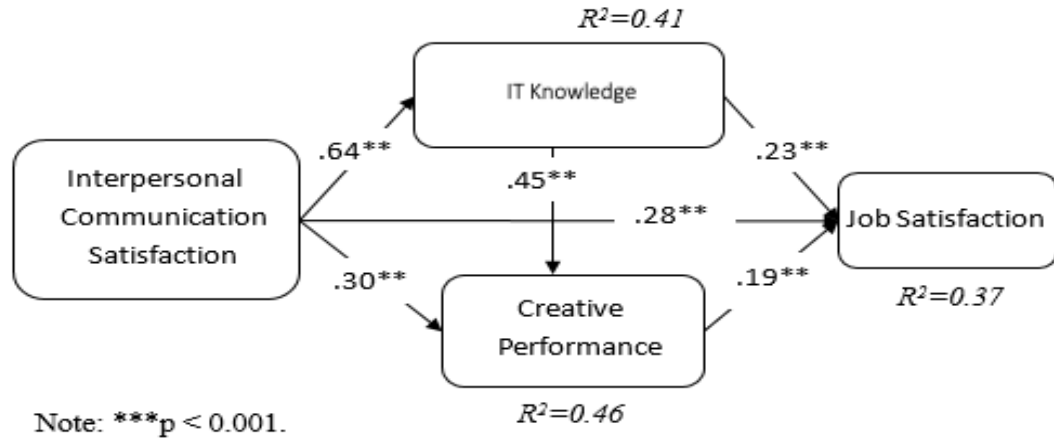


Figure 3.2: SEM Model

Mediating effects were further examined by procedure of Preacher and Hayes (2008) and using PROCESS macro for SPSS (Model 4 with 5000 bootstrap resamples). The bootstrapping method is a statistical resampling technique used to estimate the accuracy and stability of sample estimates by taking a large number of subsamples with replacement from the original sample (Benitez et al., 2020; Preacher and Hayes 2008).

Table 3.5: Results of Mediating Analysis

Direct and Indirect effects		β	95% CI	
			LL	UL
Direct effects				
Interpersonal Communication Satisfaction → IT knowledge	.58**	.52	.64	
IT knowledge → Job Satisfaction	.58**	.50	.66	
Interpersonal Communication Satisfaction → Job Satisfaction	.61**	.53	.69	
Indirect effect				
Interpersonal Communication Satisfaction → IT knowledge → Job Satisfaction	.20**	.14	.28	

**p < .001; CI=Confidence interval

When calculating the mediating effect, the importance of indirect, direct, and total effects lies in their ability to explain how one variable influences another through a mediator variable. The indirect effect measures the relationship between the independent variable and the dependent variable through the mediator variable. The direct effect reflects the influence of the independent variable on the dependent variable without considering the mediator. Finally, the total effect is the combined

influence of both direct and indirect effects on the dependent variable (Benitez et al., 2020; Preacher and Hayes, 2008). As shown in Table 3.5, interpersonal communication satisfaction is positively associated with IT knowledge ($\beta=.58$, $p<.001$; 95% CI:.52–.64) and job satisfaction ($\beta=.61$, $p<.001$; 95% CI:.53–.69). IT knowledge is also positively associated with job satisfaction ($\beta=.58$, $p<.001$; 95% CI:.50–.66). Also, IT knowledge mediates the relationship between interpersonal communication satisfaction and job satisfaction ($\beta=.20$, $p<.001$; 95% CI:.14–.28), thus supporting H7.

As shown in Table 3.6, interpersonal communication satisfaction is positively associated with creative performance ($\beta=.52$, $p<.001$; 95% CI:.46–.58) and job satisfaction ($\beta=.61$, $p<.001$; 95% CI:.53–.69). Creative performance is also positively associated with job satisfaction ($\beta=.59$, $p<.001$; 95% CI:.51–.67). Also, creative performance mediates the relationship between interpersonal communication satisfaction and job satisfaction ($\beta=.18$, $p<.001$; 95% CI:.12–.25), thus supporting H8.

Table 3.6: Results of Mediating Analysis

Direct and Indirect effects					β	95% CI	
						LL	UL
Direct effects							
Interpersonal Communication Satisfaction	→	Creative Performance			.52**	.46	.58
Creative Performance → Job Satisfaction					.59**	.51	.67
Interpersonal Communication Satisfaction → Job Satisfaction					.61**	.53	.69
Indirect effect							
Interpersonal Communication Satisfaction	→	Creative Performance → Job Satisfaction			.18**	.12	.25

** $p < .001$.; CI=Confidence interval

3.6. Discussion

This study contributes to the teleworking literature by investigating the interrelations among interpersonal communication satisfaction, IT knowledge, creative performance, and job satisfaction during COVID-19. Firstly, this study demonstrates that interpersonal communication satisfaction is positively related to IT knowledge. Specifically, we observe that interpersonal communication is vital for creating IT knowledge through the high flow of information in these communication activities. In

addition, employees share and transfer information and ideas about work life in the communication process. As supported by social penetration theory, in this mutual interaction and communication process, new information is learned, and hence employees are satisfied with this communication process (Taylor et al., 1973). Considering that there is a variety of knowledge related to IT in this shared information, it is undeniable that employees improve each other's IT knowledge and awareness. This finding is in line with the study conducted by Ukpabi and Karjaluoto (2017).

This study empirically shows that creative performance is positively associated with job satisfaction. Specifically, consistent with the study of Goh, et al. (2020), it seems that jobs improving the creative performance of employees enhance their job satisfaction. In addition, as supported by motivation theory, employees feel higher satisfaction when they use their creativity (Hoppock, 1935). This study also demonstrates that interpersonal communication satisfaction is associated with job satisfaction, which is in line with the extant literature. Specifically, teleworkers work remotely, and their interpersonal communication ways differ from traditional channels (Smith et al., 2018). Within interpersonal communications, people share their knowledge, learn new information, create meaning, and develop relations (Marlow et al., 2018). Hence, satisfaction with interpersonal communication enhances positive attitudes towards work as job satisfaction.

This study reveals that IT knowledge is positively related to job satisfaction, supporting information theory (Shannon, 1948). Similarly, Pérez-López and Alegre (2012) demonstrated that employees with high IT competency have a broad knowledge of IT, and have the ability to use IT-related methods, and techniques. Similarly, Kucharska and Erickson (2019) demonstrated that high IT competency leads employees to perform their tasks better and successfully, increasing their job satisfaction. Here, we specifically showed that employees' IT knowledge heightens their job satisfaction by improving their work performance, and contributing to the competencies required in their jobs.

This study also shows that interpersonal communication satisfaction influences creative performance. As stated in the componential creativity theory, the creative performance of employees depends on the communication style in the work environment of which they are members (Amabile, 1983). For example, previous

studies examined the effect of psychological capital (Peng and Chen, 2022), creative process engagement and psychological safety (Ahmad et al., 2022) on creative performance. Here, we demonstrated that acquiring and sharing information in interpersonal communication enhance employees' creative performance by facilitating the generation of new and valuable ideas (Naotunna and Zhou, 2021).

This study empirically shows that IT knowledge is positively associated with creative performance. Similarly, VanLaar et al. (2020) found that individuals who possessed a higher level of IT knowledge were more likely to engage in creative thinking processes, such as idea generation and idea evaluation. Additionally, He et al. (2021) found in their study on the COVID-19 pandemic that IT knowledge facilitates the integration of various information sources, allowing individuals to develop unique and innovative solutions to complex problems. Here we show that IT knowledge enhances employee creative performance by increasing employee access to information resources and encouraging creative thinking.

This study empirically showed that IT knowledge and creative performance mediates the relationship between interpersonal communication satisfaction and job satisfaction. Specifically, this finding demonstrates that information sharing, learning, and developing relationships through interpersonal communication enhances employees' IT knowledge by providing necessary information for creating IT knowledge. Besides, interpersonal communication satisfaction also increases creative performance by facilitating the generation of novel and unique ideas. Hence, as a result, employees tend to feel high job satisfaction.

4. DOES WORKPLACE ISOLATION BENEFIT OR HARM EMPLOYEE WELL-BEING? THE ROLE OF JOB INSECURITY AND ORGANIZATIONAL SUPPORT

4.1. Introduction

There has been a significant change in the use of technology in professional environments due to the Covid-19 pandemic (McGuire, 2021). The teleworking model was widely used by companies during this period to improve employee productivity and participation (Moens et al., 2022). "Telework", which has been an important issue in the literature in recent years, is the fulfilment of the duties and responsibilities of the employee at its work from a place other than the workplace on certain days of the week or every day of the week (Chong et al., 2020). Despite being a relatively new concept, the teleworking model became the most preferred working model worldwide during the Covid-19 epidemic (Chong et al., 2020; Sahai et al., 2022).

It is crucial to acknowledge the significant differences between traditional teleworking and the telework model that was necessary due to the Covid-19 pandemic (Labrecque et al., 2023). Although both rely on the same fundamental principle of telework, they differ significantly in several key areas. Traditional telecommuting was usually a choice that employees made freely to improve their work-life balance or create more flexibility in their schedules (Nakrošienė et al., 2019). In contrast, Blahopoulou et al. (2022) states that the telework model that emerged during the Covid-19 pandemic was not a choice but rather a necessity. In addition, sudden adjustment without preparation was a significant challenge for many employees who had to quickly adapt to this new work mode (McGuire, 2021). The work location is one of the key distinctions between traditional telework and Covid-19 telework. The ability of employees to choose their workspace was a feature of traditional setup (Sahai et al., 2022). Due to an increase in quarantine measures during the Covid-19 pandemic, employees were forced to work from home, resulting in a more restrictive telework model (Franklin and Gkiouleka, 2021). Teleworking has become the norm for professionals due to the unique challenges presented by the Covid-19 pandemic. Workplace isolation for employees has become inevitable due to these sudden and profound changes in organizational

structures, which severely limit their social environment needs (Angel-Alvarado et al., 2021).

Workplace isolation is defined as the absence of satisfactory friendships or access to social networks at work (Chong et al., 2020; Orhan et al., 2016). Teleworkers who have limited physical contact with their workplace and co-workers have high levels of isolation in their social and professional relationships at work (McGuire, 2021; Sahai et al., 2022). In addition, the researchers noted that there are several reasons why teleworkers have a high perception of isolation. First of all, in non-traditional business structures such as Teleworking, communication only with the help of various technological tools causes some communication barriers (Even, 2020; Labrecque et al., 2023). The employees indicated that there is limited communication with technological tools and that they are deprived of non-verbal communication, such as gestures (Van Zoonen and Sivunen, 2022).

The major disadvantage of teleworking is that one cannot see one's colleagues face-to-face at the workplace and has limited interaction with them. Ollo-López et al. (2021) pointed out that teleworkers are more disadvantaged than office employees in terms of being noticed as the most important reason for their high isolation level compared to office employees. Stating that since their work and contribution to the organization are less visible, employees in the office have described themselves as 'Invisible' (Labrecque et al., 2023). A highly inverse relationship was found between face-to-face communication and isolation (Franklin and Gkiouleka, 2021). Past studies have shown that being away from the workplace environment increases employees' perceptions of isolation, decreases their access to information, and increases the time they seek information (Angel-Alvarado et al., 2021; Orhan et al., 2016). Therefore, we can state that workplace isolation is more than expected in people working remotely (Nakrošienė et al., 2019). For this reason, teleworkers will be one of the most suitable samples when studying the structure and effects of workplace isolation (Angel-Alvarado et al., 2021; Sahai et al., 2022).

This study fills a gap in the literature by investigating the effects of the Covid-19 pandemic's transition to telework on employees' workplace isolation, psychological well-being and job insecurity, perceived organizational support. Due to the adoption of the telework model by the pandemic, previous studies that focused on traditional workplaces are no longer fully valid (Van Zoonen and Sivunen, 2022; Tunk and

Kumar, 2022). Similarly, it has been observed in isolation literature that a significant percentage of studies on psychological well-being and perceived organizational support deal with employees who work in a traditional work environment (Caesens et al., 2017; Rasool et al., 2021).

Social isolation literature has been prioritised in literature for the past decades, but it is aimed at contributing to the limited studies on workplace isolation (Sahai et al., 2022; Orhan et al., 2016). The research answers the following research questions:

1. What was the impact of workplace isolation on psychological well-being and perceived organizational support during the transition from traditional to COVID-19 telework?
2. What is the effect of job insecurity on the relationship between perceived organizational support and psychological well-being during the Covid-19 epidemic period?
3. How can organizations increase psychological well-being by understanding the experiences of teleworkers during the pandemic, and what targeted interventions and policies can be implemented to achieve this?

The emergence of teleworking as a contingency plan amid the Covid-19 pandemic has diverged from the conventional work model, creating a fresh area of study that scholars need to explore (Tunk and Kumar, 2022). Delving into workplace isolation and scrutinizing its impacts at an individual level would significantly enrich both academic literature and practical applications. This study was carried out with participants who worked remotely during the Covid-19 era. Furthermore, as part of the research, two additional fundamental hypotheses concerning the workplace support perceived by teleworkers were tested to enhance the existing literature. While it is well established that workplace support positively influences employees' psychological processes in an office setting, there is a dearth of studies in this domain catering to telework groups (Caesens et al., 2017; Chong et al., 2020).

Accordingly, we investigate (i) the role of workplace isolation experience on perceived organizational support; (ii) the role of workplace isolation experience on psychological well-being; (iii) the role of perceived organizational support on psychological well-being; (iv) the mediating role of perceived organizational support in the relationship between workplace isolation and psychological well-being and (v) the moderating role

of perceived job insecurity on the relationship between perceived organizational support and psychological well-being were investigated. With this study, a comprehensive evaluation of the attitudes and behaviours of teleworkers is aimed. Figure 4.1. provides a pictorial description of the research framework. The theoretical foundations and development of the hypotheses are discussed in the following section.

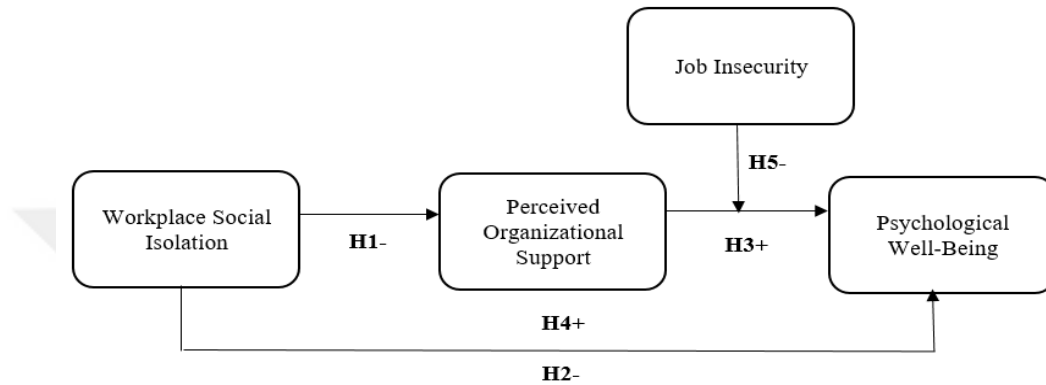


Figure 4.1: Research Model

4.2. Literature Review

4.2.1. Workplace Isolation

The concept of workplace isolation is taken from the structure of Durkheim's isolation approach and adapted to the workplace context (Berkman et al., 2020). In his monumental work 'Suicide', Durkheim defined isolation as the state in which individuals feel detached or isolated from social groups due to shared values or lack of common norms. Durkheim's isolation approach has a significant impact on social and business life (Durkheim, 2005). In the business world, this can be described as constant changes in market dynamics and organizational structures, which can result in employees feeling isolated and disconnected. Such circumstances can make it difficult for employees to find a sense of purpose or belonging, which can lead to increased mental health problems (Clegg et al., 2016).

When looking at modern workplace dynamics, Durkheim's approach of isolation offers valuable insight (Berkman et al., 2020). The global pandemic has accelerated the

current trend towards telework, which can lead to physical separation between employees, potentially worsening feelings of isolation (Courpasson et al., 2021). Teleworking conditions could worsen the situation, as physical separation can intensify feelings of disconnection (Durkheim, 2005). Durkheim described a state of isolation that can be exacerbated by the fast-paced and impersonal nature of many modern workplaces (Clegg et al., 2016). This workplace isolation not only affects individual employees but can also have broader impacts on organizational performance and health. Therefore, recognizing and addressing workplace isolation is crucial, and Durkheim's approach offers a valuable framework for understanding and dealing with these challenges (Courpasson et al., 2021).

Social and physical isolation is seen as a source of stress and difficulty for employees in modern organizational structures. When employees are accepted as members of a group, they can access the resources they need more quickly (Shagirbasha et al., 2023). The fact that the employees who make up the group share their own opportunities and information creates a facilitating structure for the whole group. Otherwise, it will be impossible or longer than expected for the employee who is outside the group and cannot establish meaningful relationships (Huyghebaert et al., 2019). Based on Munir and his colleagues' (2016) research, this study conceptualizes workplace isolation as a psychological construct based on the feeling of being disconnected from employees in their relationships with their supervisors and colleagues. Another important reason for the emergence of workplace isolation is the social relationships established with the manager and team members. Perceptions of isolation consist of not receiving adequate mentoring and career support from their managers and lack of opportunities for social and emotional interaction with the team (Arman et al., 2021).

Studies have shown that the perception of isolation occurs when employees lack social and emotional interaction with team members (Shagirbasha et al., 2023). The perception of workplace isolation is closely related to the low social and emotional interaction of the employees in their workplace and their feeling of not becoming a part of the team. Employees reported that they could not adapt to their environment and did not have meaningful relationships (Huyghebaert et al., 2019). Subsequent research has shown that employees with high workplace isolation have several negative orientations, such as low productivity and a tendency to quit (Angel-Alvarado

et al., 2021). Therefore, understanding workplace isolation has become a significant phenomenon for researchers.

On the other hand, in the literature, workplace isolation is considered a three-dimensional structure consisting of physical distance, information sharing, and social relations (Shagirbasha et al., 2023; Zhou, 2018). The primary source of workplace isolation is the physical distance of the employees from the workplace environment. The physical distance between teleworkers and the work environment poses a challenge in terms of collaboration, coordination, and socialization (Angel-Alvarado et al., 2021; Van Zoonen and Sivunen, 2022). While the employees stated that technological devices cannot replace face-to-face communication, they emphasized the importance of physical distance (Even, 2020). Secondly, it indicates that employees have access to formal and informal information during their workplace isolation (Shagirbasha et al., 2023). Additionally, remote team members, such as teleworkers, are often overlooked in information sharing and reporting chains (Berkman et al., 2000). Studies have shown that higher levels of workplace isolation exist when employees feel they are experiencing high levels of information isolation. It has been proven that employees evaluate their relationships more meaningfully when included in formal and informal information (Munir et al., 2016). This situation causes blurring of both knowledge and the social context. The last dimension of workplace isolation is the loss of non-verbal cues during information transfer due to teleworkers' lack of face-to-face interaction (Van Zoonen and Sivunen, 2022; Zhou, 2018). This situation causes blurring of both knowledge and social context (Angel-Alvarado et al., 2021; Gao and Sai, 2020). For these reasons, teleworkers constitute the most appropriate examples for examining social isolation.

4.2.2. Perceived Organizational Support

The term "perceived organizational support" describes how much workers believe their employer prioritizes their needs, contributions, and general well-being. Employee perceptions of support and recognition (POS) are what workers feel they get from their companies (Al Riyami et al., 2023). This idea has a significant impact on how well individuals perform on the job, are motivated, and have positive relationships with the company. Employee dedication to their work and commitment to the organization both

rise when they see that their organizations value and support them (Bjørnstad et al., 2016).

An appropriate theoretical foundation for comprehending the significance of POS is provided by social exchange theory. The equilibrium of benefits and losses in people's social interactions is the main emphasis of this theory (Caesens et al., 2017). Within the POS setting, workers support and are recognized by their organizations for their contributions to the company. The support they receive from their organizations inspires employees to work harder and stay dedicated to the company (Cheng and Yi, 2018).

Another significant idea that helps to understand POS is the Organizational justice idea. This theory looks at how workers' attitudes and behaviors are influenced by their beliefs of receiving fair treatment at work. POS levels rise when workers believe their company values and treats them fairly (DeConinck and Johnson, 2009).

Employee motivation and work satisfaction are positively correlated with high levels of perceived organizational support. Employee dedication and loyalty to their companies rise when they perceive the level of assistance they receive from them as being high (Côté et al, 2021). As a result, there is a decrease in staff turnover and they can contribute to the company in the long run. Employees who feel supported by their organization are less stressed at work and have better psychological health overall. Employees can better manage job pressures and achieve work-life balance in a supportive work environment (DeConinck and Johnson, 2009).

4.2.3. Psychological Well-Being

The term "psychological well-being" describes how content and satisfied people generally are with their life and experiences. Emotional, cognitive, and social functioning are all positively impacted by psychological well-being (Koroglu and Ozmen, 2022). The fundamental elements of psychological well-being are having a pleasant life in general, managing stress, and being attuned to oneself and the surroundings. PWB is a crucial element that influences a person's general health and quality of life (Matera et al., 2022).

An additional crucial theoretical foundation for comprehending PWB is organizational support theory (Ryff, 2013). This idea describes how an employee's dedication,

general well-being, and job satisfaction are influenced by the support they receive from their organizations.

Organizational support theory states that employees feel more safe and valued when they perceive strong levels of support from their businesses. Their mental health improves as a result (Matera et al., 2022). Organizations offer their employees more than just financial assistance and resources; emotional support and gratitude play a significant role in this support system. According to this notion, companies should create strategic support programs to improve the mental health of their workforce (Richter and Näswall, 2019).

Ensuring the psychological well-being of people and organizations is crucial. Employees with high psychological well-being levels perform better on the work, are more motivated, and are more satisfied with their jobs (Rasool et al., 2021). This benefits organizations' productivity and general success. Additionally, psychological health has a good impact on overall health (Roeters and Michalos, 2014).

The psychological health of employees is equally crucial for businesses. Psychological well-being makes workers more motivated and satisfied with their jobs, which makes them more effective and productive (Parent-Lamarche and Boulet, 2021). People who are content and in good health give their work more attention and perform better. Employee stress management at work is improved as a result. They are better equipped to handle the demands and obstacles they face at work as a result (Roeters and Michalos, 2014).

4.2.4. Job Insecurity

Job insecurity is the situation where employees are exposed to the uncertainty of their jobs and the risk of losing their jobs in the future. According to human capital theory, workers who experience job loss anxiety may have both tangible and intangible consequences (Darvishmotevali and Ali, 2020). Furthermore, because they could think that these investments won't ensure their jobs, employees might be less inclined to advance their careers or save money on job enhancements..

The psychological implications of job uncertainty on workers are highlighted by signal theory. When workers are in danger of losing their jobs, they may perceive that their employers are less inclined to value their loyalty and performance. Job insecurity

might be interpreted by workers as a sign of uncertainty (Jiang and Lavaysse, 2018). Employee motivation may suffer as a result, and insecurity may arise in the workplace (Jiang and Lavaysse, 2018). Furthermore, job instability may influence how individuals conduct their job search; it may motivate them to look for better chances or, as a result of workplace uncertainty, it may force them to take a more passive approach (Richter and Näswall, 2019).

According to both hypotheses, job uncertainty has significant repercussions for both companies and employees (Wilson et al., 2020). Job insecurity can lead to issues for both employers and employees, including low commitment, subpar performance, and staff turnover. For employees, it can generate stress, a lack of motivation, and worries about future advancement (Soomro et al., 2023; Jung et al., 2021). Therefore. As a result, job instability is a significant problem that both businesses and employees need to take into account.

4.3. Hypothesis Development

4.3.1. The Relationship Between Workplace Isolation and Perceived Organizational Support

This paper contends that workplace isolation is related to perceived organizational support to influence individuals' beliefs about the organization. Blau's social exchange theory provides a powerful framework for understanding POS (Blau, 1964). According to Blau, social exchanges involve a series of interactions that create obligations characterized by the principle of reciprocity (Kurtosis et al., 2017). In the organizational context, if employees perceive that their organization is supportive, they will feel obligated to respond by being more assertive and performing better (Blau, 1964; Suifan et al., 2018). Therefore, organizations that want to improve POS should focus on creating an environment in which employees feel valued and recognized, thus developing a sense of mutual obligation and reciprocity (Kurtosis et al., 2017).

Perceived organizational support (POS) is a fundamental concept in organizational behavior and human resource management (Suifan et al., 2018). This refers to an employee's perception of the extent to which their organization values their contributions and cares about their well-being (Caesens et al., 2017). However,

teleworkers' workplace isolation can potentially negatively impact their perceived organizational support (Labrecque et al., 2023). First, telework can result in reduced face-to-face interactions between employees and managers, which can negatively impact the development of strong interpersonal relationships (Rasool et al., 2021). These relationships are very important for employees to feel valued and supported by the organization (Fisher et al., 2011). Furthermore, one of the most important issues emphasized in the teleworking literature is the 'quality of the relationship' between the employee and his colleagues and supervisors. Studies have shown that employees perceive low social support when they feel there is a lack of meaningful relationships at work (Angel-Alvarado et al., 2021; Munir et al., 2016). Accordingly, it has been revealed that employees with high workplace isolation think that they do not receive sufficient career support. Teleworkers may not have access to resources and support services that are readily available in the office environment, such as IT support, training programs, or even informal advice from colleagues, which may affect their perceived organizational support (Gajendran et al., 2015). Telework can lead to feelings of isolation and disconnection from the organization. This situation can be exacerbated if the organization does not take proactive steps to engage teleworkers and make them feel like part of the team (Chun et al., 2022). Finally, telecommuting blurs the lines between home and work, which can lead to work-life conflict and increased stress, negatively impacting POS (Kossek et al., 2016).

There is not enough study in the literature examining the relationship between workplace isolation and POS (Shagirbasha et al., 2023; Van Zoonen and Sivunen, 2022). Understanding and explaining the mechanisms that workplace isolation evaluates individuals' social relations as meaningless or perceived organizational support has great importance and will significantly contribute to the literature. Therefore, the following hypothesis is offered:

H1: There is a negative relationship between workplace isolation and perceived organizational support.

4.3.2. The Relationship Between Workplace Isolation and Psychological Well-Being

This paper contends that workplace isolation is related to perceived organizational support to its influence on employees' psychological well-being. Psychological well-

being is the person's having a pleasant emotional and cognitive impact and a high level of satisfaction with his/her position (Ryff, 2013). In essence, psychological well-being consists of feeling good and functioning effectively, having a sense of purpose, managing stress, and having self-esteem and strong relationships and (Matera et al., 2022).

On the other hand, Durkeim's social isolation approach, in which people perceive physical and social separation from the group negatively, has been endorsed for a long time. From Durkeim's perspective of social isolation, this means a lack of support and protection, critical factors in giving meaning to life (Kurtessis et al., 2017). First, the perception of social isolation is a concept that draws attention to the lack of meaningful relationships between individuals in their society (Lu et al., 2020; Huyghebaert et al., 2019). Workplace isolation will cause employees not to have sufficient social interaction and to feel socially isolated. Research has indicated that people who suffer from social problems in their workplace are affected by this in their private lives. In addition to having negative consequences for social relations, workplace isolation is an essential source of stress discussed in the literature (McGuire, 2021). Secondly, it is stated that teleworkers work long hours in order to reduce the workplace isolation in their workplace and to be 'Visible' (Labrecque et al., 2023). The work-life balance of these employees, whose working hours are extended, deteriorates, and their private lives are adversely affected. This situation will cause them to restrict the private time they allocate to themselves, and their psychological well-being will decrease significantly (Arman et al., 2021).

Finally, in our sample, the participants are working remotely. When working remotely, physical distance and lack of social communication cause dissatisfaction (Sahai and Ciby, 2022). Since virtual communication networks are not sufficient in non-verbal communication channels, employees stated that they could not feel sufficient intimacy. Social isolation has an unfavorable effect on the psychological well-being of individuals and on solidarity and social cohesion within society (Kim et al., 2019). Upon the above explanations, we hypothesize that workplace isolation will affect a person's psychological well-being. Therefore, the following hypothesis is offered:

H2: There is a negative relationship between workplace isolation and psychological well-being.

4.3.3. The Relationship Between Perceived Organizational Support and Psychological Well-Being

This paper also proposes that perceived organizational support is related to psychological well-being. The literature has defined psychological well-being as having no negative emotions and individuals having high psychological life satisfaction (Caesens et al., 2017). Studies have shown that workplace experiences positively influence psychological well-being level (Eisenberger et al., 2020). The experiences of the employees at the workplace where they spend most of their time significantly affect their psychological state. Based on the social exchange theory, POS causes employees to develop attitudes and behaviors beneficial to the organization (Evanoff et al., 2020). It creates an employee's obligation to respond to the organization's support and interest (Bjørnstad et al., 2016). Recent studies have shown that high POS also has positive effects on employees' psychological well-being both inside and outside the workplace (Caesens et al., 2017; Rasool et al., 2021). Employees who feel supported by the workplace will want to reciprocate this positive organizational attitude and will continue to work in a more positive mood (Rasool et al., 2021).

POS improves employees' psychological well-being by meeting their socio-emotional needs (Suifan et al., 2018). It will also contribute to a self-improvement process and welfare of employees, leading them to experience better personal psychological well-being (Shagirbasha et al., 2023). Additionally, a high POS can provide indications that assistance will be available when needed. This support causes employees to predict the future with more confidence and higher subjective psychological well-being (Kurtessis et al., 2017). Besides, we see that work-related negative emotions such as work tension, work-family conflicts, and emotional exhaustion negatively affect personal psychological well-being (Rasool et al., 2021). Therefore, it is hypothesized that

H3: There is a positive relationship between perceived organizational support and psychological well-being.

4.3.4. The Mediating Role of Perceived Organizational Support

Based on the social change theory, the perceived organizational support describes the links between employees and the organization (Cheng and Yi, 2018). Perceived organizational support, as understood through Blau's social exchange theory, means that employees believe the organization values their contributions and cares about their well-being, thereby fostering a sense of security within the organization (Kurtessis et al., 2017). This perception also encourages employees to reciprocate by showing their commitment and support towards the organization's objectives (Suifan et al., 2018). Organizational support perception depends on the degree to which the organization attaches importance to the employee's contribution and psychological well-being (Eisenberger et al., 1997). Organizations meet the needs of employees to build trust, approval, and social identity. The perceived organizational support helps to increase employee performance and ensures sufficient organizational commitment (Vega and Brennan, 2000). On the other hand, it positively increases the psychological well-being of individuals (Rhoades and Eisenberger, 2002).

Workplace isolation can lead to negative experiences for employees, including not receiving recognition from colleagues, missing opportunities for informal interaction with colleagues, and not feeling like they belong to a group (Liston-Heyes and Juillet, 2019). The effects of social and organizational engagement on employee well-being during telework were examined in a study and it was found that teleworkers experience isolation, which negatively affects their well-being (Michalos, 2014). The importance of perceived organizational support was emphasized to mitigate the negative effects of isolation. When employees feel supported by their organizations, it has a positive impact on their workplace experiences and can counteract some of the negative aspects of isolation (Brown and Leite, 2023; Henssler et al., 2021). Perceived organizational support played an important role in reducing negative effects (Wu et al., 2021). It is clear from these studies that organizations need to focus on strengthening support structures to help teleworkers overcome the challenges of isolation.

The shift to teleworking during the COVID-19 pandemic has led to a feeling of isolation among employees, affecting their psychological health (Côté et al., 2021). Measuring the mediation effect in this relationship is important because it helps understand the process or mechanism by which workplace isolation affects

psychological well-being. By identifying perceived organizational support as a mediator, we can recognize its role in influencing outcome (psychological well-being) and take steps to strengthen this support to reduce the negative effects of workplace isolation. Employees who felt their organizations supported them were less likely to respond to negative experiences than expected (McGuire, 2021). Therefore;

H4: Perceived organizational support positively mediates the relationship between workplace isolation and psychological well-being.

4.3.5. The Moderating Role of Job Insecurity

Job insecurity is the feeling of powerlessness, uncertainty, and helplessness that the employee feels when she/he is not secure about her/his current job's continuity. Job insecurity, which appears as a social phenomenon, is experienced as a subjective perception (Darvishmotevali and Ali, 2020). Consistent with the literature on job insecurity, it is argued that it will cause negative feelings such as anxiety, depression, lack of self-confidence, and dissatisfaction in employees and can negatively change their feelings towards the workplace (Lee et al., 2018). In this sense, we note that the higher the job insecurity of employees, the lower the relationship between perceived organizational support and psychological well-being (Jung et al., 2021). Furthermore, the perception of job insecurity of employees means that they face the loss of all material and moral gains from the workplace (Wilson et al., 2020). For this reason, the employee's belief in job insecurity is an important phenomenon that suppresses positive beliefs about his job. Studies have shown that employees who have a high fear of being fired during this period have significant negative effects on their working styles and behaviors (Lu et al., 2020). Even if the employee has positive feelings about the work environment, job insecurity will negatively affect personal psychological well-being and reduce the relationship between them (Jiang and Lavaysse, 2018).

Finally, job insecurity or the threat of job loss is considered a source of stress that negatively impacts mental and physical health. The lack of job security of employees will cause them to constantly feel anxious and worried about their future (Richter and Näswall, 2019). The literature emphasizes that it cannot realistically interpret the positive support in the work environment of employees under intense job loss stress (Lee et al., 2018). As a result, employees who experience job insecurity will be under

the influence of these negative feelings (Lee et al., 2018). It is very important to understand how the new work order affects the perceptions of teleworkers (Soomro et al., 2023). Therefore, it is hypothesized that:

H5: Job insecurity negatively moderates the relationship between perceived organizational support and psychological well-being.

4.4. Research Design

4.4.1. Measures

Multi-item scales were adopted based on the previous studies to test the hypotheses of the study. Besides, 5-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (5) were used for measuring the variables of the present study. Participants were asked to evaluate the items related to workplace isolation, perceived organizational support, job insecurity, and psychological well-being within the context of quarantine and teleworking.

Workplace isolation was measured using the 3-item scale of Orhan et al. (2016). Sample items include the following: "I feel I miss a lot of information when I am not seeing people I work with." and "I often miss the opportunity to meet key people who I work with." Bandara and Senanayaka (1991) provided evidence for internal consistency and construct validity. In this study, this scale showed good reliability ($\alpha = .72$).

Perceived Organizational Support was assessed with 8-item scale adapted from Eisenberger et al. (1997). Sample items include: "The organization values my contribution to its psychological well-being in quarantine." and "The organization really cares about my psychological well-being in quarantine." Previous studies have shown that the scale has internal reliability and validity (1997). In this study, this scale showed good reliability ($\alpha = .85$).

Job insecurity was measured using 4-item scale from Vander Elst et al. (2014). Sample items include: "I feel insecure about the future of my job." and "I think I might lose my job in the near future." De Cuyper et al. (2018) confirmed reliability and internal consistency. In this study, this scale showed good reliability ($\alpha = .83$).

Psychological well-being was measured using 6-item scale from Grossi et al. (2006). Sample items include: " I felt downhearted and blue during the past month." and "I was emotionally stable and sure of myself during the past month." Prior studies supported the reliability and internal construct validity of the scale (Vega and Brennan, 2000; Rhoades and Eisenberger, 2002). In this study, this scale showed good reliability ($\alpha = .79$).

4.4.2. Sampling

Information was obtained during the Covid-19 epidemic in Turkey between April and May 2021. At the time the research was conducted, Covid-19 was spreading rapidly and Turkey was the country with the fifth highest number of cases worldwide. In addition to current limitations on social interaction and educational opportunities, the COVID-19 pandemic has also seen the continuation of flexible and teleworking techniques in the workplace. As a result, participants were working remotely and working from home during this time.

During the sampling process, we used convenience sampling technique due to accessibility, convenience, availability, and time constraints for participants in the pandemic situation in the country (Grossi et al., 2006). During the data collection process, we selected key participants who had been actively working in different positions for at least a year. This sampling procedure is consistent with previous studies. In this context, the research is compatible with the literature in terms of generalizability and representativeness of the material (Eisenberger et al., 1997; Hair et al., 2020).

We contacted participants through phone calls and online means, according to the literature. The established criteria for inclusion in our study were the following: a minimum of one year of employment (Huang et al., 2021); full-time employment status and adherence to post-COVID-19 isolation rules as a teleworker, whether partially or fully (Gao and Sai, 2020). These guidelines were established after a comprehensive review of the relevant literature.

In this context, data were collected through an online survey using the Google form, and an online survey link was distributed through personal and professional networks. In addition, in the opening section of the survey, the definition of "workplace isolation"

was clearly given to the participants, and all items of the survey were adapted to be limited to the scope of working life only. In the online survey prepared using the Google form, each participant is limited to one answer. Participants could not answer the survey on their second entry via Google form. After the explanation about the purpose of the research, participants were asked to indicate that they agreed to participate in the current study by ticking the phrase "I agree to participate in the research" at the beginning of the survey. All procedures performed in the study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards (Ashcroft, 2008).

Participants were also informed of their right to withdraw from the study at any stage. Participation in the research is voluntary, and participants who fill out the survey are deemed to have agreed to participate in the study. All participants were informed that all information shared would be kept confidential and used only for academic purposes. We also emphasized that there were no right or wrong answers to the questions, and participants were asked to choose the answer that best suited them.

In total, 450 surveys were collected and after eliminating ineligible surveys (incomplete surveys, respondents with less than one year of work experience, and respondents working in organizations that do not use telecommuting), 382 valid surveys were collected. samples were obtained, resulting in an approximately 85% response rate.

In terms of demographic characteristics (see Table 4.1.), 50.5% of the respondents were female, average working experience in the current organization was 8.56 years ($SD=7.43$), and the average age was 37.2 years ($SD=8.56$). In terms of education, 52.1% had a bachelor's degree, followed by 34% with a graduate degree, 7.1% with high school, and 6.8% with a college degree. In terms of position, 62.6% were working as white-collar, 13.4% were working as blue-collar employees, and 24.1% were working in other positions. Besides, participants were working for 4.12 week ($SD=1.46$) on average following workplace isolation rules. 57.4% were working from home, 32.7% were working in alternating work schedules, and 9.9% were dependent on other working schedules. Additionally, 49.5% of organizations were operated locally, 25.4% of them were operated nationally, and 25.1% were operated internationally.

Table 4.1: Demographic Profile of The Sample

Demographics	Category	N	%
Age	18-25	19	5
	26-35	168	44
	36-45	132	34.6
	46-55	47	12.3
	≥ 56	16	4.2
Gender	Female	193	50.5
	Male	189	49.5
Education	High school	27	7.1
	College degree	26	6.8
	Bachelor's degree	199	52.1
	Graduate degree	130	34
Sector	Public	159	41.6
	Private	223	58.4
Position	White-collar	239	62.6
	Blue-collar	51	13.4
	Other	92	24.1
Work experience	1-5	158	42.2
	6-10	135	36.1
	≥ 11	81	21.7
Working status	Working from home	219	57.4
	Working in alternating work schedules	125	32.7
	Other	38	9.9
Activity area	Local	189	49.5
	National	97	25.4
	International	96	25.1

4.5. Analysis and Results

4.5.1. Measure Validity and Reliability

After the data collection, we assessed reliability and validity of the variables by using confirmatory factor analysis (Fornell and Larcker, 1981). After eliminating ten problematic items having low factor loading with the step-by-step procedure (4 items from perceived organizational support, 1 item from workplace isolation, and 2 items from psychological well-being), the results indicated that the models adequately fit the data ($\chi^2(109)=246.209$, CFI=.94, IFI=.94, TLI=.93, $\chi^2/df=2.26$, RMSEA=.057).

Table 4.2: Confirmatory Factor Analysis

Constructs	Factor Loadings	CR	AVE	Cronbach's α
Workplace Isolation		.72	.56	.72
I feel I miss a lot of information when I am not seeing people I work with.	.74			
I often miss the opportunity to meet key people who I work with.	.76			
Perceived Organizational Support		.85	.53	.85
The organization values my contribution to its well-being in quarantine.	.74			
The organization really cares about my well-being in quarantine.	.76			
The organization cares about my general satisfaction at work in quarantine.	.81			
The organization takes pride in my accomplishments at work.	.78			
Job Insecurity		.83	.56	.83
Chances are, I will soon lose my job.	.78			
I am sure I can keep my job. (R)	.58			
I feel insecure about the future of my job.	.71			
I think I might lose my job in the near future.	.90			
Psychological wellbeing				
I felt bothered by nervousness or by my “nerves” during the past month.	.62	.80	.50	.79
I felt energy, pep, or vitality during the past month.	.75			
I was emotionally stable and sure of myself during the past month.	.67			
I felt cheerful, lighthearted during the past month.	.78			

For the discriminant validity, as recommended by Fornell and Larcker (1981), we found that the squared root of AVE for all constructs was greater than the correlations between pairs of the construct. Table 4.3. shows the correlations between all research variables. According to the results, isolation was significantly correlated with perceived organizational support ($r=.10$, $p<.05$), job insecurity ($r=.21$, $p<.01$), and psychological well-being ($r=-.24$, $p<.01$). Besides, perceived organizational support was significantly correlated with job insecurity ($r=-.34$, $p<.01$), and psychological well-being ($r=.15$, $p<.01$). Finally, job insecurity was significantly correlated with

psychological well-being ($r=-.17$, $p<.01$). On the other hand, moderate correlations existing between all these variables also confirmed the discriminant validity.

The results show that the factor loadings were above the cutoff value suggested by Hair et al. (2020) Cronbach's alphas and composite reliability for each variable was above the threshold value suggested by Fornell and Larcker (1981) (See Table 4.2.). However, AVE score for physical isolation was lower than the cut-off value and then the factor analysis was repeated after the elimination of physical isolation construct from the model. Final measurement model also adequately fits the data ($\chi^2(59) = 145.434$, CFI= .95, IFI=.95, TLI=.94, $\chi^2/df=2.47$, RMSEA=.062).

Table 4.3: Discriminant Validity

Dimensions	1	2	3	4
Workplace Isolation	(.75)			
Perceived Organizational Support	.10*	(.81)		
Job Insecurity	.21**	-.34**	(.75)	
Psychological Well-Being	-.24**	.15**	-.17**	(.71)
Mean	2.46	3.43	1.91	3.07
S. dev.	1.13	1.02	.98	.91

* $p<.05$; ** $p<.01$; Values along the diagonal are the square root of AVE.

4.5.2. Common Method Variance Assessment

Harman's one-factor test was used for assessing the common method bias (Podsakoff and Organ 1986). As a result, multiple factors (explaining 63% of total variance) with an eigenvalue greater than one and one-factor solution explained 28.13% of the variance, confirming the absence of common method variance. Additionally, common latent factor analysis was used, and the measurement model with and without common latent factor was compared to assess the common method bias. Results showed that the change in fit indexes was not significant, confirming absence of common method variance (model with common latent factor CFI= .95, IFI=.96, TLI=.94, GFI=.85, $\chi^2/df=2.50$, RMSEA=.063; model without common latent factor CFI= .95, IFI=.95, TLI=.94, GFI=.85, $\chi^2/df=2.47$, RMSEA=.062).

4.5.3. Hypotheses Testing

The aforementioned hypotheses were tested with structural equation modelling and the model fits the data well (CFI = .97, IFI = .97, TLI = .96, GFI = .85, $\chi^2 / df = 2.27$, RMSEA = .058). According to results, isolation was positively related to perceived organizational support ($\beta = .13$, $p < .05$), thus supporting H1. Furthermore, we found that isolation was negatively related to psychological well-being ($\beta = -.27$, $p < .001$), thereby supporting H2. Findings also indicated that perceived organizational support was positively related to psychological well-being ($\beta = .19$, $p < .001$), supporting H3 (See Table 4.4.).

Table 4.4: Model Results

	Hypothesized Path	Path Coefficient	t value	Results
H1	Workplace Isolation → Perceived Organizational Support	.13*	2.085	Unsupported
H2	Perceived Organizational Support → Psychological Well-Being	.19**	3.412	Supported
H3	Workplace Isolation → Psychological Well-Being	-.27**	-4.266	Supported

* $p < .05$; ** $p < .001$.

Table 4.5: Results of Mediating Analysis

Direct and Indirect effects	β	95% CI	
		LL	UL
Direct effects			
Workplace Isolation $\rightarrow$ Perceived Organizational Support	.09*	.03	.18
Perceived Organizational Support $\rightarrow$ Psychological well-being	.14**	.08	.25
Workplace Isolation $\rightarrow$ Psychological well-being	-.19**	-.27	-.11
Indirect effect			
Workplace Isolation $\rightarrow$ Perceived Organizational Support $\rightarrow$ Psychological well-being	.16**	.07	.25

* $p < .05$; ** $p < .001$.; CI=Confidence interval; LL=Lower Limit; UL= Upper Limit

For testing mediating and moderating effects, the bootstrapping method through PROCESS macro 3.4 was used in SPSS 21.0 following the recommendations of Preacher and Hayes (2008). Particularly, PROCESS produces asymmetric confidence intervals for the indirect effect (Hayes, 2009) and, thus, obtains more reliable and valid

results, more accurate type I error rates than the traditional stepwise approach, and more powerful results than other common tests as the Sobel test (Hayes, 2009). Bootstrapping with PROCESS macro builds confidence intervals for indirect and interaction effects by empirical approximation of the sampling distribution (Hayes, 2009). In terms of predicting the results, if zero is not between the lower and upper limit of the bootstrapped confidence interval, the indirect and interaction effect is regarded as significant. In this vein, moderation analysis was conducted by using Model 1 in PROCESS with 5000 bootstraps resamples and 95% bias-corrected confidence interval. Additionally, the mediation analysis was performed by using Model 4 in PROCESS with 5000 bootstraps resamples and 95% bias-corrected confidence interval.

In terms of mediating analysis, isolation is positively associated with perceived organizational support ($\beta = .09$, $p < .05$; 95% CI: 0.03–0.18) and psychological well-being ($\beta = -.19$, $p < .001$; 95% CI: -.27– .11). Perceived organizational support is positively associated with psychological well-being ($\beta = .14$, $p < .001$; 95% CI: .08– .25). Besides, perceived organizational support mediated the relationship between isolation and psychological well-being ($\beta = .16$, $p < .001$; 95% CI: .07– .25), thus supporting H4 (See Table 4.5.).

Table 4.6: Results of Moderating Analysis

	Model 1			Model 2		
		95% CI			95% CI	
	B	LL	UL	β	LL	UL
Main Effects						
Perceived Organizational Support → Psychological well-being	.14**	.08	.25	.10*	.11	.49
Job Insecurity → Psychological well-being	-.16**	-.25	-.06	-.16**	-.26	-.05
Interaction Effect						
Perceived Organizational Support*Job Insecurity → Psychological well-being				-.11**	-	-.03
					.19	

**p < .001 * p< .01 CI=Confidence interval; LL=Lower Limit; UL= Upper Limit

Regarding moderating analysis, perceived organizational support ($\beta = .14$, $p < .001$; 95% CI: .08– .25) and job insecurity ($\beta = -.16$, $p < .001$; 95% CI: -.25– -.06) is positively associated with psychological well-being. Job insecurity also moderated the

relationship between perceived organizational support and psychological well-being ($\beta = -.11, p < .001$; 95% CI: $-.19$ – $-.03$), hence supporting H5 (See Table 4.6.).

We also plotted this interaction effect and examined the simple slopes, following the guidelines of Aiken and West (1991). As depicted in Figure 4.2., the positive relationship between perceived organizational support and psychological well-being was weaker in the presence of high job insecurity rather than low job insecurity.

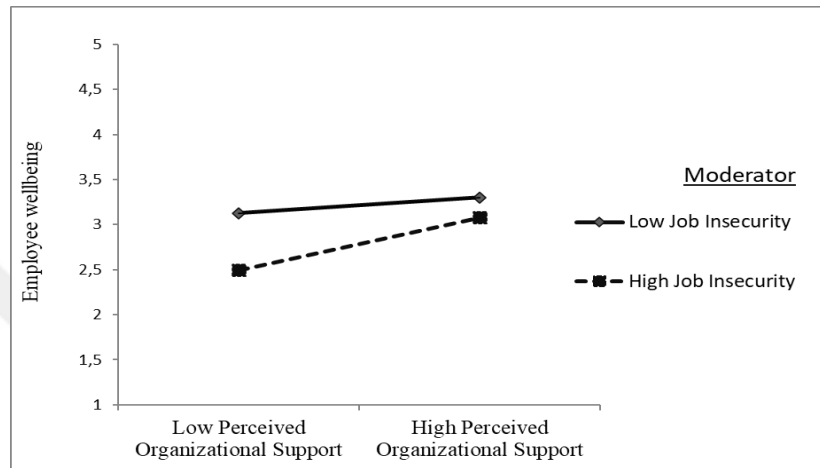


Figure 4.2: Moderating Role of Job Insecurity on The Relationship Between Perceived Organizational Support and Employee Wellbeing

4.6. Discussion

Teleworking is one of the most preferred working methods during the Covid-19 pandemic (Chong et al., 2020). Therefore, it is important to understand the attitudes and behaviours of teleworkers during Covid-19.

We expected to find a negative relationship between workplace isolation and POS, as described in the first hypothesis. The results indicated that a significant relationship was found between these variables. Unexpectedly, the relationship between the variables is positive, indicating that employees with a high level of workplace isolation perceive high perceived organizational support from their workplaces. These results are not consistent with previous studies. However, we should also point out that, unlike other studies, this study was conducted with people working remotely during the Covid-19 epidemic. The literature shows that working from home during the pandemic period reduces the negative experience created by the fear of disease (Al Riyami et al.,

2023). Similarly, Mäkineniemi et al. (2021) stated in their study that isolation during the pandemic positively affected the well-being of employees and positively affected their perception of organizational support (Mäkineniemi et al., 2021). Companies increased their teleworking practices in order to protect their employees from the epidemic. During this process, employees believe that their companies take the psychological health of their employees into consideration, even if they feel isolated. This increased employees' perception of support from their organizations (Ipsen et al., 2022).

In the study, we found support for our second hypothesis stating that workplace isolation among telework employees has a negative effect on employee psychological well-being. Employees who thought they could not establish meaningful relationships in their work life and were isolated from their colleagues also had low psychological well-being. In other words, consistent with Durkheim's isolation approach, employees' high isolation at work also affects their general psychological well-being (Suifan et al., 2018). The isolation experienced in the workplace is parallel to Prasad's (Prasad et al., 2020) study in terms of affecting their psychological well-being. Being isolated can cause individuals to leave society and to have negative evaluations of themselves.

This study also showed that the increase in POS levels of telework employees has a positive effect on their psychological well-being. This information, which is in parallel with the Social Exchange Theory, shows that if employees believe that they are supported by their organizations, their entire lives and psychological health will be positively affected (Kurtessis et al., 2017). This study is consistent with the POS and personal psychological well-being studies of Evanoff et al. (2020).

The mediation effect of POS on the relationship between workplace isolation experience and psychological well-being, can be explained as employees who feel excluded or lonely from the workplace feel better when they believe they are supported and considered by their organization. Teleworking has several known difficulties for employees. Studies have shown that workplace isolation is one of them. (Even, 2020). As stated in the social exchange theory, even the strong negative emotions experienced by employees when they believe that their organizations value them do not negatively affect their mood (Suifan et al., 2018).

An explanation for the moderating effect of job insecurity on the relationship between POS and psychological well-being might be that the probability of leaving the job causes the loss of support from the organization. We observed that working in an organization that pays attention to the employees' development and psychological well-being positively affects their psychological well-being. However, the probability of employees losing their jobs will affect them negatively. Consistent with the literature, the stronger the beliefs about job insecurity, the lower the positive effect of perceived organizational support on psychological well-being (Darvishmotevali and Ali, 2020).



5. ANALYZING THE IMPACT OF TELEWORKING ON “X” USER SENTIMENTS: NAVIGATING THE SHIFT FROM TECHNOLOGICAL ADVANCEMENTS TO A POST-PANDEMIC WORLD

5.1. Introduction

The advent of the COVID-19 pandemic has brought about significant changes in the way individuals and organizations operate, with teleworking becoming an increasingly prevalent practice (Belzunegui-Eraso and Erro-Garcés, 2020). The shift towards telework arrangements has been facilitated by rapid advancements in digital technology, enabling employees to communicate and collaborate effectively despite geographical distances (Tokarchuk et al., 2021). As the world enters a post-pandemic era, understanding the challenges and implications of telework on people's sentiments is essential for organizations to adapt and thrive in this new landscape (Elbaz et al., 2022). This study aims to explore the multifaceted implications of teleworking during the COVID-19 era, focusing on “X” users' sentiments, the role of digital technologies (Al-Ramahi et al., 2021), emerging themes, and providing actionable insights for organizations and policymakers (Paredes-Corvalan et al., 2023).

Teleworking, often interchangeably termed as "telecommuting," refers to the practice of working from a location outside the conventional office setting (Morgan, 2004), facilitated primarily by technological advancements and digital communication tools. Historically, the concept of teleworking emerged in the early 1970s, driven by the oil crisis and the consequent search for alternative work arrangements (Messenger and Gschwind, 2016). However, its significance has been amplified in the past two decades, with the rapid advancement of digital infrastructure, cloud computing, and collaborative platforms. The recent global events, marked prominently by the COVID-19 pandemic (Schall and Chen, 2022), have further thrust teleworking into the spotlight. Organizations worldwide were compelled to pivot to teleworking models, not just as a temporary measure but also as a resilient strategy for the future. This shift has not only altered professional paradigms but also reshaped socio-cultural and economic frameworks. As teleworking continues to evolve (Vasic, 2020), it becomes imperative to understand its multifaceted implications, from individual well-being and

productivity to broader societal and environmental impacts. In this dynamic context, our study seeks to offer insights into the sentiments surrounding teleworking, especially as expressed in real-time on platforms like “X” (Buomprisco et al., 2021).

Previous literature has explored the effects of telework on employee productivity, satisfaction, and work-life balance (Balushi et al., 2022; Galanti et al., 2021; Rañeses et al., 2022). Many studies have highlighted the benefits of telework, such as increased flexibility, reduced commute time, and improved overall well-being (Chatterjee et al., 2022; Rogers et al., 2015; Vafin, 2021). However, these benefits are often accompanied by challenges like social isolation, communication barriers, and difficulties in maintaining work-life boundaries (Toscano and Zappalà, 2020).

X, a popular social media platform, provides a rich source of data for analyzing sentiments in real-time (Arun and Srinagesh, 2020). Prior studies have utilized “X” data to assess sentiments related to various topics, such as political events, natural disasters, and public health issues (Alsaeedi and Khan, 2019; Kim et al., 2013; Wang et al., 2022; Yavari et al., 2022). However, research on the impact of telework on “X” users' sentiments remains limited.

X, as a microblogging platform, plays a pivotal role in shaping and reflecting public discourse in the digital age (Smith and Brenner, 2012). User sentiments on “X” are not merely fleeting expressions; they are dynamic indicators of collective sentiment, offering an unparalleled real-time window into public opinion (Giachanou and Crestani, 2016). These sentiments provide a pulse check on a wide array of topics, from pop culture and politics to shifts in work culture, such as teleworking. In the context of teleworking, “X” sentiments become particularly salient. They allow us to gauge the collective mood of teleworkers (Saura et al., 2022), understand their challenges and triumphs, and offer insights that may not be readily apparent through traditional research methods. As teleworking becomes an integral part of our evolving work landscape, analyzing “X” sentiments offers a valuable tool to understand the nuanced experiences of teleworkers and inform strategies to enhance their work experience (Dubey and Tripathi, 2020).

The landscape of teleworking has undergone a seismic shift, especially in the wake of the COVID-19 pandemic. While teleworking itself is not a novel phenomenon, its widespread adoption, and the rapidity of its implementation during recent times have

brought forth a spectrum of experiences, both positive and challenging. However, there remains a lacuna in capturing and understanding these sentiments in real-time, particularly from a vast and diverse pool of teleworkers globally. Enter “X”, a platform that has consistently mirrored societal transitions and sentiments. It serves as a dynamic canvas that captures not just the factual aspects of teleworking but also the emotional and experiential dimensions, often overlooked in traditional research paradigms. By focusing on “X” user sentiments, our study seeks to bridge this gap, shedding light on the evolving nuances of teleworking sentiments and thereby reinforcing the contemporary relevance and urgency of our research in the broader discourse on teleworking.

Building on the existing research, this study also aims to explore the role of digital technology in shaping “X” users' sentiments about telework. The pandemic accelerated the adoption of various digital tools, such as video conferencing, project management software, and cloud-based services, which have become indispensable for telework (Poymanova, 2020). While these tools have facilitated seamless communication and collaboration among remote teams, they have also introduced new challenges, such as technology fatigue, privacy concerns, and digital inequality (Risi and Pronzato, 2021). By analyzing tweets that discuss digital technology in the context of remote work, this study aims to shed light on how technology has influenced the overall sentiment of teleworkers and identify areas where improvements can be made to enhance user experience and satisfaction.

Furthermore, this study seeks to understand the potential long-term implications of telework on the sentiments of “X” users as the world transitions into a post-pandemic era. With many organizations contemplating a hybrid work model that combines remote and in-office work arrangements (Chafi et al., 2022), it is crucial to understand the evolving sentiments of employees in this dynamic environment. By examining the trends and patterns in “X” users' sentiments over time, this study will provide valuable insights into the preferences, expectations, and concerns of teleworkers. These insights can inform decision-makers in creating policies and practices that not only address the current challenges but also foster a sustainable and inclusive work culture in the future.

This study addresses a gap in previous research by conducting an analysis of user-generated content (UGC) to gain a more in-depth comprehension of the primary opportunities and challenges associated with teleworking during the COVID-19 era.

This study is conducted within the current context, and it provides a distinctive viewpoint by addressing the gap. The user-generated content (UGC) that was analyzed for this research came from “X” (n = 216,485), which made it possible to glean significant insights using a technique that was both original and inventive. The primary purpose of this study was to investigate the most important possibilities and obstacles that are related with teleworking, with a particular focus placed on the use of various technologies and platforms. This was achieved by conducting an analysis of the feelings held by users and locating recurrent topics within the scope of this study. The following is a rundown of our unique research objectives:

- To identify the primary opportunities and challenges associated with teleworking during the COVID-19 era, as expressed by “X” users.
- To investigate the role that digital technologies and platforms play in forming the attitudes of people who work remotely.
- To uncover the prominent themes and topics related to teleworking and digital technology usage in the context of telework.
- To analyze the trends and patterns in users' sentiments over time to understand the evolving preferences, expectations, and concerns of teleworkers.
- To provide valuable insights for organizations and policymakers to develop strategies that address the challenges and capitalize on the opportunities of teleworking in a post-pandemic world.

The organization of this paper can be described as follows. A review of the relevant literature is conducted initially, followed by an outline of the methodology that was employed in the study. The findings are then presented and subsequently discussed in the context of the results and conclusions. In the final section, both theoretical and practical implications of the findings are explored, limitations of the study are addressed, and potential avenues for future research are suggested.

5.2. Literature Review

5.2.1. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), introduced by Davis in 1986 (Marangunić and Granić, 2015), serves as a foundational pillar in the domain of technology adoption research. This model was developed to address the user acceptance issue of the new technology (Lee et al., 2003). While the central tenets revolve around perceived usefulness and perceived ease of use, the TAM has been extended and modified by numerous researchers to incorporate additional variables like subjective norms, experience, and image, among others (Hirschheim, 2007). These factors collectively determine an individual's behavioral intention to use a system. Over the years, TAM has proven to be robust in predicting user acceptance across various technologies and user groups (Cheung and Vogel, 2013), making it invaluable for studies like ours that seek to understand the dynamics of technology adoption in rapidly evolving contexts like teleworking.

5.2.2. Job Demand-Resources (JD-R) Model

The Job Demand-Resources (JD-R) model is not just a theoretical construct (Schaufeli, 2017); it reflects the multifaceted nature of work environments. Introduced in the early 2000s, this model has become a comprehensive framework to understand the interplay of various factors affecting employee well-being and performance (Schaufeli and Taris, 2014). Unlike other models that often take a one-size-fits-all approach, the JD-R model is unique in its recognition that different occupations have different work characteristics (Xanthopoulou et al., 2007). Hence, it broadly classifies these characteristics into two categories: job demands and job resources. While job demands can lead to physical and psychological strain if not balanced appropriately, job resources act as buffers, countering the negative effects of high job demands (Llorens et al., 2006). They can also be intrinsic motivators, fostering engagement, learning, and personal growth. The dynamism of the JD-R model makes it apt for studies in evolving work structures, like the shift towards teleworking, where the balance of demand and resources is continually in flux (Ko, 2022).

To comprehensively understand the dynamics of teleworking adoption and its subsequent implications during the COVID-19 pandemic, our study leverages an integrated theoretical framework combining the Technology Acceptance Model (TAM) and the Job Demand-Resources (JD-R) model. The TAM, a seminal model in understanding technology uptake, posits that an individual's intention to use technology is primarily influenced by its perceived usefulness and perceived ease of use. In the context of teleworking, this model provides valuable insights into the intrinsic and extrinsic motivations driving individuals to utilize digital platforms for telework. Complementing this, the JD-R model delineates the specific job demands and resources inherent to every occupation. Within the teleworking environment, demand might encompass challenges such as maintaining work-life balance or ensuring effective time management. Simultaneously, resources can be perceived in the form of available technologies, flexible work arrangements, or even organizational support. By synergistically considering both these models, our research aims to present a holistic view of teleworking, capturing the nuances of technology adoption and the subsequent psychological and organizational ramifications.

5.2.3. Teleworking and Covid-19

The COVID-19 pandemic has had a significant impact on the global workforce, prompting organizations to rapidly adopt teleworking or telework as a means to ensure business continuity and protect employees' health (Zhang et al., 2021). This shift towards teleworking has been accompanied by a surge of research investigating its implications for employees, organizations, and society at large. This literature review aims to provide an overview of the key findings and themes emerging from recent studies on teleworking in the context of the COVID-19 pandemic.

Benefits of Teleworking during COVID-19, many studies have highlighted the positive outcomes of teleworking during the pandemic, such as increased flexibility, reduced commuting time, and better work-life balance (Palumbo et al., 2022). Teleworking has also been linked to environmental benefits, such as reduced greenhouse gas emissions due to decreased transportation-related activities (O'Brien and Yazdani Aliabadi, 2020). Additionally, teleworking has enabled organizations to maintain productivity levels and, in some cases, even enhance them by reducing office-related distractions and promoting autonomy (Kharvari et al., 2021).

Challenges of Teleworking during COVID-19; despite the benefits, teleworking has introduced several challenges during the pandemic. One major concern is the blurring of boundaries between work and personal life, leading to longer working hours and difficulty in detaching from work (Chung and van der Horst, 2020). Social isolation and loneliness have also been reported as significant challenges faced by teleworkers (Adams et al., 2019). Furthermore, telework has emphasized the digital divide, as employees with limited access to technology or inadequate home working environments face disadvantages (Makino and Delios, 1996).

The mental health and well-being of employees have become a focal point of research during the COVID-19 pandemic (Ghali-Zinoubi et al., 2021). Many studies have reported increased stress, anxiety, and burnout among teleworkers due to factors such as prolonged isolation, work-life balance issues, and job insecurity (Wong and Ko, 2009). However, some research has also identified factors that can mitigate these negative effects, such as effective communication, social support, and self-care practices (Dedefo et al., 2019).

The role of digital technology in facilitating teleworking has been a central theme in the literature. Studies have explored the adoption and use of various digital tools, such as video conferencing, collaboration platforms, and cloud-based services, to support telework during the pandemic (Singh et al., 2021). While these tools have been critical for enabling teleworking, they have also introduced challenges, such as technology fatigue, privacy concerns, and cybersecurity risks (Li et al., 2018).

5.2.4. User-Generated Content and Teleworking

User-generated content (UGC) has emerged as a valuable source of information for understanding people's experiences, opinions, and sentiments in various domains, including teleworking. By analyzing UGC from social media platforms and online forums, researchers can gain insights into the real-life challenges and opportunities associated with telework. This literature review aims to provide an overview of the key findings and themes emerging from recent studies on user-generated content and teleworking experience.

Table 5.1: Topics in UGC Related to Teleworking

Authors	Relevant Topics
Saura, Ribeiro-Soriano, and Zegarra Saldaña, 2022	Telework opportunities and challenges, The impact of COVID-19 on the adoption of digital technologies, Analyzing user-generated content on “X” for insights on telework, Sentiment analysis using Textblob and machine learning, Topic modeling with Latent Dirichlet allocation (LDA).
Saura, Ribeiro-Soriano, and Palacios-Marqués, 2022	The role of data-driven insights (DDI) in operations management, The impact of automation and data analysis on business models, Analyzing user-generated content on “X” for insights on operations management, Sentiment analysis using TextBlob and various machine learning classifiers, Topic modeling with Latent Dirichlet allocation, (LDA) for sentiment-based topic separation, Textual analysis with Python for data interpretation.
Saura et al., 2023b	Privacy concerns in digital communities on social media, The impact of privacy concerns on user behavior in online environments, Analyzing user-generated content (UGC) from “X” to study privacy concerns, Network visualization using ForceAtlas2 algorithm and Gephi software, Sentiment analysis with Textblob and various machine learning classifiers, Identification of user communities based on sentiment and privacy concerns.

Several studies have utilized sentiment analysis techniques to assess the emotions and opinions of teleworkers through the analysis of UGC. For instance, (Saura et al., 2023) conducted a sentiment analysis on “X” data to explore employees' experiences and sentiments towards teleworking during the COVID-19 pandemic. The study revealed mixed emotions, with positive sentiments relating to work flexibility and negative sentiments linked to work-life balance issues and social isolation. Such findings emphasize the value of UGC in capturing the complexities of teleworking. Online communities and forums have become important platforms for teleworkers to share experiences, seek advice, and offer support. Studies have examined the content and

dynamics of these communities to understand the challenges and strategies employed by teleworkers (Rodríguez-Modroño and López-Igual, 2021). For example, (Cho et al., 2022) analyzed the discussions in a telework community on Reddit and identified key themes related to work-life balance, productivity, and technology use. By examining UGC from these communities, researchers can gain a deeper understanding of the issues faced by teleworkers and the resources they rely on to navigate their work environment.

UGC has also been used to explore the role of digital technology in teleworking. Studies have analyzed online discussions, product reviews, and social media posts to understand how teleworkers adopt and use digital tools to support their work (Ebenso et al., 2021). For example, (Balasubramanian et al., 2022) investigated the factors influencing the adoption of digital communication tools among teleworkers by analyzing online reviews. Their findings highlighted the importance of ease of use, reliability, and compatibility with other tools in driving technology adoption.

UGC has also been utilized to examine the impact of teleworking on employee engagement. By analyzing social media posts and online forum discussions, researchers can identify factors that contribute to or hinder engagement in telework settings (Park and Lee, 2021). For instance, a study by (Ho-Dac, 2020) analyzed UGC from an online workplace collaboration platform to understand the relationship between telework and employee engagement. The study found that virtual communication and collaboration, as well as the provision of resources and support, played crucial roles in fostering engagement among teleworkers (See Table 5.1.).

5.3. Methodology

Informed by the literature and the rising debates around teleworking during the pandemic, this study posits three research questions to capture the prevailing sentiments, the influence of digital technologies, and the dominant themes in the discourse. The following research questions guide our analysis:

RQ1: Do X users predominantly express negative feelings towards telework in the COVID-19 era?

RQ2: Does the role of digital technologies significantly correlate with the sentiment polarity of “X” users discussing telework?

RQ3: Will certain themes related to telework challenges be more prevalent than themes related to remote work opportunities during the COVID-19 era?

5.3.1. Data Collection

In this study, data pertaining to telework was collected by mining the “X” Application Programming Interface (API) for a total of 234,279 tweets that contained the hashtags #telework, #teleworking, and #distancework between January 1 and December 25, 2021. These tweets were collected in the same period. To guarantee the accuracy of the dataset, a filtering procedure was utilized, which was written in Python and supported by the Pandas library (Shi, 2020). More specifically, the dataset was improved by deleting tweets that contained URLs and symbols (@ and f), as well as those with less than sixty characters in total length. Duplicate tweets, retweets (RTs), and tweets that were posted by several individuals but similar to each other were also eliminated. Any visual symbols, photos, or videos connected to tweets were removed, as the primary emphasis of the investigation was not on multimedia components. The final sample, consisting of 216,485 telework-related tweets, was evaluated in order to acquire insights into the potential and problems associated with teleworking.

5.3.2. Data Preprocessing

Before analyzing the tweets, the dataset underwent preprocessing to remove irrelevant information and improve the quality of the data. This process included:

- Removing retweets, as they often duplicate content and skew the analysis.
- Removing URLs, mentions, hashtags, and special characters, which do not contribute to sentiment analysis.
- Converting all text to lowercase for consistency.
- Tokenizing the text into words and applying lemmatization to reduce words to their base form.

5.3.3. Sentiment Analysis

Various data-mining algorithms may be employed to classify textual data based on the emotions communicated within the content of the text. TextBlob, a well-respected

approach, was created within the Natural Language Toolkit (NLTK) and Pattern frameworks (Loper and Bird, 2002) and was used in this research. Adherence to the principles proposed by Bermingham and Smeaton was maintained in order to increase the likelihood of obtaining high-quality findings. Throughout the investigation, polarity values ranged from -1 to 1, while subjectivity values fluctuated between 0 and 1.

For training the algorithm, a set of 846 manually categorized text inputs was constructed from the sample of tweets. As a result, the algorithm could comprehend the emotions and carry out the machine learning process to classify the remaining portion of the sample. No comparison was made between the results of the classification and training phases of the algorithm when conducted independently. Subsequently, the entire sample was divided into equally sized parts. Classification experiments were carried out using the outcomes of the 846 inputs to reduce the impact of bias and enhance the precision of the sentiment analysis.

A procedure for categorizing inputs in lexical words was also devised by us before we could determine the accuracy of the final result. This procedure took into account the capabilities of the NLP and LDA software.

5.3.4. Thematic Analysis

A qualitative thematic analysis of tweets was conducted to reveal prominent themes and issues related to teleworking and digital technology use. This process involved:

- Reading and re-reading the tweets to familiarize ourselves with the content.
- Generating initial codes to describe the content of the tweets (e.g., work-life balance, communication, technology issues).
- Grouping the codes into broader themes (e.g., opportunities, challenges, role of technology).
- Reviewing and refining the themes to ensure they accurately represent the data.

5.3.5. Data Visualization and Analysis

Finally, the results of the sentiment analysis and thematic analysis were visualized using charts and graphs to identify trends, patterns, and relationships in the data. This

included comparing the sentiment scores over time, examining the distribution of sentiments across different themes, and exploring the relationships between technology use and sentiment.

By combining quantitative and qualitative approaches, this study offers a comprehensive understanding of the impact of teleworking on “X” users' sentiments during the COVID-19 era, providing insights into the opportunities, challenges, and role of digital technologies in shaping telework experiences.

5.3.6. Topic Modelling with LDA

Topic modeling is a widely used unsupervised machine learning technique that aims to identify underlying topics or themes present within large volumes of text data. Latent Dirichlet Allocation (LDA) is one of the most popular topic modeling algorithms, which was first introduced by (Shi, 2020). LDA is a generative probabilistic model that assumes that documents are composed of multiple topics and that each topic is a distribution of words.

LDA assumes that documents in a corpus are generated through a two-step process. First, a topic distribution is sampled for each document from a Dirichlet distribution. Then, for each word in the document, a topic is sampled from the document's topic distribution, and a word is sampled from the corresponding topic's word distribution. By applying LDA, researchers can uncover the latent structure of topics present in the text data and estimate the topic proportions for each document (Ozyurt and Akcayol, 2021).

LDA has been employed across various disciplines to analyze large text corpora, such as news articles, scientific papers, and social media posts. For example, LDA has been used to explore the thematic structure of scientific publications (Chipidza et al., 2022) and to identify trends in news coverage over time (Liu et al., 2021). In the context of social media, LDA has been applied to uncover the topics discussed by users on platforms like “X” and Reddit (Tadesse et al., 2019).

Before applying LDA, text data typically undergo preprocessing steps, such as tokenization, stopword removal, and stemming or lemmatization, to improve the quality and consistency of the data. Additionally, researchers need to determine the optimal number of topics (k) for the LDA model. This can be achieved through

methods like the elbow method, perplexity analysis, or by using topic coherence measures (Huang et al., 2021).

5.4. Results

5.4.1. Sentiment Analysis Results

In this section of the article, we discuss the results obtained by integrating TextBlob with various machine learning algorithms, including LR, DT, RF, SVM, KNN, and NB. Accuracy serves as a metric to evaluate the effectiveness of a machine learning model, or in our case, a model trained to conduct sentiment analysis. Throughout artificial intelligence research, accuracy assessment has been widely applied to models. Consequently, the statistical validity of the sentiment analysis model's outcomes is directly related to the accuracy score, which should ideally be as high as possible.

Table 5.2: TextBlob Analysis by Experiment

No	Model Name	Model Variation	Accuracy
1.	Logistic Regression	01	0.6425
2.	Logistic Regression	05	0.6741
3.	Logistic Regression	09	0.6859
4.	Logistic Regression	12	0.6478
5.	Decision Tree	03	0.7241
6.	Decision Tree	07	0.6978
7.	Decision Tree	08	0.7436
8.	Decision Tree	12	0.7269
9.	Random Forest	02	0.6247
10.	Random Forest	05	0.6496
11.	Random Forest	09	0.6826
12.	Random Forest	14	0.6429
13.	Support Vector Machine	01	0.7648
14.	Support Vector Machine	04	0.7468
15.	Support Vector Machine	07	0.7254
16.	Support Vector Machine	10	0.7649
17.	K-Nearest Neighbors	04	0.8157
18.	K-Nearest Neighbors	06	0.8436
19.	K-Nearest Neighbors	09	0.8294
20.	K-Nearest Neighbors	14	0.8413
21.	Naive Bayes	01	0.7065

Table 5.2: TextBlob Analysis by Experiment (Continued)

No	Model Name	Model Variation	Accuracy
22.	Naive Bayes	06	0.7241
23.	Naive Bayes	12	0.7645
24.	Naive Bayes	16	0.7718

In the current investigation, the KNN model variation no. 6 (0.8436) and model variation no. 14 were shown to have the best accuracy (0.8413). The two numbers 0.7718 and 0.7645 were the greatest levels of accuracy for Naive Bayes. In terms of the support vector machine, the results that corresponded to the maximum accuracy were 0.7649 and 0.7648 respectively. When it came to random forest, the findings with the best accuracy corresponded to 0.6826 and 0.6496 respectively. In the case of logistic regression, the two numbers 0.6859 and 0.6741 represented the greatest levels of accuracy. Finally, the accuracy values for the Decision tree came in at 0.7436 and 0.7269, respectively. A rundown of the findings from the experiments is provided in Table 5.2., which can be seen here.

Table 5.3: Brief Scores of TextBlob Analysis

No	Model Name	Scores of TextBlob Analysis
1.	K-Nearest Neighbors	0.8436
2.	Naive Bayes	0.7718
3.	Support Vector Machine	0.7649
4.	Decision Tree	0.7436
5.	Logistic Regression	0.6859
6.	Random Forest	0.6826

In addition, the findings of our sentiment analysis have been compiled in Table 5.3., which provides a summary of the short scores in respect to the model. While doing research, it is common practice to evaluate the findings of a number of distinct statistical models side by side in order to maximize the usefulness of the findings. In Table 5.3., the names of the procedures are shown together with the scores that correspond to them. As can be seen in Table 5.3., the methods that got the best results were K-Nearest Neighbors and Naive Bayes, with scores of 0.84 and 0.77, respectively.

RQ1 Conclusion: Our analysis of “X” data reveals a mix of both positive and negative sentiments towards teleworking during the COVID-19 era. This indicates that sentiments are varied, making RQ1 only partially supported.

In addition to this, important indicators that indicate the overall efficacy of the computed classification in terms of categorizing sentiments can be found in Table 5.4, which can be found here. These factors are relevant to the classification of feelings in general. For each sentiment, categorization reports are made available, and within each report, the accuracy, recall, f1-score, and support variables act as subcategories. The accuracy metric is a variable that assesses and represents the overall quality of the machine learning model in respect to the tasks that have been defined. It does this by comparing the model's performance on each of the tasks to its own previous results. Also, the f1-score variable is used as a metric that combines recall and precision variables into a single number that reflects both factors. This single number is applied in the analysis of the data. The combination of the two factors has resulted in this number being calculated. In order to arrive at this number, the results of the two independent variables were combined into a single one. Researchers gain a lot from the f1-score variable since it assists them in comprehending the comparison between two measures, which enables them to choose which combinations are the most suitable. The support variable is a good indicator of how likely a model is to provide correct projections.

Table 5.4: Classification Report of Machine-Learning Model Results

No.	Parameters	Vader- Precision	Recall	F1-score
1.	Negative	0,76	0,74	0.76
2.	Positive	0,85	0,83	0.81
3.	Neutral	0,83	0,81	0.83
4.	Accuracy	--	--	0.80

5.4.2. Topic-Modeling Results

In this specific investigation, cautious has been to select only those topics that were directly relevant to the central question it is aimed to address, disregarding all other potential topics. The identified topics can be found in Tables 5.5, 5.6, 5.7, and 5.8, accompanied by their respective descriptions, sentiments, keyness, and p-values. Table 5.5 outlines and characterizes the topics classified as technological in the context of

teleworking using digital technologies and platforms. This table is embedded within the framework proposed for the research objectives. As for the topics that can be perceived as opportunities, the table is situated within the scope of the research goals. Noteworthy is the fact that the subject area with the greatest p-value (0.054) is connected to Technology, namely the digital solutions that provide efficient communication and cooperation among businesses. The next subject, Remote Collaboration Tools ($p = 0.041$), is about project management for teleworkers and how it might influence the teleworking experience in a variety of different ways.

Table 5.5: Topic Modeling Results (Technological)

N	Topics	Description	Sentiment	Keyness	P-value
1.	Technology	The digital solutions that enable effective communication, collaboration.	Neutral	792.15	0.054
2.	Remote collaboration tools	Project management for teleworkers, shaping the teleworking experience in various ways.	Positive	541.38	0.041

Table 5.6: Topic Modeling Results (Psychological)

N	Topics	Description	Sentiment	Keyness	P-value
1.	Work life balance	Encompass the challenges and strategies related to maintaining a healthy equilibrium.	Positive	476.57	0.038
2.	Mental health	Addressing mental well-being concerns in a telework setting.	Negative	412.94	0.034
3.	Productivity	Remote work context refers to the efficiency and effectiveness of employees' output while working from home or outside the traditional office environment.	Positive	409.28	0.031
4.	Time management	Pertains to the methods and techniques employed by teleworkers to allocate their time optimally, ensuring tasks are completed in a timely and organized manner.	Negative	397.45	0.028

Table 5.6 presents the topics that correspond to the possible psychological factors for teleworking using digital technologies and platforms, their descriptions in relation to the objectives of the study, and the sentiments of each topic. In a similar vein, this table presents the topics that correspond to the possible psychological factors for teleworking using digital technologies and platforms. In particular, the issue that was found to be the most important was "Work life balance" ($p = 0.038$), which encompasses the difficulties and solutions associated with preserving a good equilibrium. The second subject, which was Mental health ($p = 0.034$), focused on addressing problems related to mental well-being in an environment of telework. Productivity was the third subject, and it had a significance level of 0.031. In the context of telework, productivity refers to the efficacy and efficiency of workers' output when they are working from home or outside the typical office setting. Lastly, time management ($p = 0.015$) refers to the strategies and practices that teleworkers use in order to make the most efficient use of their available time, so ensuring that their work is finished in a timely and well-organized manner.

In a similar vein, Table 5.7 displays the related identified subjects, their descriptions in connection to the goals of the research, and the attitudes of each topic in terms of probable Organizational considerations for organizations that use teleworking. To be more specific, the most important subject was Telework policies ($p = 0.045$), which include the guidelines and practices set by firms to assist and manage people working remotely. These guidelines and practices often influence job satisfaction and performance. The second topic was Organizational culture ($p = 0.026$), which refers to the shared values, beliefs, and norms that shape the behavior of employees within a company, and how these cultural aspects adapt to and support teleworking arrangements. This topic was found to be significantly more significant than the first topic. The third issue was Flexible work arrangements ($p = 0.018$), which comprise a variety of non-traditional work hours and locations. These arrangements aim to provide workers with more autonomy and control over their work environment, as well as to promote a workforce that is more flexible. Lastly, "Future of work" ($p = 0.012$) is a term that refers to the ever-changing tendencies, technologies, and practices that are redefining the employment environment. This includes the increasing frequency of telework and the repercussions that it may have.

RQ3 Conclusion: Our data showcases a variety of themes. While the challenges of teleworking are frequently discussed, there's a significant representation of tweets highlighting the opportunities and benefits of teleworking. This makes the results for RQ3 inconclusive.

Table 5.7: Topic Modeling Results (Organizational)

N	Topics	Description	Sentiment	Keyness	P-value
1.	Telework policies	Involve the guidelines and practices implemented by organizations to support and manage employees working remotely, often influencing job satisfaction and performance.	Negative	539.72	0.045
2.	Organizational culture	Refers to the shared values, beliefs, and norms that shape the behavior of employees within a company, and how these cultural aspects adapt to and support teleworking arrangements.	Negative	384.76	0.026
3.	Flexible work arrangements	Encompass various non-traditional work schedules and locations, providing employees with greater autonomy and control over their work environment, and fostering a more adaptable workforce.	Positive	269.87	0.018
4.	Future of work	Refers to the evolving trends, technologies, and practices that are reshaping the employment landscape, including the growing prevalence and implications of telework.	Positive	209.47	0.012

It is noteworthy that the topic area with the highest p-value (0.026) is connected to Environmental Benefits, which refers to the positive ecological impact of teleworking, such as reduced traffic congestion, decreased carbon emissions, and lower pollution levels as a result of decreased commuting. Teleworking has been shown to have these effects. The next topic, Societal Advantages (p = 0.022), refers to the wider beneficial benefits of telework on communities as well as people. Some examples of these effects include enhanced opportunity for underrepresented groups, better work-life balance, and more inclusive labor markets.

Table 5.8: Topic Modeling Results (Societal And Environmental Impacts)

N	Topics	Description	Sentiment	Keyness	P-value
1.	Environmental benefits	Positive ecological impact of teleworking, such as reduced traffic congestion, decreased carbon emissions, and lower pollution levels resulting from decreased commuting.	Positive	468.27	0.026
2.	Societal benefits	Encompass the broader positive effects of telework on communities and individuals, including increased opportunities for underrepresented groups, improved work-life balance, and more inclusive labor markets.	Negative	342.67	0.022

5.4.3. Textual Analysis Results

Textual analysis may be utilized, as stated by (Gandía and Huguet, 2021), to sift through user-generated content (UGC) databases in search of information and insights. One may obtain the essential information for the definition and formulation of the theory in relation to the study goals using this method. This method is based on the relevance, frequency, and location of words in a database. The textual analysis was the last phase of the analytical approach that was established and implemented on a database that included 216.485 tweets in the current investigation. We calculated the frequency (Fq) of the terms that were used across the whole UGC database so that we could derive useful information. Words may be organized into nodes, which are

collections of word clusters that make it simpler for a researcher to comprehend the connections between concepts, depending on the method and software that is used (Loughran and McDonald, 2015). Since they are grouped together this way, the concepts and meanings associated with each node may be researched in more depth. A cluster of words that derives an explanation towards a research subject is referred to as a node in this article. Single research may have many nodes, each of which acts as a hub for the categorization and grouping of the various concepts and keywords acquired from the sample. On the basis of these findings, new knowledge will be developed in the end by conceptualizing insights in relation to the theory that already exists (Park et al., 2012). Pandas GroupBy in Python (McKinney and Team, 2015) was the programming language that we used in this investigation to create our textual analysis.

RQ2 Conclusion: The role of digital technologies in shaping sentiment is evident. Mentions of certain technologies correlate with positive sentiments, while others correlate with negative sentiments. This provides strong support for RQ2.

In the methodology section, it was indicated that CATA and NLP research, in addition to doing textual analysis, would generally investigate n-grams in order to acquire additional insights. In light of this, following (Schonlau, Guenther, and Sucholutsky, 2017), an analysis was performed on the primary n-grams that were present in the text pieces that were then segmented by subject and attitudes (Quattoni and Carreras, 2020). In a nutshell, an n-gram model forecasts the appearance of a word based only on the word that came before it (because n minus one equals 1).

After dividing each subject into word nodes, we next counted the total number of words associated with each topic and determined the number of times each keyword appeared inside the word nodes itself. We are able to determine the relevance of each node or collection of keywords in connection to the themes and attitudes that were conveyed by analyzing the frequency (Freq) and weighted frequency (WF) variables. Word nodes may be single words or compound words, and synonyms can be legitimate keywords for assessing the topic's composition and overall average relevance within the database. It is important to note that word nodes can be single words or compound words.

5.5. Discussion and Conclusion

As Hosogaya (2021) have indicated, one of the biggest worries for internet users during the COVID-19 epidemic has been the adoption of new technology for teleworking (Hosogaya, 2021). This was proved by the fact that the majority of tweets discussed the topic. Companies and workers alike have been pressured to adopt innovative digital platforms that make it possible for employees to work remotely. According to research carried out by Kelleher et al. (2021), the COVID-19 epidemic has had a major influence on both the behavior of users and their mental health (Kelleher et al., 2022). As a consequence of this, numerous of these alterations in behavior have been the subject of previous studies published in the scholarly literature (Wei, 2020).

The topic modeling results for Technological aspects reveal two key topics. First Topic, focuses on Technology, referring to the digital solutions that enable effective communication, collaboration, and overall productivity in a telework setting. The sentiment for this topic is neutral, with a Keyness of 792.15 and a P-value of 0.054, suggesting that technology is a crucial component in telework, but its impact may vary depending on the specific tools and their implementation. Second topic, covers Remote Collaboration Tools, which include various applications and platforms for communication, project management, and teamwork among teleworkers. These tools play a significant role in shaping the teleworking experience in various ways. The sentiment for this topic is positive, with a Keyness of 541.38 and a P-value of 0.041, indicating that remote collaboration tools are generally perceived as beneficial in facilitating effective telework and enhancing the overall teleworking experience.

The topic modeling results for Psychological aspects reveal four key topics. First topic, focuses on Work-Life Balance, which encompasses the challenges and strategies related to maintaining a healthy equilibrium between professional and personal life. The sentiment for this topic is positive, with a Keyness of 476.57 and a P-value of 0.038, suggesting that telework is generally perceived as beneficial for achieving work-life balance. Second topic, addresses Mental Health, specifically concerning the well-being of individuals in a telework setting. The sentiment for this topic is negative, with a Keyness of 412.94 and a P-value of 0.034, indicating that there may be mental health challenges associated with telework that require attention and support. Third

topic, covers Productivity in a telework context, referring to the efficiency and effectiveness of employees' output while working from home or outside the traditional office environment. The sentiment for this topic is positive, with a Keyness of 409.28 and a P-value of 0.031, suggesting that telework is generally viewed as conducive to productivity. Finally, fourth topic pertains to Time Management, which involves the methods and techniques employed by teleworkers to allocate their time optimally, ensuring tasks are completed in a timely and organized manner. The sentiment for this topic is negative, with a Keyness of 397.45 and a P-value of 0.028, indicating that teleworkers may face challenges in managing their time effectively and may require additional support or resources to improve time management skills.

The topic modeling results for Organizational aspects reveal four key topics. First topic, focuses on telework policies, which involve the guidelines and practices implemented by organizations to support and manage employees working remotely. These policies often influence job satisfaction and performance. The sentiment for this topic is negative, with a Keyness of 539.72 and a P-value of 0.045, suggesting that there may be issues or concerns related to telework policies that warrant further examination. Second topic, addresses Organizational Culture, which refers to the shared values, beliefs, and norms shaping employee behavior within a company and how these cultural aspects adapt to and support teleworking arrangements. The sentiment for this topic is also negative, with a Keyness of 384.76 and a P-value of 0.026, indicating potential challenges or difficulties in adapting organizational culture to telework environments. Third topic, covers Flexible Work Arrangements, encompassing various non-traditional work schedules and locations that provide employees with greater autonomy and control over their work environment, fostering a more adaptable workforce. The sentiment for this topic is positive, with a Keyness of 269.87 and a P-value of 0.018, reflecting the general appreciation and benefits of flexible work arrangements. Finally, fourth topic pertains to the Future of Work, which refers to the evolving trends, technologies, and practices reshaping the employment landscape, including the growing prevalence and implications of telework. The sentiment for this topic is positive, with a Keyness of 209.47 and a P-value of 0.012, suggesting optimism and interest in the ongoing transformations within the world of work.

The topic modeling results for Societal and Environmental Impacts reveal two key topics. First topic, focuses on Environmental Benefits, which highlights the positive ecological impact of teleworking. This includes reduced traffic congestion, decreased carbon emissions, and lower pollution levels resulting from decreased commuting. The sentiment for this topic is positive, with a Keyness of 468.27 and a P-value of 0.026. Second topic, on the other hand, deals with Societal Benefits, which encompass the broader positive effects of telework on communities and individuals. These benefits include increased opportunities for underrepresented groups, improved work-life balance, and more inclusive labor markets. Interestingly, the sentiment for this topic is negative, with a Keyness of 342.67 and a P-value of 0.022. This could potentially suggest that there are some challenges or concerns related to the societal benefits of telework that might need further exploration and analysis.

Table 5.9: Primary Keywords(N-Grams) for Each Identified Topic

Rank	Topic 1 - Technological Aspects	N-grams	Freq	Freq L	Freq R
1	Technology	Technology	792	541	251
2	Remote Collaboration Tools	Remote Collaboration Tools	541	353	188
Rank	Topic 2 - Psychological Factors	N-grams	Freq	Freq L	Freq R
1	Work-life Balance	Work-life Balance	477	307	170
2	Mental Health	Mental Health	413	260	153
3	Productivity	Productivity	409	251	158
4	Time Management	Time Management	397	219	178
Rank	Topic 3 - Organizational Factors	N-grams	Freq	Freq L	Freq R
1	Telework Policies	Telework Policies	540	350	190
2	Organizational Culture	Organizational Culture	385	220	165
3	Flexible Work Arrangements	Flexible Work Arrangements	270	145	125
4	Future of Work	Future of Work	209	100	109
Rank	Topic 4 - Societal and Environmental Imp.	N-grams	Freq	Freq L	Freq R
1	Environmental Benefits	Environmental Benefits	468	301	167
2	Societal Benefit	Societal Benefit	343	186	157

Table 5.9. showcases the primary unigrams and bigrams associated with the identified topics under discussion. The analysis revealed that "Technology" was the most frequently discussed term in this area, with a total frequency of 792 (541 occurrences

in the left dataset and 251 in the right dataset). This indicates that technology plays a significant role in the context of telework. Another important aspect is "Remote Collaboration Tools," with a frequency of 541 (353 in the left dataset and 188 in the right dataset), emphasizing the importance of these tools in facilitating telework. In the psychological factors domain, "Work-life Balance" emerged as the most prominent topic, with a total frequency of 477 (307 in the left dataset and 170 in the right dataset). This suggests that striking a balance between work and personal life is a major concern in the telework setting. Other notable topics include "Mental Health" (413 occurrences), "Productivity" (409 occurrences), and "Time Management" (397 occurrences), further illustrating the range of psychological factors affecting teleworkers. "Telework Policies" were the most frequently mentioned topic in the organizational factors category, with a total frequency of 540 (350 in the left dataset and 190 in the right dataset). This demonstrates the importance of establishing clear telework policies within organizations. "Organizational Culture" (385 occurrences), "Flexible Work Arrangements" (270 occurrences), and the "Future of Work" (209 occurrences) were also significant topics in this area, highlighting the need for organizations to adapt to telework's evolving demands and opportunities. Lastly, the analysis showed that "Environmental Benefits" were the most frequently discussed topic in the societal and environmental impact category, with a total frequency of 468 (301 in the left dataset and 167 in the right dataset). This indicates a growing awareness of the positive environmental effects of telework. "Societal Benefits" (343 occurrences) also emerged as an important topic, suggesting that telework may have broader implications for society as a whole sentiments and experiences in various contexts, industries, and cultural settings.

5.5.1. Conclusion

In conclusion, this study utilized data-mining techniques, such as sentiment analysis, topic modeling, and textual analysis, to explore the opportunities and challenges of teleworking in the context of digital technologies and platforms. By analyzing user-generated content on "X", a number of topics were identified that were rated positively, negatively, or neutrally by users.

Positive topics highlighted the benefits of remote collaboration tools, work-life balance, productivity, flexible work arrangements, the future of work, and

environmental advantages. On the other hand, negative topics shed light on challenges related to mental health, time management, telework policies, organizational culture, and societal benefits. Technology emerged as a neutral subject according to the results of the analysis.

These findings contribute to understanding how “X” users perceive various aspects of telework, both in terms of opportunities and challenges. This knowledge can inform organizations, policymakers, and teleworkers as they continue to navigate the evolving landscape of telework, shaping strategies and practices to optimize the teleworking experience in the digital age. Further research could delve into more specific aspects of these topics or explore the potential regional differences in sentiments and experiences related to teleworking.

Building on these conclusions, it is important to emphasize that the transition to telework is not a one-size-fits-all solution, and the identified opportunities and challenges may differ across industries, job roles, and individual preferences. As organizations continue to adapt to the post-pandemic era, it is crucial to foster open dialogues with employees and stakeholders to better understand their unique experiences and develop tailored strategies that cater to diverse needs. By addressing the challenges highlighted in this study, organizations can create more inclusive, supportive, and effective telework environments that contribute to both employee well-being and overall performance.

Additionally, policymakers and governments play a critical role in shaping the future of work by implementing regulations and guidelines that promote equitable access to telework opportunities and address the societal implications of teleworking. This includes investing in digital infrastructure to reduce the digital divide, developing policies that support work-life balance, and fostering collaboration between the public and private sectors to generate innovative solutions to the challenges identified in this study. By doing so, stakeholders can ensure that the transition to telework is not only sustainable but also conducive to the long-term growth and development of societies, economies, and individuals.

In summary, this study provides valuable insights into the various opportunities and challenges of teleworking as perceived by “X” users. By addressing these concerns, organizations, policymakers, and teleworkers can better navigate the evolving

landscape of telework and create a more inclusive, equitable, and sustainable future of work.



6. DISCUSSION AND IMPLICATIONS

6.1. Theoretical Implications

The intersection of teleworking, technology, and employee well-being presents a rich tapestry of research opportunities and theoretical implications, as evidenced by the studies discussed in the essays provided. These studies collectively enhance our understanding of telework's complexities, especially against the backdrop of the COVID-19 pandemic.

The first essay explores the intricate relationship between interpersonal communication satisfaction, IT Knowledge, and creative performance, and their collective impact on job satisfaction among teleworkers. This research aligns with the existing literature that underscores the importance of effective communication and technological competencies in facilitating successful telework (Smith et al., 2018; Pérez-López and Alegre, 2012). The findings suggest that fostering a supportive communication environment and enhancing IT skills are crucial for maximizing job satisfaction and creative output, thus extending theoretical discussions on the role of psychological capital and creative engagement in the workplace (Peng and Chen, 2022; Ma, 2021; Ahmad et al., 2022).

The second essay delves into the psychological, social, and economic effects of teleworking, highlighting both the potential benefits and the challenges it presents. The positive impact of teleworking on employee productivity and well-being is noted, as well as the importance of individual differences in shaping teleworking experiences (Anderson et al., 2015; Catană et al., 2022). However, the essay also acknowledges the stressors associated with telework, such as work overload and social isolation, which can lead to exhaustion and affect employees' willingness to continue teleworking (Weinert et al., 2014). This dual narrative provides a balanced view of teleworking, suggesting that its successful implementation requires careful management of both the benefits and challenges.

The third essay offers a unique methodological contribution by employing sentiment and thematic analysis of user-generated content on a social media platform to understand teleworking sentiments during the pandemic. This innovative approach expands the scope of teleworking research, emphasizing the importance of considering

psychological and social aspects in the analysis of telework (Lee et al., 2003; Bakker and Demerouti, 2017). By exploring the real-world experiences of teleworkers, this study sheds light on the nuanced effects of digital technologies on mental well-being, work-life balance, and communication.

When synthesizing the theoretical implications of these three studies, a cohesive narrative emerges. The collective body of work emphasizes the importance of effective communication, technological proficiency, creative performance, and psychological and social considerations in shaping the teleworking experience. These studies expand theoretical models such as the Technology Acceptance Model (TAM) and the Job Demand-Resources (JD-R) model by contextualizing them within the teleworking framework during an unprecedented health crisis (Rauniar et al., 2014). The research contributes to a more holistic understanding of teleworking, advocating for strategies that address teleworking-induced stress, promote IT fluency, encourage creativity, and support employee well-being in a telework setting. Together, these studies provide a comprehensive view of the dynamic interplay between technology, individual differences, and job demands and resources, which are critical to the theoretical and practical discourse on the future of work.

6.2. Practical Implications

The practical implications drawn from the three essays underscore the need for organizations to adapt to the evolving landscape of telework, with a particular emphasis on communication, technology, and employee well-being.

From the first essay, we glean the significance of interpersonal communication satisfaction for teleworkers, highlighting the necessity for managers to foster strong communication channels within the organization. The emphasis on video-based communication and informal interactions suggests that organizations should prioritize tools and policies that facilitate both formal and social exchanges among team members. This could involve implementing video conferencing for meetings and encouraging the use of social networking tools to create a virtual community that mirrors the office environment (Ahmad et al., 2022). Additionally, recognizing the role of creative performance in job satisfaction implies that companies should support and encourage innovation among their teleworkforce.

The second essay extends these ideas by considering the technological and emotional adjustments required by teleworkers, especially during the rapid shift to telework prompted by the pandemic. Here, the focus is on training and development tailored for virtual communication, as well as activities that help mitigate feelings of isolation (Even, 2020). By setting up training courses, planning virtual social events, and responding to employee feedback, businesses can ensure that their teleworkers feel connected and supported, despite physical distances.

The third essay emphasizes the importance of organizational strategies to address the challenges faced by teleworkers, as identified through sentiment and thematic analysis of user-generated content. This involves offering technical support, flexible work arrangements, and well-being resources to address negative sentiments associated with teleworking. Managers and organizational leaders are encouraged to maintain regular communication, foster a sense of community, and support mental health to optimize the teleworking experience (Dainton and Zelle, 2022). Continuous training on digital tools and proactive policy-making reflect the necessity for organizations to stay current with the needs and preferences of their remote workforce.

By integrating the practical implications from these essays, it becomes evident that a successful telework strategy hinges on a combination of strong communication practices, robust technological support, and a focus on the psychological and social well-being of employees. Organizations that can merge these elements into their telework policies are likely to foster a productive, engaged, and satisfied virtual workforce, poised to thrive in a post-pandemic world.

6.3. Managerial Implication

Managers should focus on fostering interpersonal communication satisfaction among teleworkers, as it is a critical factor for their job satisfaction and IT knowledge (Kucharska and Erickson, 2019). Effective communication can support information sharing, learning, and relationship development, which ultimately enhances employees' overall work performance.

Managers should develop strategies to stimulate creative performance among teleworkers, such as providing opportunities for brainstorming, collaboration, knowledge sharing, and supportive feedback (Goh et al., 2020).

Managers should consider offering IT-related workshops or courses to equip employees with the necessary skills and knowledge. Implementing training and development programs aimed at increasing employees' IT Knowledge can lead to higher job satisfaction and improved task performance (Pérez-López and Alegre, 2012; Kucharska and Erickson, 2019).

Managers can do this by creating an open and inclusive virtual work culture where employees feel comfortable expressing their ideas without fear of judgment or retaliation. Promoting psychological safety, creative process engagement, and psychological capital among teleworkers can positively impact their creative performance (Peng and Chen, 2022).

Furthermore, the pandemic has highlighted how important it is for businesses to be ready for unforeseen circumstances and emergencies that can need a switch to telework (Baker et al., 2006). Therefore, this study examining the teleworkers' experiences during Covid-19 can offer insightful information on how organizations might better support and manage teleworkers in similar situations. It also clarifies potential long-term issues and remedies related to teleworking.

This study, which addresses the psychological workplace isolation, perceived organizational support, well-being and job insecurity of teleworkers during the Covid-19 period, is of extremely critical importance for the well-being of employees (Parent-Lamarche et al., 2021). A study conducted by Sahai et al. (2021) found that one of the biggest challenges facing teleworkers during the pandemic was workplace isolation. Teleworkers who have limited face-to-face interactions with colleagues and managers' report feeling disconnection, loneliness and a lack of support from their organizations. This can greatly impact employees' mental health and overall well-being.

However, it was underlined that organizational support for teleworkers during the Covid-19 period is one of the most important factors that affect the well-being of employees. Wu et al. (2021) found that teleworkers who did not receive adequate support from their organizations reported higher levels of job stress and burnout (Wu et al., 2021). This highlights the importance of perceived organizational support in ensuring the well-being of teleworkers in times of crisis.

As a result, it is of great importance to conduct studies on the well-being of teleworkers, workplace isolation, job insecurity, and institutional support for

teleworkers, in order to understand the general well-being of employees working remotely. To support their employees and promote a healthy work environment, it is important for organizations to recognize and address the challenges faced by teleworkers during this time (Blahopoulou et al., 2022). For this reason, teleworking, which has become an integral part of modern working culture, continues to maintain its prevalence after the epidemic period is over (Henssler et al., 2021). This will not only benefit organizations in understanding and improving their teleworking policies, but will also contribute to the well-being of their employees.

6.4. Limitations and Future Research

In synthesizing the limitations and future research directions from three distinct studies, it is evident that while each provides valuable insights into the phenomenon of teleworking, they collectively highlight the necessity for a more nuanced and longitudinal approach to fully comprehend the intricacies of telework.

A common limitation across the studies is the use of cross-sectional designs, which inhibit the ability to establish causality. A longitudinal methodology is suggested to capture the evolution of telework sentiments and experiences over time, allowing for a dynamic understanding of how these variables interact and change in response to shifting circumstances.

Another shared concern is the reliance on self-reported data and user-generated content, which may be prone to bias and not fully representative of the broader population of teleworkers. This underscores the need for future research to incorporate a variety of data sources, such as diverse social media platforms, surveys, and interviews, to achieve a more holistic and less biased perspective.

The studies also indicate a limitation in the scope of cultural representation, with a focus on teleworkers in Turkey—a collectivist society—which may not generalize to different cultural contexts. The exploration of intercultural workplace isolation and teleworking sentiments across various countries and regions would contribute to a more comprehensive understanding of how cultural factors shape the opportunities and challenges of telework.

Additionally, each study provides insights into specific aspects of teleworking—such as job satisfaction, interpersonal communication satisfaction, and employee

sentiments—yet future research is encouraged to investigate a broader range of potential outcomes, including employee engagement, organizational identification and the various antecedents that influence these variables.

Furthermore, there is an absence of differentiation between various industries and job types in these studies. Subsequent research could delve into how specific industries or job roles are affected by teleworking, thereby tailoring insights to the unique challenges and opportunities within these sectors.

Lastly, while the studies utilize sentiment and thematic analysis, there is a call for the integration of additional analytical techniques, such as network analysis or machine learning, to enrich the understanding of telework sentiment and experiences. Integrating other theoretical frameworks alongside the TAM and JD-R models could also provide deeper insights into the multifaceted nature of teleworking.

In conclusion, these studies collectively contribute to the knowledge base on teleworking during the COVID-19 era but also highlight the need for more comprehensive, longitudinal, and culturally diverse research. Addressing these limitations will pave the way for a richer understanding of telework dynamics across different contexts, industries, and cultural landscapes.

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BIOGRAPHY

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PUBLICATIONS AND PRESANTATIONS FROM THE THESIS

Artar, M., Erdil, O, (2024), “How Interpersonal Communication Satisfaction Impacted Teleworkers' Job Satisfaction? The Role of IT Awareness and Creative Performance”, RAE-Revista de Administracao de Empresas, 64(3), e2023-0269.

Artar, M., Erdil, O. (2024). “Does Workplace Isolation Benefit or Harm Employee Well-being in Covid-19?” WORK: A Journal of Prevention, Assessment Rehabilitation, Preprint.



APPENDIX

APPENDIX A: SCALES

Organisational Support Scale

- POS1:** The organization values my contribution to its well-being
POS2: The organization fails to appreciate any extra effort from me.
POS3: The organization would ignore any complaint from me.
POS4: The organization really cares about my well-being
POS5: Even I did the best job possible; the organization would fail to notice
POS6: The organization cares about my general satisfaction at work.
POS7: The organization shows very little concern for me
POS8: The organization takes pride in my accomplishments at work

Job Insecurity Scale

- JI1:** Chances are, I will soon lose my job
JI2: I am sure I can keep my job.
JI3: I feel insecure about the future of my job.
JI4: I think I might lose my job in the near future.

Workplace Isolation

- WSI1:** I feel I miss a lot of information when I am not seeing people I work with.
WSI2: I often miss the opportunity to meet key people who I work with.
WSI3: I could resolve problems more quickly and effectively, if I had more chances to interact with face-to-face with others. Informal discussions with people are an important part of my work.

Psychological Well-Being Scale

- PW1:** Have you been bothered by nervousness or by your “nerves” during the past month?
PW2: How much energy, pep, or vitality did you have or feel during the past month?
PW3: I felt downhearted and blue during the past month.
PW4: I was emotionally stable and sure of myself during the past month.
PW5: I felt cheerful, lighthearted during the past month.
PW6: I felt tired, worn out, used up, or exhausted during the past month.

Creative Performance

- CP1:** Suggests new ways to achieve goals or objectives.
CP2: Comes up with new and practical ideas to improve performance.
CP3: Searches out new technologies, processes, techniques, and/or product ideas.
CP4: Suggests new ways to increase quality.
CP5: Is a good source of creative ideas.
CP6: Is not afraid to take risks
CP7: Promotes and champions ideas to others.
CP8: Exhibits creativity on the job when given the opportunity to.
CP9: Develops adequate plans and schedules for the implementation of new ideas.
CP10: Often has new and innovative ideas.
CP11: Comes up with creative solutions to problems.
CP12: Often has a fresh approach to problems.

CP13: Suggests new ways of performing work task.

Job satisfaction

JS1: If I had to decide again, I would still want to work in the job I am currently working in.

JS2: I would recommend my friends to work in a job like mine.

JS3: I work in an ideal job.

JS4: I am satisfied with the job I am doing at the institution I work for.

JS5: I love my job very much.

Interpersonal Communication Satisfaction

ICS1: When talking on the phone with coworkers, I feel that I am able to present myself as I want

ICS2: The other person on the phone demonstrated to me that he or she understood what I said.

ICS3: I am satisfied with conversations I have on the phone with coworkers

ICS4: When communicating with coworkers over the phone, both people get to say what they want.

ICS5: The conversation with coworkers flows smoothly when talking on the phone.

Information Technology Knowledge

ITK1: Overall, our technical support staff is knowledgeable when it comes to computer-based systems.

ITK2: Our firm possesses a high degree of computer-based technical expertise.

ITK3: We are very knowledgeable about new computer-based innovations.

ITK4: We have the knowledge to develop and maintain computer-based communication links with our customers