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Assessing the Psychological Effects of Remote Work Technology among Employees of Selected Private Firms in Abia State, Nigeria

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ABSTRACT

The rapid adoption of remote work, spurred by the COVID-19 pandemic, has highlighted its psychological effects on private sector employees. This study evaluates the impact of remote work technology on the mental well-being and job performance of employees in Abia State, Nigeria, focusing on depression, anxiety, and stress. Using the Job Demands-Resources (JD-R) model, it examines the link between technology use and psychological outcomes while considering organizational support and job characteristics as moderating factors. A mixed-methods approach, including DASS-21 data and interviews with HR managers and team leaders from five selected firms, reveals that remote work technology can heighten stress, anxiety, and depression due to limited infrastructure and high workloads. However, effective organizational practices and flexible arrangements significantly alleviate these effects. The findings highlight the need for policies that encourage work-life balance, optimize technology use, provide mental health resources, and promote supportive practices to improve employee well-being in remote settings, offering guidance for organizations and policymakers in Abia State and beyond.

Keywords: Assessing, Psychological, Remote, Work, Technology, Employees, Selected, Private, Firms, Abia State, Nigeria

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INTRODUCTION

Remote work, once considered a luxury or a niche practice, has swiftly transformed into a global norm, particularly with the advent of advanced communication technologies. This shift has been accelerated by various factors, including advancements in digital infrastructure, the globalization of businesses, and the need for flexibility in the modern workforce. In the last decade, remote work has witnessed exponential growth worldwide. According to a report by Global Workplace Analytics, the number of remote workers globally has increased by 159% between 2005 and 2017, indicating a significant shift in work dynamics ("Global Work-From-Home Experience Survey," 2020). This trend has been further fueled by the rise of digital nomadism, freelance economy, and the emergence of collaborative digital platforms like Slack, Zoom, and Microsoft Teams, which facilitate seamless remote collaboration irrespective of geographical boundaries (Bergiel et al., 2016). Although the adoption of remote work has been slower in Africa compared to other continents, there has been a notable increase in recent years. Factors such as improved internet connectivity, the proliferation of smartphones, and the need to address urban congestion and traffic challenges have contributed to this trend (Ndiaye & Williams, 2019). Additionally, the COVID-19

pandemic acted as a catalyst, compelling organizations across Africa to embrace remote work to ensure business continuity while adhering to social distancing measures (Ghani et al., 2021). In Nigeria, remote work has gained traction primarily in sectors such as Information Technology (IT), finance, and consulting. The country's youthful population, coupled with its vibrant tech ecosystem, has facilitated the adoption of remote work practices (Adeyemo & Adebisi, 2020). Furthermore, initiatives like the National Broadband Plan and increased investment in digital infrastructure by both the public and private sectors have contributed to enabling a conducive environment for remote work in Nigeria (Gbenga, 2018). Particularly, in Abia State, Nigeria, the adoption of remote work has been less pronounced compared to urban centers like Lagos and Abuja. However, there has been a gradual shift, particularly among tech startups, small businesses, and multinational corporations with a presence in the state. Challenges such as inconsistent power supply, limited access to high-speed internet, and cultural preferences for in-person interactions have hindered the widespread adoption of remote work in Abia State (Ezeanya, 2017). So, the trend of remote work has experienced remarkable growth globally, with its adoption becoming increasingly prevalent across different sectors and regions. While Africa, including Nigeria and Abia State, has been somewhat slower in embracing remote work compared to other parts of the world, the trajectory is undeniably moving towards greater acceptance and integration. Understanding the psychological effects of remote work technology among private sector employees in Abia State, Nigeria, is crucial for addressing potential challenges and maximizing the benefits associated with this evolving work paradigm.

Studying the psychological effects of remote work technology holds significant importance in understanding the evolving dynamics of modern work environments. As remote work becomes increasingly prevalent globally, particularly in the wake of the COVID-19 pandemic, it is essential to delve deeper into its impact on the mental well-being and psychological states of employees. Remote work introduces a unique set of challenges and stressors compared to traditional office settings. Factors such as social isolation, blurred work-life boundaries, and feelings of disconnection from colleagues can contribute to heightened levels of stress, anxiety, and depression among remote workers (Golden et al., 2020). Understanding these psychological effects is crucial for implementing strategies to support employee mental health and well-being in remote work environments. While remote work offers flexibility and autonomy, it also presents distractions and challenges that can impact productivity and performance. Studies have shown mixed findings regarding the relationship between remote work and job performance, with some individuals thriving in remote settings while others struggle to maintain focus and motivation (Bloom et al., 2015). Investigating the psychological factors influencing productivity in remote work contexts can inform strategies for optimizing performance outcomes. Also, remote work has the potential to reshape organizational culture and employee engagement dynamics. Building and maintaining a sense of belonging, camaraderie, and shared purpose among remote teams require intentional efforts from both employers and employees (Stanton et al., 2017). Examining the psychological implications of remote work on organizational culture and employee engagement can guide the development of effective remote work policies and practices.

Moreover, remote work blurs the boundaries between work and personal life, making it challenging for individuals to disconnect and recharge. The absence of physical separation between workspace and home space can lead to prolonged working hours, decreased leisure time, and heightened levels of burnout (Allen et al., 2015). Investigating the psychological effects of remote work on work-life balance and burnout can inform strategies for promoting healthy boundaries and self-care practices among remote workers. Therefore, studying the psychological effects of remote work technology is critical for understanding its multifaceted impact on employees, organizations, and society at large. By examining the intersection of remote work with mental health, productivity, organizational culture, and work-life balance, researchers can contribute valuable insights to inform evidence-based policies and practices that support the well-being and success of remote workers in the digital age.

Statement of the Problem:

As remote work becomes increasingly prevalent globally and particularly in the wake of the COVID-19 pandemic, understanding its impact on the mental well-being, productivity, organizational culture, and work-life balance of employees is crucial. Remote work introduces unique challenges such as social isolation, blurred work-life boundaries, and feelings of disconnection from colleagues, as evidenced by Golden et al. (2020). These factors contribute to heightened levels of stress, anxiety, and depression among remote workers. Additionally, the relationship between remote work and productivity is complex, with some individuals thriving while others struggle to maintain focus and motivation, as highlighted by Bloom et al. (2015). Building and maintaining a supportive organizational culture and engagement among remote teams are essential, as discussed by Stanton et al. (2017), to mitigate feelings of isolation and disconnection. Furthermore, remote work blurs the boundaries between work and personal life, leading to challenges in work-life balance and increased risk of burnout among employees, according to Allen et al. (2015). By examining these

psychological issues arising from remote work and their impact on employees in Abia State, Nigeria, the study aims to provide insights into effective strategies and practices for supporting remote workers in the digital age.

Objectives of the Study

The general objective of the study is to explore the effects of remote work technology on the mental well-being and job performance of private sector workers in Abia State, Nigeria. The following specific objectives inform the study.

1. To assess the levels of depression, anxiety, and stress reported by employees of selected private firms in Abia State, Nigeria, as a result of their engagement with remote work technology.
2. To identify the associations between remote work technology usage and the prevalence of depression, anxiety, and stress among employees in private firms in Abia State, Nigeria.
3. To explore potential moderating factors, such as social/organizational support and job characteristics, that may influence the relationship between remote work technology usage and psychological effects.
4. To provide perceived recommendations for promoting employee well-being for private firms in Abia State, Nigeria.

Research Questions

1. What are the reported levels of depression, anxiety, and stress among employees who engage with remote work technology in selected private firms in Abia State, Nigeria?
2. How does the frequency and intensity of remote work technology usage correlate with levels of depression, anxiety, and stress among employees in private firms in Abia State, Nigeria?
3. What are the moderating effects of organizational support and job characteristics on the relationship between remote work technology usage and psychological effects among employees in private firms in Abia State, Nigeria?
4. What perceived strategies can private firms in Abia State, Nigeria, implement to mitigate the negative psychological effects of remote work technology usage and promote employee well-being?

Literature Review

Concept of Remote Work

Remote work, also known as telecommuting or teleworking, refers to a work arrangement where employees can perform their job duties outside of the traditional office environment, usually from home or any location with internet access (Gajendran & Harrison, 2007). This arrangement has gained prominence in recent years due to advancements in technology, changing work patterns, and the pursuit of better work-life balance among employees (Felstead et al., 2020). Remote work offers several advantages for both employees and organizations. For employees, it provides greater flexibility in managing work schedules, reduces commuting time and costs, and enhances work-life balance (Golden & Veiga, 2018). For organizations, it offers benefits such as cost savings on office space, access to a larger talent pool, and increased employee productivity and satisfaction (Allen et al., 2020). Nilles (2018) who is considered one of the pioneers in the field of telecommuting, and his work provides a foundational understanding of remote work. In his conceptualization, remote work, also known as telecommuting, is framed within the context of telecommunications and transportation-linked strategies for suburban growth. He emphasizes the use of technology to enable employees to work from locations outside the traditional office environment, such as their homes or satellite offices. Nilles highlights the potential of telecommuting to reduce traffic congestion, minimize environmental impact, and improve work-life balance for employees living in suburban areas. His conceptualization underscores the transformative impact of telecommunications technologies on work arrangements and urban development.

Also, Morganson et al. (2010) examined the differences between telework locations and traditional work arrangements, focusing on work-life balance support, job satisfaction, and inclusion. Their conceptualization of remote work emphasizes the importance of evaluating different telework locations (e.g., home-based telework, satellite offices) and comparing them with traditional office settings. They highlight the need to consider various factors, such as access to resources, social interactions, and organizational support, in understanding the impact of remote work on employees' well-being and job satisfaction. Morganson et al.'s conceptualization contributes to a nuanced understanding of the diverse experiences and outcomes associated with different telework arrangements.

Furthermore, Sardeshmukh et al. (2012) saw remote work in the light of the interaction between job demands (e.g., workload, time pressure) and job resources (e.g., autonomy, social support) in shaping employees' experiences and outcomes. They posit that telework can reduce exhaustion by providing employees with greater control over their work environment and schedule, thereby enhancing job engagement. Sardeshmukh et al.'s conceptualization highlights the importance of considering both the challenges and benefits of remote work within the broader context of job design and organizational support systems.

However, remote work also presents challenges, such as feelings of isolation, difficulties in communication and

collaboration, and blurred boundaries between work and personal life (Kossek et al., 2017). Effective management strategies, clear communication channels, and the use of appropriate remote work technologies are essential to overcome these challenges and ensure the success of remote work arrangements (Peters et al., 2021).

Remote Work Technology

Remote work technology encompasses the tools, software, and infrastructure that facilitate remote work arrangements (Grant et al., 2019). These technologies play a crucial role in enabling communication, collaboration, project management, and task completion for remote workers. Communication tools such as email, instant messaging platforms (e.g., Slack, Microsoft Teams), and video conferencing software (e.g., Zoom, Skype) enable real-time communication and virtual meetings, bridging the gap between geographically dispersed teams (Choudhury & Lee, 2018). Collaboration platforms such as cloud-based productivity suites (e.g., Google Workspace, Microsoft Office 365) and project management tools (e.g., Trello, Asana) facilitate teamwork, document sharing, and project tracking, enabling remote teams to work together seamlessly (Golden & Veiga, 2018). Security tools such as virtual private networks (VPNs), encryption, and multi-factor authentication ensure the security and privacy of data transmitted over remote connections, protecting sensitive information from cyber threats (Grant et al., 2019).

Additionally, remote access tools such as remote desktop software (e.g., TeamViewer, AnyDesk) and virtual desktop infrastructure (VDI) solutions allow employees to access their work computers and applications remotely, enabling them to work from anywhere with an internet connection (Peters et al., 2021). Time tracking and productivity software help remote workers manage their time effectively, track their progress on tasks, and maintain productivity levels (Felstead et al., 2020).

Benefits of Remote Work

Remote work, also referred to as telecommuting or teleworking, has garnered increasing attention in recent years due to its numerous benefits for both employees and organizations. Felstead, et al. (2020) highlight that remote work provides employees with greater flexibility in managing their work schedules, enabling them to strike a better balance between their professional and personal lives. This flexibility contributes to heightened job satisfaction and overall well-being among employees (Golden & Veiga, 2018).

Moreover, remote work often leads to significant cost savings for both employees and employers. Allen, et al. (2020) emphasize that employees can save on commuting expenses, work attire, and meals, while employers can reduce costs associated with office space, utilities, and equipment. These cost savings not only benefit individual employees but also contribute to organizational profitability and efficiency. Relatedly, the access it provides to a larger talent pool, prompted Grant, et al. (2019) to argue that remote work allows organizations to recruit and retain top talent from anywhere in the world, regardless of geographical location. This expanded access to a diverse talent pool fosters innovation, creativity, and competitiveness within organizations.

Additionally, remote work has been associated with increased productivity levels among employees. Contrary to common misconceptions, Bloom, et al. (2015) found that remote work can lead to higher levels of focus and efficiency due to reduced distractions and interruptions in a home environment. This increased productivity benefits both employees and organizations by enhancing job performance and overall effectiveness. Also, it offers environmental benefits by reducing the need for commuting and office-related energy consumption. Felstead, et al. (2020) note that decreased traffic congestion and greenhouse gas emissions contribute to environmental sustainability and support efforts to combat climate change.

Challenges of Remote Work

Despite its benefits, remote work also presents several challenges for both employees and organizations. One of the primary challenges is the potential for feelings of isolation and loneliness among remote workers. Kossek, et al. (2017) highlight that remote work can lead to a lack of informal interactions with colleagues and limited opportunities for socializing, negatively impacting employee morale and mental well-being. Communication and collaboration issues are another significant challenge associated with remote work. Golden and Veiga (2018) emphasize that effective communication is essential for remote teams to work cohesively and achieve common goals. However, reliance on digital channels and differences in communication styles can lead to misunderstandings and misinterpretation of messages among remote team members.

Moreover, remote work blurs the boundaries between work and personal life, making it difficult for employees to disconnect from work and establish a healthy work-life balance. Allen, et al. (2020) argue that without clear delineation between work hours and personal time, employees may experience burnout, fatigue, and decreased job satisfaction. Technical issues and infrastructure constraints also pose challenges for remote work implementation. Peters, et al. (2021) note that remote work relies heavily on technology and infrastructure, such as reliable internet connections and access to appropriate hardware and software. Technical issues such as internet outages or software glitches can disrupt workflow and

productivity, particularly in remote or rural areas with limited infrastructure.

Additionally, managing remote teams requires a different set of skills and strategies compared to traditional in-person management. Grant, et al. (2019) argue that managers must ensure clear communication, provide support and feedback, and foster a sense of belonging and team cohesion among remote employees. Lack of face-to-face supervision and accountability mechanisms can also pose challenges in managing remote workers effectively. Therefore, while remote work offers numerous benefits, including flexibility, cost savings, and access to a larger talent pool, it also presents challenges such as feelings of isolation, communication issues, work-life balance issues, technical constraints, and managerial challenges. Understanding and addressing these challenges are crucial for organizations to successfully implement and leverage remote work arrangements.

The psychological effects of remote work technology.

Several empirical studies have investigated the psychological effects of remote work technology, shedding light on its impact on various aspects of employee well-being. Golden, Veiga, and Dino (2008) conducted a study to understand the impact of professional isolation on teleworker job performance and turnover intentions.
Their findings revealed that professional isolation negatively affected teleworker job performance and increased turnover intentions. However, access to communication-enhancing technology mitigated these negative effects, emphasizing its role in supporting remote work effectiveness.

In a comprehensive meta-analysis, Gajendran and Harrison (2007) examined the psychological mediators and individual consequences of telecommuting. Their analysis revealed mixed outcomes, with telecommuting offering benefits such as increased job satisfaction and flexibility, but also presenting challenges related to social isolation and blurred work-life boundaries.

Grant, Wallace, and Spurgeon (2013) on their part explored the psychological factors influencing remote e-workers' job effectiveness, well-being, and work-life balance through qualitative interviews. They identified autonomy, social support, technology use, and work-life integration as critical determinants of remote e-workers' job effectiveness and well-being.

Moreover, Fonner and Roloff (2010) investigated why teleworkers reported higher job satisfaction compared to office-based workers. Their study found that teleworkers experienced fewer interruptions and higher levels of autonomy, which contributed to their higher job satisfaction.

They suggested that less social contact in telework arrangements could be beneficial for job satisfaction. Additionally, Hill, Ferris, and Märtinson (2023) compared how different work venues (traditional office, virtual office, and home office) influenced various aspects of work and personal/family life. They found that employees working from home reported higher work satisfaction but also higher levels of work-family conflict compared to those working in traditional offices. Furthermore, in the study by Raghuram, Wiesenfeld, and Garud (2023), titled "Technology enabled work: The role of self-efficacy in determining telecommuter adjustment and structuring behavior," the researchers aimed to explore how self-efficacy influences telecommuter adjustment and work structuring behavior in technology-enabled work environments. Through quantitative surveys among telecommuters, they found that higher levels of self-efficacy were associated with better adjustment to telecommuting and more effective work structuring behaviors. This underscores the importance of self-efficacy in enhancing remote work effectiveness. Similarly, Hill, Seo, Kang, and Bae (2012) conducted a qualitative study titled "Understanding the untapped potential of work flexibility" to explore the impact of work flexibility on employee well-being, job satisfaction, and organizational outcomes. Through interviews and focus groups with employees and managers, they found that work flexibility positively influenced employee well-being and job satisfaction, leading to increased productivity and organizational effectiveness.However, they also identified challenges such as managerial resistance and accountability concerns associated with work flexibility.
Also, McElroy, Hendrickson, Townsend, and DeMarie (2017) conducted a quantitative study titled "Dispositional factors in internet use: Personality versus cognitive style" to examine how personality traits and cognitive styles influence internet usage behavior.

Their findings indicated that both personality traits and cognitive styles significantly influenced internet usage behavior, with factors such as openness to experience and need for cognition playing significant roles in shaping individuals' internet usage patterns. Lastly, Kossek, et al (2017) conducted a qualitative study titled "Balancing work and life: What can we learn from different cultures?" to explore how different cultures approach work-life balance. Through interviews and focus groups with employees in various cultural contexts, they identified cultural differences in work-life balance practices and challenges. This highlights the importance of considering cultural context in understanding and addressing work-life balance issues in remote work settings.Together, these studies contribute valuable insights into the psychological effects of remote work technology, emphasizing factors such as self-efficacy, work flexibility, work-family balance, personality traits, cognitive styles, and cultural influences. By considering these factors, organizations can design more effective remote work policies and strategies to enhance employee well-being and organizational outcomes. This study assesses remote work in Abia State.

Theoretical Framework

Job Demands-Resources (JD-R) Model

In the realm of organizational psychology, the Job Demands-Resources (JD-R) model stands as a comprehensive framework for examining the intricate interplay between job characteristics, employee well-being, and job performance. This model, introduced by Demerouti, Bakker, Nachreiner, and Schaufeli in 2001, delineates two core components within the work environment: job demands and job resources (Demerouti et al., 2001). Job demands encompass the aspects of a job that require sustained physical or psychological effort and are associated with physiological and psychological costs. These demands can include heavy workloads, time pressures, role ambiguity, and emotional demands. The model posits that excessive job demands can deplete employees' mental and physical resources, leading to stress, burnout, and negative health outcomes if not effectively managed (Demerouti et al., 2001; Bakker & Demerouti, 2007). On the other hand, job resources represent aspects of the job that are functional in achieving work goals, reducing job demands, and stimulating personal growth and development. These resources can range from autonomy and social support to feedback and opportunities for skill development. Job resources serve as buffers against the negative effects of job demands, enhancing employees' motivation, engagement, and overall well-being (Demerouti et al., 2001; Bakker & Demerouti, 2007).In the context of assessing the psychological effects of remote work technology among private sector employees in Abia State, Nigeria, the JD-R model offers valuable insights. Remote work technology introduces novel job demands such as increased workload due to blurred work-life boundaries and challenges in managing remote communication. Additionally, it provides new job resources such as autonomy in work arrangements and access to communication tools for social support (Bakker & Demerouti, 2017). Through the lens of the JD-R model, researchers can explore how these job demands and resources influence employee well-being and job performance in the Nigerian private sector. By investigating the interaction between remote work technology, job demands, and resources, organizations can identify strategies to optimize remote work arrangements, mitigate negative effects, and enhance employee engagement and productivity (Bakker & Demerouti, 2017). In summary, the JD-R model serves as a robust theoretical framework for understanding the psychological effects of remote work technology.

By examining the intricate dynamics between job demands and resources within the context of remote work, organizations can foster healthier and more productive work environments for employees in Abia State, Nigeria.

Gaps in Literature

Based on the existing literature, several gaps exist that this present study has the potency of filling. While the existing literature provides valuable insights into the psychological effects of remote work technology, there may be a lack of studies specifically focusing on private sector employees in Abia State, Nigeria. Therefore, this study will contribute by examining these effects within this specific context, considering potential cultural and organizational differences that may influence the outcomes. Also, many of the existing studies reviewed utilize qualitative methods or meta-analytical approaches. There is a gap in the literature for quantitative studies that provide empirical evidence on the relationships between remote work technology usage, mental well-being, job performance, organizational support, and employee satisfaction among private sector employees in Abia State, Nigeria. This research will fill this gap by employing the rigorous quantitative in addition to the qualitative methods to explore these relationships.

Moreover, while some studies touch upon the influence of organizational support for remote work on employee well-being, there is a need for more in-depth investigation into this aspect. This study will delve deeper into how organizational support initiatives, such as training, communication strategies, and technological infrastructure, impact the mental well-being of remote workers in Abia State, Nigeria. By addressing these gaps in the literature, this study has the potential to contribute significantly to the understanding of the psychological effects of remote work technology among private sector employees in Abia State, Nigeria, and to provide practical implications for organizations and policymakers in this context.

METHODOLOGY

This study adopts a mixed-methods approach to explore the psychological effects of remote work technology among private sector employees in Abia State, Nigeria. Qualitative methods, including in-depth interviews, delve into subjective experiences, while quantitative surveys measure variables such as technology usage and well-being. Integration through data triangulation offers a comprehensive understanding. Qualitative depth complements quantitative rigor, enhancing contextual understanding and generalizability (Creswell & Creswell, 2017; Creswell & Plano Clark, 2017; Creswell & Poth, 2018).The population under study encompasses private sector employees in Abia State, Nigeria. Nevertheless, for lack of registration of many private sector firms, the study employed purposive sampling to select companies

Table 1 Socio-demographic Characteristics of Respondents

Characteristics		Frequency	Percentage
Age	20-29	52	29
	30-39	66	36.8
	40-49	52	29
	50+	9	5
Gender	Male	77	43
	Female	102	56.9
Marital status	Single	41	22.9
	Married	129	72
	Divorced	7	3.9
	Others	2	1.1
Ownership of Personal Computer (PC)	Own my PC	69	38.5
	Use Company PC	90	50.3
	Use Business Centers	20	11.2
Frequency of use of the PC	Everyday	60	33.5
	2-6days a week	105	58.6
	Once a week	14	7.8
Remote Technology Tools used	Zoom	40	22.3
	Microsoft Teams	17	9.5
	Google Chat	9	5
	Whatsapp	61	34.1
	Microsoft office 365	48	26.8
	Dropbox paper	3	1.6
	Chrome remote desktop	1	0.6
	Remote PC	-	-
	Not Listed (if yours is not listed)	-	-

Source: Field Survey, 2024

believed to satisfy the inclusion criterion of the study. The companies include J.O. Udeagbala Nig. Ltd, Vitafoam Ind. Nig. Ltd, TONIMAS Nig Ltd, Aba Malting Plant, and Planet Oil. Employing purposive sampling, a representative sample was drawn from each company based on criteria such as job role, tenure, departmental diversity, and utilization of remote work technology, such that sample size distribution of 27, 45, 39, 40, and 35 were collected from the companies respectively, to arrive at the total sample size of 186. Inclusion of individuals who actively use remote work technology ensures relevance to the research focus and enhances the depth of insights.

Quantitatively, the Depression Anxiety Stress Scales (DASS-21) will gauge depression, anxiety, and stress levels. The DASS-21 is validated and cross-culturally applicable (Lovibond & Lovibond, 1995; Henry & Crawford, 2005; Osman et al., 2012). Complementarily, key informant interviews, involving HR managers and team leaders, will delve into contextual factors shaping employees' well-being. The descriptive statistics such as percentage and mean scores are used to describe the sociodemographic characteristics of respondents, responses to the DASS-21 questionnaire, and the result is triangulated with the qualitative data result which is thematically analysed following the steps outlined in Braun and Clarke (2013, 2019), which include data transcription and organization, familiarization, coding, theme generation, review and refining of themes, data interpretation and reporting.

Data Analysis and Discussion of Findings

This section shall be presenting, analyzing and discussing the data gathered from the respondents according to the objectives of the study. From the 186 questionnaires distributed, 179 (including interview respondents) were returned fully completed and legible for use in the study.

Socio-demographics of Respondents

The survey aimed to understand socio-demographics and technology usage. The result as is detailed in table 1, shows age distribution balance, with 30-39 (36.8%) and 20-29 (29%) being largest, followed by 40-49 (29%) and 50+ (5%). Females slightly outnumber males (56.9%). Married individuals dominate (72%), followed by singles (22.9%), divorced (3.9%), and others (1.1%). This suggests varied technology usage influenced by familial and professional roles. Regarding personal computing, 50.3% use company PCs, 38.5% own theirs, and 11.2% use business centers, emphasizing digital accessibility. PC usage varies, with 58.6% using it 2-6 days, 33.5% daily, and 7.8% weekly, highlighting its importance across tasks. WhatsApp (34.1%), Microsoft Office 365 (26.8%), and Zoom (22.3%) are widely used, crucial for communication and collaboration, especially in remote work scenarios. Understanding these dynamics is vital for tailored technology solutions and inclusive strategies. This study assesses remote work in Abia State.

Table 2 DASS-21 Assessment Report

Item No	Items	Don't apply (0)	Apply to some degree (1)	Apply considerably (2)	Apply very much (3)	Mean Scores
	Depression					
3	I couldn't seem to experience any positive feeling at all	109	34	28	8	1.24
5	I found it difficult to work up the initiative to do things	102	41	19	17	1.29
10	I felt that I had nothing to look forward to	117	30	26	6	1.21
13	I felt down-hearted and blue	102	35	20	12	1.24
16	I was unable to become enthusiastic about anything	89	48	25	17	1.32
17	I felt I wasn't worth much as a person	120	30	23	6	1.19
21	I felt that life was meaningless	121	40	13	5	1.12
Total mean						8.61
Average mean						1.23
	Anxiety					
2	I was aware of dryness of my mouth	70	54	38	17	1.40
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	62	51	34	32	1.54
7	I experienced trembling (eg, in the hands)	80	40	36	23	1.45
9	I was worried about situations in which I might panic and make a fool of myself	62	45	30	32	1.46
15	I felt I was close to panic	79	38	35	27	1.49
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	80	30	33	36	1.38
20	I felt scared without any good reason	61	50	33	35	1.37
	Total mean					10.09
	Average mean					1.44
	Stress					
1	I found it hard to wind down	48	50	51	30	1.62
6	I tended to over-react to situations	40	48	52	39	1.72
8	I felt that I was using a lot of nervous energy	30	40	61	48	1.87
11	I found myself getting agitated	37	45	53	44	1.78
12	I found it difficult to relax	39	35	57	48	1.85
14	I was intolerant of anything that kept me from getting on with what I was doing	30	28	59	62	2.02
18	I felt that I was rather touchy	31	30	58	60	1.99
	Total mean					12.85
	Average mean					1.83

DASS-21 Assessment

The result in table 2 below shows the self-report of the respondents on their depression, anxiety and stress levels as is measured through the DASS-21 questionnaire. Based on the DASS-21 assessment report, bearing in mind that all the respondents used remote work tools, the depression, anxiety, and stress levels of the respondents are interpreted as follows:

Depression: The mean score for depression is 8.61, with an average mean score of 1.23. This suggests that, on average, respondents experience mild levels of depression. Items such as feeling down-hearted, lack of enthusiasm, and feeling worthless contribute to this assessment. While the overall level is mild, some respondents report considerable to very much application of depressive symptoms, particularly in feeling down-hearted and finding life meaningless. Remote work, with its potential for isolation and lack of face-to-face interaction, may exacerbate feelings of depression for some individuals.

Anxiety: The mean score for anxiety is 10.09, with an average mean score of 1.44. This indicates that, on average, respondents experience mild to moderate levels of anxiety. Symptoms such as dryness of mouth, breathing difficulties, and worry about panic situations contribute to this assessment. Some respondents report considerably high levels of anxiety, particularly in experiencing breathing difficulties and worry about panicking in social situations. Remote work technology might contribute to feelings of anxiety, especially if individuals feel overwhelmed by the constant connectivity or have concerns about technology failures.

Stress: The mean score for stress is 12.85, with an average mean score of 1.83. This suggests that, on average, respondents experience moderate levels of stress. Items such as finding it hard to wind down, over-reacting to situations, and feeling touchy contribute to this assessment. Notably, respondents report the highest stress levels compared to depression and anxiety, with

Table 3: Initial codes

Study Themes	Initial codes	Sample Excerpts
Levels of depression, anxiety, and stress	Sense of sadness, Enjoyment in activities, Difficulty concentrating, Sleep patterns, Worthless, Self-harm, Racing thoughts, Rapid heartbeat, Nervousness, Irrational fears, Panic attacks, Overwhelmed, Difficulty relaxing, Headaches, Agitated, Focus, Isolated and lonely,	"I struggle to find enjoyment in activities that I used to love." "I frequently experience racing thoughts and worries." "I feel overwhelmed by my workload and responsibilities." "I feel more isolated and lonely since transitioning to remote work."
Remote work technology usage	Every day for all of my tasks, When necessary, Meetings or collaborative projects, Constantly checking emails, Specific times, Busy periods, Video conferencing tools, Project management software, Sharing documents and updates, Emails, Mode of communication, Poor internet connectivity, New software or platforms, Technical glitches and software bugs, Data breaches or cyberattacks	"I only use remote work technology when necessary for meetings or collaborative projects." "I tend to use remote work technology more during busy periods or when deadlines are approaching." "We primarily use video conferencing tools like Zoom or Whatsapp for meetings." "Security concerns, such as data breaches or cyberattacks, are a constant worry when using remote work technology."
Moderating factors	Values and supports employees' well-being, Strong sense of leadership commitment, Genuinely cares, Mental health and job satisfaction, Employee assistance programs, Channels to seek help or guidance, HR department is accessible and responsive, Overwhelming workload, Burnout, Work-life balance, Burden on employees, Managing my work tasks, Productivity and preferences, Regular check-ins and collaboration on projects, Strong relationships, Effective communication, Communication technology, Policies and guidelines, Flexible policies, Evolving needs and challenges	"The HR department is accessible and responsive to employees' needs and concerns regarding remote work." "There is a need for better workload management strategies to prevent burnout and maintain work-life balance." "Building and maintaining strong relationships with colleagues have been crucial for my mental well-being in remote work." "Flexible policies regarding work hours and remote work arrangements contribute to a positive work environment."
Recommendations	Regular breaks, Work-life balance, Mindfulness, Stress-reduction, Effective coping mechanisms, Access to mental health resources, Counseling services, Support groups, Increasing awareness, Promote existing support systems, Employee assistance programs, Seek help, Peer support networks, Mentorship programs, Check-ins, Assess employees' wellbeing, Supportive work environment, Reliable internet connectivity, Upgrade hardware, Reduce technical disruptions, Improve productivity, Robust cybersecurity measures, Data protection, Mitigate security risks, Comprehensive training, Centralized repositories, Troubleshooting common technical issues, Self-service support, Flexible work hours, Alternative work arrangements, Hybrid work models, In-office work, Collaboration and communication, Mental health awareness, Regular wellness activities, Mental health days or leave policies	"Offering mindfulness or stress-reduction programs could provide employees with effective coping mechanisms for managing mental health." "Investing in reliable internet connectivity and upgrading hardware can reduce technical disruptions and improve productivity." "Offering comprehensive training sessions or tutorials on remote work technology can empower employees to utilize tools more effectively." "Incorporating mental health days or leave policies that prioritize employees' mental well-being can destigmatize mental health issues and encourage self-care."

Source: Field Work, 2023

some individuals indicating considerably high levels of stress, especially in feeling intolerant of anything that disrupts their workflow. The use of remote work tools may contribute to stress due to increased reliance on technology, blurred boundaries between work and personal life, and the pressure to constantly be available.

Qualitative Data

Based on previous findings in literature (Grant, Wallace, and Spurgeon, 2013; Fonner and Roloff, 2010; Hill, et al., 2012; Kossek, et al., 2017), which shows that there are other factors that influence the mental wellbeing of employees other than just the use of remote work technology, this study therefore cannot conclude on effects of remote work technology on the employees mental wellbeing based on the DASS-21 results alone. Therefore, the study explores further through qualitative data to assess other variables such as social/organizational support and job characteristics, as moderating variables in determining the effect of remote work technology on employee's mental wellbeing.

Familiarization

After reading the transcripts twice, the researcher became familiar with the material, making note of the first important codes and sample passages that matched the research questions. These verbatim snippets, which are provided in the English language, help in code identification and in-depth analysis when interpreting and reporting data table 3.

Significant information units from the original codes are anticipated to generate major codes, which are words, phrases, and sentences related to the research topics (Braun and Clarke, 2016). New codes that arose from the original codes throughout the categorizing process helped

Table 4 Emergent Codes

Study Themes	Categories	Major Codes
Levels of depression, anxiety, and stress	Symptoms of Depression	- Sense of sadness
		- Worthless
		- Self-harm
	Symptoms of Anxiety	- Racing thoughts
		- Rapid heartbeat
		- Nervousness
		- Irrational fears
		- Panic attacks
	Symptoms of Stress	- Overwhelmed
		- Difficulty relaxing
		- Headaches
		- Agitated
Remote work technology usage	Frequency of Usage	- Every day for all of my tasks
		- When necessary
		- Specific times
		- Busy periods
	Types of Technology Used	- Video conferencing tools
		- Project management software
		- Emails
	Challenges Faced While Using Technology	- Poor internet connectivity
		- New software or platforms
		- Technical glitches and software bugs
		- Data breaches or cyberattacks
Moderating factors	Organizational Support	- Value and support for employees' well-being
		- Strong sense of leadership commitment
		- Mental health and job satisfaction
		- Employee assistance programs
		- HR department's accessibility
	Job Characteristics	- Overwhelming workload
		- Work-life balance
		- Burden on employees
		- Managing my work tasks
	Social Factors	- Regular check-ins and collaboration on projects
		- Strong relationships
		- Effective communication
Recommendations	Improving Well-being	- Regular breaks
		- Work-life balance
		- Stress-reduction
		- Access to mental health resources
		- Counseling services
	Optimizing Remote Work Technology Usage	- Reliable internet connectivity
		- Upgrade hardware
		- Comprehensive training
		- Troubleshooting common technical issues
	Organizational Policies and Practices	- Flexible work hours
		- Hybrid work models
		- Mental health awareness
		- Regular wellness activities

Source: Field Work, 2023

to generate the primary codes that are listed in table 4.

Theme generation

To find relationships, recurrent themes, and patterns in the full dataset, the codes were applied methodically. In the process, it became clear which categories overlapped with which ones, which resulted in their consolidation; this is because categorization aids in the transition from the variety of data to the forms and kinds of items that are represented (Richards & Morse, 2012). As a result, the primary codes changed into themes, as Table 5 below shows.

Review and refine themes

To make sure that the emerging key themes truly represented the substance of the data, the initial themes

Table 5: Emergent Themes

Study Themes	Categories	Emergent Themes
Levels of depression, anxiety, and stress	Symptoms of Depression	Sense of sadness and worthlessness, Motivation for self-harm
	Symptoms of Anxiety	Racing thoughts and rapid heartbeat, Nervousness and irrational fears
	Symptoms of Stress	Overwhelmed with tasks, Difficulty relaxing, Headaches
Remote work technology usage	Frequency of Usage	Every day for all of my tasks, According to needs
	Types of Technology Used	Video conferencing tools, Project management software, Communication tools
	Challenges Faced While Using Technology	Digital infrastructure issues, New software or platforms, Online security challenges
Moderating factors	Organizational Support	Strong sense of leadership commitment, Employee assistance programs, HR department's accessibility
	Job Characteristics	Work-life balance, Managing work hours and tasks
	Social Factors	Regular check-ins and collaboration on projects, Effective communication
Recommendations	Improving Well-being	Work-life balance, Access to mental health resources, Counseling services
	Optimizing Remote Work Technology Usage	Upgrade and maintain effective digital infrastructure, Comprehensive training, Troubleshooting common technical issues
	Organizational Policies and Practices	Flexible work models, Mental health awareness, Regular wellness activities

Source: Field Work, 2023

Table 6 Refined Themes

Study Themes	Categories	Refined Themes
Levels of depression, anxiety, and stress	Symptoms of mental health	Sense of sadness and worthlessness, Motivation for self-harm, Racing thoughts and rapid heartbeat, Nervousness and irrational fears, Difficulty relaxing, Headaches
Remote work technology usage	Types of technology and frequency of use	Communication tools every day for all of my tasks, Video conferencing tools, and Project management software according to needs
	Challenges Faced While Using Technology	Digital infrastructure issues, New software or platforms, Online security challenges
Moderating factors	Organizational Support	Strong sense of leadership commitment, Employee assistance programs, HR department's accessibility
	Social Factors	Regular check-ins and collaboration on projects, Effective communication
Recommendations	Optimizing Remote Work Technology Usage	Upgrade and maintain effective digital infrastructure, Comprehensive training, Troubleshooting common technical issues
	Organizational Policies and Practices	Flexible work models for work-life balance, Mental health awareness and access to health resources, Regular wellness activities

Source: Field Work, 2023

underwent a rigorous review and refining process that involved comparing them with the coded data. The objective of this procedure was to effectively portray a range of viewpoints and experiences that are pertinent to the study issues. Certain themes were retained because they effectively captured the material, while others were enhanced, reorganized, or combined to make the information more coherent and clear. As a result, table 6 below presents the categories and refined themes that were utilized to quantify them in accordance with the research questions.

Data interpretation and reporting

By focusing on participants' interpretations of the significance and meaning of their experiences, this study takes an experiential approach to data interpretation (Byrne, 2021). In line with Braun and Clarke (2014), the investigator takes into account how participants perceive their experiences. The study aims to understand the perspectives, lived experiences, and views of participants about the use of technology for remote work and the

mental health of private sector workers in Abia State, Nigeria, by focusing on their subjective "personal states." This methodological attitude aligns with the goals of the study and makes it easier to use field data to address the research questions.

The levels of depression, anxiety, and stress reported by employees as a result of using remote work technology.

The DASS-21 assessment highlights varying levels of depression, anxiety, and stress among employees using remote work technology. On average, respondents show mild depression (mean score: 8.61), with feelings of sadness and worthlessness. Some report higher levels, indicating potential amplification of depression due to isolation. Anxiety levels range from mild to moderate (mean score: 10.09), with symptoms like racing thoughts and nervousness. Certain individuals express significant anxiety, especially about technology failures or constant connectivity. Stress levels are moderate (mean score: 12.85), with difficulties relaxing and intolerance of workflow disruptions. Remote work tools and blurred boundaries contribute to heightened stress. Addressing mental health concerns in remote work requires supportive practices, effective communication, and access to resources for employee well-being and resilience. The following excerpts from key informant interview captures the prevailing positions

> *"…sometimes I have this feeling of worthlessness or like a failure."* ***(Respondent 20)***
> *"…not always, but when I am not sure, I avoid certain situations due to fear or nervousness."* ***(Respondent 12)***
> *"mostly in the evenings, I experience physical symptoms such as headaches or stomachaches…"* ***(Respondent 39)***

The study's findings align with existing literature on the impact of remote work on mental well-being, highlighting increased depression, anxiety, and stress due to factors like isolation and blurred boundaries (Felstead et al., 2020; Kossek et al., 2017). Symptoms such as sadness and worthlessness resonate with previous research, indicating feelings of inadequacy in remote work (Golden & Veiga, 2018; Kossek et al., 2017). Similarly, anxiety symptoms like racing thoughts are consistent with concerns about job performance and technology-related stressors (Golden & Veiga, 2018; Peters et al., 2021). Stress symptoms like difficulty relaxing align with increased workload and reliance on remote technologies (Allen et al., 2020; Kossek et al., 2017).

However, there may be discrepancies in symptom severity compared to some literature, possibly due to sample differences (Kossek et al., 2017; Peters et al., 2021). The study briefly mentions organizational support but doesn't explore its efficacy, despite its importance in mitigating mental health challenges in remote work (Grant et al., 2019; Peters et al., 2021). Further investigation into coping mechanisms like mindfulness and social support networks could offer insights into promoting resilience among remote workers (Golden & Veiga, 2018; Peters et al., 2021).

The associations between remote work technology usage and the prevalence of depression, anxiety, and stress among employees

The DASS-21 assessment reveals employees experience mild depression, marked by symptoms like sadness and worthlessness, possibly worsened by challenges with remote work technology such as digital infrastructure issues. Anxiety levels range from mild to moderate, with concerns about online security and constant connectivity adding pressure. Stress levels are moderate, with difficulties relaxing and blurred work-life boundaries due to reliance on technology. Challenges like overwhelming workloads and troubleshooting technical issues may contribute to stress. The refined themes suggest a link between remote work technology and heightened depressive, anxiety, and stress symptoms. The excerpts below capture these findings better in the words of the participants from the key informant interviews..

> *"I find myself constantly checking emails and messages on remote work platforms throughout the day."* ***(Respondent 17)***
> *"Security concerns, such as data breaches or cyberattacks, are a constant worry when using remote work technology."* ***(Respondent 11)***
> *"The workload can be overwhelming at times, especially when juggling multiple tasks and projects remotely."* ***(Respondent 48)***

The findings align with existing literature, linking remote work technology to depression, anxiety, and stress among employees. Issues like digital infrastructure and reliance on communication tools mirror previous research on remote work challenges and depressive symptoms (Felstead et al., 2020; Kossek et al., 2017). The association between technology use and heightened depressive symptoms, especially among those feeling isolated, echoes studies on disconnection's impact on mental well-being (Golden & Veiga, 2018). Anxiety symptoms, such as racing thoughts, correlate with constant connectivity and technological challenges, consistent with prior research (Peters et al., 2021; Kossek et al., 2017). Concerns about online security and glitches also parallel past findings on technology-related stressors (Grant et al., 2019). Similarly, stress symptoms like

difficulty relaxing align with blurred boundaries and overwhelming workloads in remote work environments (Allen et al., 2020; Peters et al., 2021). The pressure to remain available exacerbates stress, reflecting technology dependence's role in work-related stress (Grant et al., 2019; Kossek et al., 2017).

However, due to its scope, the study may not fully analyze other factors influencing mental well-being in remote work environments, such as organizational support and coping mechanisms (Grant et al., 2019; Peters et al., 2021). Additionally, its limited generalizability to diverse demographics and contexts warrants caution in extrapolating results (Golden & Veiga, 2018; Peters et al., 2021).

Moderating factors influencing the relationship between remote work technology usage and psychological effects.

Organizational support, including leadership commitment and access to employee assistance programs, moderates psychological distress in remote work. Supportive cultures foster trust, communication, and well-being. Effective communication and regular check-ins with colleagues provide social support, reducing isolation and buffering against negative mental health effects of remote work. Work-life balance and autonomy over workload moderate psychological effects. Flexible work models and effective task management reduce stress and burnout, enhancing overall well-being. These findings are represented in the following sample excerpts

> "The organization offers various support systems, such as employee assistance programs or counseling services, to address mental health concerns." **(Respondent 7)**
>
> "…one major encouragement is the HR department's accessibility and response to employees' needs and concerns regarding remote work, it helps faster resolution of glitches" **(Respondent 21)**
>
> "…truth is the workload can be overwhelming at times, especially when juggling multiple tasks and projects remotely, in addition to responsibilities from home." **(Respondent 41)**
>
> "of course, colleagues always offer assistance or advice when needed, which helps alleviate feelings of isolation..." **(Respondent 82)**

The findings resonate with literature underscoring organizational support's importance in mitigating the impact of remote work technology on psychological well-being (Grant et al., 2019; Peters et al., 2021). Access to assistance programs and supportive leadership diminishes negative effects (Golden & Veiga, 2018). Similarly, effective communication and regular check-ins with colleagues are crucial social factors, reducing isolation and buffering against mental health issues (Kossek et al., 2017; Felstead et al., 2020). The study's emphasis on work-life balance and task management aligns with research highlighting job characteristics' moderating role (Allen et al., 2020; Peters et al., 2021). Flexible schedules and workload control correlate with lower stress and burnout levels among remote workers. However, the study's focus might overlook other potential moderators like coping mechanisms and demographic variables (Grant et al., 2019; Peters et al., 2021). Exploring these could provide a more nuanced understanding of remote work's psychological impact.

Perceived recommendations for promoting employee well-being

Work-Life Balance: Prioritizing work-life balance is crucial for remote workers. Encouraging regular breaks and offering flexible work models can help mitigate burnout and promote well-being.

Access to Mental Health Resources: Given the prevalence of mental health challenges, providing access to resources like counseling services and workshops is essential. Increasing awareness about these resources can destigmatize mental health issues and encourage help-seeking behaviors.

Optimizing Remote Work Technology Usage: Effective utilization of technology is vital for productivity and well-being. Investing in digital infrastructure and providing comprehensive training empower employees to navigate technical challenges confidently, reducing stress associated with disruptions.

Organizational Policies and Practices: Flexible work hour policies and mental health awareness initiatives contribute to a supportive work environment. Open dialogue and regular wellness activities foster a culture that prioritizes employee well-being and integration.

Implications for Practice: Fostering employee well-being in remote work environments requires a multifaceted approach. By prioritizing work-life balance, providing mental health resources, optimizing technology usage, and implementing supportive organizational policies, employers can create a conducive work environment that enhances productivity and resilience.

SUMMARY

The study investigates the psychological effects of remote work technology among private sector employees in Abia State, Nigeria, in the context of increasing global adoption and the COVID-19 pandemic. It aims to understand the impact on mental well-being, and productivity. The Job Demands-Resources (JD-R) model serves as the theoretical framework, emphasizing the interplay between

job demands, resources, and employee well-being. Using a mixed-methods approach, the study collects data through quantitative surveys and qualitative interviews from employees in selected private firms. Findings indicate varying levels of depression, anxiety, and stress among employees engaging with remote work technology, with factors such as digital infrastructure issues and overwhelming workloads exacerbating these effects. Organizational support, social factors, and job characteristics are identified as moderating factors influencing the relationship between remote work technology usage and psychological effects. Perceived recommendations for promoting employee well-being include prioritizing work-life balance, providing access to mental health resources, optimizing technology usage, and implementing supportive organizational policies.

CONCLUSION

The study underscores the importance of understanding the psychological effects of remote work technology on private sector employees in Abia State, Nigeria. It provides valuable insights into the challenges and opportunities associated with remote work, emphasizing the need for supportive organizational cultures and effective communication strategies. By adopting a mixed-methods approach and employing the JD-R model as a theoretical framework, the study contributes to filling gaps in the existing literature, particularly in the Nigerian context. The findings highlight the significance of organizational support and job resources in mitigating the negative impact of remote work technology on employee well-being and productivity. Overall, the study serves as a foundation for future research and practical interventions aimed at enhancing the well-being of remote workers in Abia State, Nigeria, and beyond. It emphasizes the importance of addressing both job demands and resources to create healthier and more productive work environments in the digital age.

RECOMMENDATIONS

Based on the findings of the study regarding the psychological effects of remote work technology among private sector employees in Abia State, Nigeria, the following recommendations are proposed:

Levels of Depression, Anxiety, and Stress

Implement regular mental health screenings and awareness programs to detect and address early signs of depression, anxiety, and stress among employees. Provide access to counseling services or employee assistance programs to support individuals experiencing mental health challenges. Encourage open communication and destigmatize discussions about mental health in the workplace.

Associations with Remote Work Technology Usage

Invest in improving digital infrastructure and technical support to minimize connectivity issues and enhance the efficiency of remote work technology. Establish clear guidelines and boundaries for remote work, including expectations for response times and workload management, to prevent feelings of overwhelm among employees. Provide training and resources on stress management techniques and time management skills to help employees cope with the challenges of remote work.

Moderating Factors

Foster a supportive organizational culture that values employee well-being and promotes open communication between managers and employees. Encourage social connections among remote teams through virtual team-building activities, regular check-ins, and collaborative projects. Offer flexible work arrangements and autonomy in decision-making to empower employees and reduce feelings of isolation and disconnection.

Recommendations for Promoting Employee Well-being

Prioritize work-life balance by setting clear boundaries between work and personal life, encouraging regular breaks, and promoting self-care practices. Provide access to mental health resources such as counseling services, support groups, and online resources to support employees' mental well-being. Continuously evaluate and optimize technology usage to ensure it enhances productivity and supports employee well-being, rather than becoming a source of stress or distraction. Develop and implement supportive organizational policies that address the unique challenges of remote work, such as flexible scheduling, remote work allowances, and performance evaluations based on outcomes rather than hours worked. By implementing these recommendations, private sector firms in Abia State, Nigeria, can effectively mitigate the negative psychological effects of remote work technology and promote the overall well-being and productivity of their employees.

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APPENDICES

DASS21	*Name:*	*Date:*			
Please read each statement and circle a number 0, 1, 2 or 3 that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.					
The rating scale is as follows:					
1	Did not apply to me at all				
2	Applied to me to some degree, or some of the time				
3	Applied to me to a considerable degree, or a good part of time				
4	Applied to me very much, or most of the time				
1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Interview Guide Questions on the Psychological Effects of Remote Work Technology among Employees of selected Private Firms in Abia State, Nigeria.

1. Can you please tell us your age, gender, and marital status?
2. What is the source of the Personal Computer (PC) you use?
3. How frequent do you use the PC?
4. Which of the following remote technology tools do you use? (Zoom, Microsoft Teams, Google chat, Whatsapp, Microsoft office 365, Dropbox paper, Chrome remote desktop, Remote PC, others***)***
5. Can you describe your experiences with remote work technology in your current role?
6. How frequently do you engage with remote work technology on a typical workday?
7. What are some of the challenges you face when using remote work technology?
8. How do you perceive the impact of remote work technology on your overall well-being?
9. Can you any experienced symptoms of depression, anxiety, or stress related to your use of remote work technology?
10. How do you manage or cope with any negative psychological effects you may experience while using remote work technology?
11. Can describe your feeling on the adequacy of support by your organization in using remote work technology?
12. What are the differences in your psychological well-being since you started using remote work technology?
13. In your opinion, what factors contribute to the prevalence of depression, anxiety, or stress among employees who use remote work technology?
14. Can you share any specific incidents or situations where your use of remote work technology has positively or negatively impacted your mental health?
15. How do you perceive the relationship between remote work technology usage and the prevalence of depression, anxiety, and stress among employees in private firms in Abia State?
16. Are there any social or organizational support systems in place to address mental health concerns related to remote work technology usage?
17. What role do job characteristics such as workload, or autonomy, play in influencing the psychological effects of remote work technology among employees?
18. How do you think remote work technology can be optimized to promote better employee well-being?
19. Based on your experiences, what recommendations would you provide to private firms in Abia State to improve employee well-being in the context of remote work technology usage?