



Working together
www.rcis.ro

Revista de Cercetare și Interventie Sociala

ISSN: 1583-3410 (print), ISSN: 1584-5397 (electronic)

CRITERIA AND FACTORS OF PSYCHOLOGICAL HEALTH OF AN INDIVIDUAL IN THE CONDITIONS OF PROFESSIONAL ACTIVITY ONLINE

Hanna YURCHYNSKA, Ivanna ANANOVA, Marinina VITALIIA, Oleksandr BILOUS

Revista de cercetare și intervenție socială, 2024, vol. 84, pp. 142-159

<https://doi.org/10.33788/rcis.84.10>

Published by:
Expert Projects Publishing House



On behalf of:
„Alexandru Ioan Cuza” University,
Department of Sociology and Social Work
and
HoltIS Association

Criteria and Factors of Psychological Health of an Individual in the Conditions of Professional Activity Online

Hanna YURCHYNSKA¹, Ivanna ANANOVA²,
Marinina VITALIYA³, Oleksandr BILOUS⁴

Abstract

Since 2020, there has been a noticeable rise in the prevalence of online work. The catalyst for this shift was the onset of the COVID-19 pandemic, which was subsequently followed by a state of war. These circumstances compelled numerous individuals to acquire proficiency in the latest information technologies to retain their employment or seek new opportunities. The convergence of the COVID-19 pandemic and the war has heightened several risk factors associated with compromised mental well-being within the realm of professional activities. This circumstance remains true for educators across all educational levels, spanning from primary school to tertiary education. As with any phenomenon, both favorable and unfavorable facets can be discerned. Purpose: The purpose of this study is to provide a comprehensive description of the primary factors influencing the psychological well-being of individuals engaged in professional work in an online mode. It meticulously investigates the dual-edged sword of online work, accentuating the necessity for a balanced approach to remote employment. It emphasizes the critical need for adaptive measures and support systems to harness the benefits of remote work while minimizing its psychological detriments. By

¹ Psychology Department, Faculty of Psychology, Taras Shevchenko National University of Kyiv, Kyiv, UKRAINE. <https://orcid.org/0000-0001-8569-3309>; E-mail: yurchinskaganna@knu.ua

² Department of General Psychology, Faculty of Psychology, Taras Shevchenko National University of Kyiv, Kyiv, UKRAINE. <https://orcid.org/0000-0001-7338-1658>; E-mail: ananova_ivanna@knu.ua

³ Department of General Psychology, Faculty of Psychology, Taras Shevchenko National University of Kyiv, Kyiv, UKRAINE. <https://orcid.org/0000-0003-3370-1359>; E-mail: vm.marinina@knu.ua

⁴ Department of General Psychology, Faculty of Psychology, Taras Shevchenko National University of Kyiv, Kyiv, UKRAINE. <https://orcid.org/0000-0001-9190-9751>; E-mail: bilousoleksandr76@gmail.com

exploring the intersection of technological advancements and psychological health, this research sheds light on the complex dynamics at play, advocating for a more nuanced understanding and strategic interventions to ensure the well-being of professionals navigating the digital work landscape.

Keywords: psychological health, professional activity, adaptability, burnout, mindfulness.

Introduction

The global outbreak of the coronavirus (COVID-19) pandemic has engendered an unprecedented situation that has yielded unintended economic ramifications and significantly impacted the overall health of the global population (Douglas, Katikireddi, Taulbut, McKee & McCartney, 2020). The professional work landscape has undergone substantial transformations, with women experiencing a greater degree of vulnerability compared to men (Alon, Doepke, Olmstead-Rumsey & Tertilt, 2020; Wenham, Smith & Morgan, 2020). Various studies have indicated that this transition has had a more pronounced effect on women's mental health, as compared to men, owing to their heightened involvement in household and caregiving responsibilities, resulting in work disruptions and challenges in sustaining concentration (Arntz, Yahmed & Berlingieri, 2021; Barbieri, Balia, Sulis, Cois & Cabras, 2021; Biroli, Bosworth, Della Giusta, Di Girolamo & Jaworska, 2021; Matthews, Chen, Omidakhsh, Zhang & Han, 2022; Sato, Sakata, Murayama, Yamaguchi & Matsuoka, 2021; Şentürk, Sağaltıcı, Geniş & Günday Toker, 2021; Xiao, Becerik-Gerber, Lucas & Roll, 2021). Workers were confronted with the arduous task of balancing their professional responsibilities alongside household chores, childcare duties, and various sources of distraction, all while operating in suboptimal ergonomic conditions and lacking in-person interactions with colleagues. Even in the aftermath of the pandemic, partial or complete online work arrangements continue to persist worldwide (Shimazu, Nakata, Nagata, Arakawa & Kuroda, 2020). Numerous organizations have opted to sustain remote work practices in the foreseeable future, aiming to prevent a recurrence of the circumstances experienced during the initial phase of the pandemic (Alon *et al.*, 2020).

The necessity for novel technologies has brought about significant transformations in work models, enabling accessibility to work from any location for a multitude of workers (Belzunegui-Eraso & Erro-Garcés, 2020; Shimazu *et al.*, 2020). While the concept of remote work has been in existence since the 1970s, its capabilities were considerably restricted compared to the present time. The widespread availability of technology has facilitated greater flexibility in determining both the time and place of work, offering advantages to both employers and employees. Teleworking presents several positive outcomes, including enhanced integration of family and work responsibilities, reduced fatigue, and increased productivity (Eurofound and

the International Labor Office, 2017). Nevertheless, the blurring of physical and organizational boundaries between work and home can also have adverse effects on an individual's mental and physical well-being, stemming from prolonged working hours, a lack of clear demarcation between work and home domains, and limited organizational support (Henke, Benevent, Schulte, Rinehart & Crighton, 2016).

Mental health encompasses a multifaceted construct that encompasses a comprehensive understanding of oneself, the ability to respond effectively to environmental influences, critically evaluate one's thoughts and behaviors, plan for the future, and navigate a range of emotions while maintaining a fulfilling life. The World Health Organization (WHO) has classified mental health into seven distinct components. Firstly, it involves self-awareness and a sense of wholeness encompassing both physical and mental aspects. The inability to define oneself holistically, either physically or mentally, may indicate the presence of initial mental disorders. Secondly, it encompasses the predictability of reactions in typical situations. Thirdly, mental health entails a critical self-evaluation where individuals analyze and interpret their states and actions. Fourthly, it involves displaying appropriate mental responses that align with environmental influences. Fifthly, mentally healthy individuals possess the ability to adapt their behavior under societal norms. Sixthly, they demonstrate the capacity to plan and execute events in their lives. Lastly, the behavior of mentally healthy individuals is characterized by adaptability and is contingent upon life circumstances. Furthermore, an essential criterion for assessing an individual's psychological health is the concept of mental balance, which reflects the adaptive capabilities of the psyche.

The state of an individual's mental health is influenced by both biological and social factors. The biological factors comprise genetic and epigenetic inheritance, the presence of organic pathology in the central nervous system, and the existence of somatic disorders, among others. The social factors encompass a wide range of influences, beginning with the characteristics of the perinatal period and extending to interpersonal relationships, particularly with the mother, as well as the pervasive impact of societal forces that employ various mechanisms to shape individuals into what is deemed socially desirable. Consequently, a person's mental health is often contingent upon the level of development of their mental functions, their capacity and speed of response to changes, and their ability to form relationships with diverse social groups.

Mental health is a multidimensional concept that necessitates in-depth investigation and comprehensive research, particularly in the context of ongoing war and the recent global pandemic. It represents one of the paramount areas of focus within the field of psychology today. Mental health exists on a continuum ranging from poor to excellent, and its assessment involves various criteria, including the ability to evaluate and modify one's behavior, and the capacity to establish personal life goals and develop plans to achieve them, accounting for contextual circumstances. Furthermore, it encompasses experiencing satisfaction from personal activities, personal and social relationships, the ability to recognize

and comprehend diverse facets of life, adaptability within the micro-society, and the level of maturity exhibited across different domains of personality that are characteristic of specific age groups. Multiple factors, such as social, political, familial, and spiritual influences, can disrupt mental health. While the risks to mental health are well-documented among individuals employed in the public sector, the impact on mental health among employees who have transitioned to remote work from their homes remains less understood. This study aims to delineate the primary factors that influence the psychological well-being of individuals engaged in professional remote work.

Methodology

The search strategy encompassed a selection of three databases, namely ProQuest, PsycINFO, and Web of Science. The search was confined to English-language peer-reviewed journal articles published from January 2013 onwards. A comprehensive approach was adopted to ensure broad coverage of the literature, hence no restrictions were imposed on study design. To ensure relevance to the research questions, the search strategy incorporated two overarching concepts: (1) online work, encompassing terms such as “working from home” and “remote work”; (2) psychological health outcomes, including terms such as “burnout”, “professional activity”, and “mental health”; and (3) coping mechanisms, comprising terms such as “adaptability”, “self-regulation”, and “mindfulness”. For inclusion in the present literature review, studies were required to center on teleworking performed by professional workers during their designated working hours and encompass outcomes pertaining to their psychological health. Studies were excluded if they focused on employees who worked from home, self-employed individuals, instances of informal teleworking (i.e., working from home outside of designated working hours to catch up on work), or productivity-related implications. The search strategy aimed to identify studies involving participants engaged in regular remote work from home, even if such arrangements were not officially sanctioned or formalized by their respective organizations.

Data were collected utilizing a standardized form that encompassed essential information such as the study setting, research design, the methodology employed, participant details, industry context, utilized measures, and the observed impact on psychological health. Qualitative data were systematically organized to discern the effects of professional teleworking on employees’ psychological well-being. The studies were initially grouped based on the overall outcomes related to psychological health, followed by a subsequent separate analysis conducted concerning gender.

Results

The initial database search yielded a total of 863 articles, out of which 48 articles fulfilled the predefined inclusion criteria. Furthermore, an additional eight studies were incorporated after scrutinizing the reference lists of the selected articles to identify relevant studies that met the inclusion criteria. Thus, the final dataset comprised a total of 56 studies. The primary basis for exclusion was the absence of psychological health outcomes within the study.

The profound transition to remote work, coupled with various aspects associated with the COVID-19 pandemic, has engendered a distinctive context for investigating the influence of remote work on psychological well-being. Although ongoing research continues to explore the impact of remote work on workers' mental health during the pandemic, several studies have already provided insights into this association. A review of pertinent sources revealed that individuals who engaged in remote work experienced greater challenges in terms of the impact of their working conditions on their mental health, despite generally facing a lower risk of contracting the coronavirus (Moretti, Menna, Aulicino, Paoletta & Liguori, 2020; Oakman, Kinsman, Stuckey, Graham & Weale, 2020; Xiao *et al.*, 2021). Certain studies have demonstrated that individuals who experienced greater fear of COVID-19 exhibited higher levels of productivity while working remotely (Galanti, Guidetti, Mazzei, Zappalà & Toscano, 2021). As the prospect of returning to in-person work arises, numerous employees anticipate negative repercussions, partly due to concerns regarding safety amid the ongoing COVID-19 pandemic. Many harbor apprehensions about potential job loss, reduced income, and financial instability. The notable impacts on health have primarily stemmed from social and behavioral factors. Prolonged periods of staying at home during the pandemic have contributed to a prevalent sense of depression and anxiety, often resulting in disruptions to daily routines and dietary habits (Di Renzo, Gualtieri & Cinelli, 2020). Remote work during the pandemic has also been associated with increased social isolation, work-related stress (Galanti *et al.*, 2021), interfamily conflicts (Xiao *et al.*, 2021), excessive consumption of food and alcohol (Niu, Nagata, Fukutani, Tezuka & Shimoura, 2021; Xiao *et al.*, 2021), all of which can exert a negative impact on an individual's mental health (Xiao *et al.*, 2021).

A study by Wang, conducted on 1210 respondents from 194 cities in China, showed that a total of 53.8% of respondents rated the psychological impact as moderate or severe; 16.5% reported moderate to severe symptoms of depression; 28.8% showed symptoms of irritability, and 8.1% indicated severe stress. The majority of respondents (84.7%) spent 20-24 hours a day at home. Women, students, and people from low social strata were the most affected by stress, irritability, and depression (Wang, Pan, Wan, Tan & Xu, 2020). A study conducted by I. Mendonça found that home-based workers feel the need to be online more often and to stay in touch with their colleagues, which is associated with depression, anxiety, and stress (Mendonça, Coelho, Ferrajão & Abreu, 2022).

In a cross-sectional study conducted by Griep, the association between work time control (WTC), both independently and in conjunction with hours worked (HW), and four mental health outcomes were examined. The study encompassed 2,318 participants who engaged in remote work during the COVID-19 pandemic. The work time control was assessed using the Work Time Control Scale, while mental health outcomes included depression, anxiety, stress (measured by the DASS-21 Depression, Anxiety, and Stress Scale), and self-rated mental health. Logistic regression models were employed to determine the odds ratios (ORs) and 95% confidence intervals (CIs) associated with the variables of interest. The findings revealed that among women, an association was observed between longer hours worked and increased levels of stress (OR = 1.56; 95% CI = 1.11-2.20), as well as lower self-rated mental health (OR = 1.64; 95% CI = 1.13-2.38). Conversely, among men, lower levels of anxiety were observed (OR = 0.59; 95% CI = 0.37-0.93). In both sexes, poor control over work time was associated with all mental health outcomes. In women, the combination of long hours worked and weak work time control demonstrated associations with all negative mental health outcomes. Additionally, the combination of short hours worked and weak work time control was linked to anxiety and stress. Among men, the combination of long hours worked and strong work time control served as a protective factor against depression and stress. On the other hand, both the combinations of short hours worked with strong work time control and short hours worked with weak work time control were associated with all mental health outcomes. Notably, for both genders, weak work time control, both independently and in combination with hours worked, displayed associations with all mental health outcomes (Griep, Almeida, Barreto, Brunoni & Duncan, 2022).

In a study conducted by Shimura, a multivariate logistic regression analysis revealed that remote work was linked to diminished psychological and physical stress responses, irrespective of alterations in workplace stressors, social support, sleep disturbances, and total sleep duration on workdays. However, it was also found that engaging in full remote work, defined as working remotely for five days a week, was associated with lower productivity (Shimura, Yokoi, Ishibashi, Akatsuka & Inoue, 2021).

Through the analysis of the selected sources, two primary categories of factors were identified, each exerting either a positive or negative influence on the psychological well-being of employees within the context of professional remote work. Positive factors associated with remote work and their impact on employees' psychological health include the time saved from daily commuting and the enhanced flexibility to attend to familial responsibilities (Birimoglu & Begen, 2022; Liu, Xu & Ma, 2021; Steidtmann, McBride & Mishkind, 2021; Tavares, 2017). Remote work provides employees with the opportunity to select the most conducive time for work, aligning with their peak productivity periods (Birimoglu & Begen, 2022). Moreover, it can prove beneficial in mitigating distractions arising from colleagues, particularly in open-plan office settings (Kim & de Dear, 2013). The availability

of teleworking options allows employees to step away from the traditional office environment and actively cultivate a personalized work-life balance, fostering a healthier lifestyle that positively influences both physical and mental well-being. In contrast to traditional office settings, where employers typically determine the arrangement of workstations, remote work grants employee's complete autonomy and affords them greater control over environmental factors. Factors such as lighting, temperature, humidity, air quality, and noise, among others, are crucial for the physical and mental well-being of employees and may be better managed in a home-based work environment compared to fixed or open-plan offices (Kim & de Dear, 2013; Samani, 2015).

In a study conducted by Shepherd-Banigan, it was found that women who were able to work from home following childbirth experienced a significant reduction in depression ($p = 0.002$) (Shepherd-Banigan, Bell, Basu, Booth-LaForce & Harris, 2016). Additionally, Oakman reported that remote work was associated with higher energy levels and lower stress levels among caregivers (Oakman *et al.*, 2020). Furthermore, Niu discovered that employees who transitioned to remote work experienced less stress related to economic pressure (3.6% vs. 9.3%) and reduced communication with roommates (1.4% vs. 3.5%) compared to office workers (Niu *et al.*, 2021). Moreover, the study revealed that 13.5% of employees who switched to remote work were "very satisfied," while 37.2% were "satisfied" with remote work, in contrast to 2.6% who were "very dissatisfied" and 13% who were "dissatisfied" (Niu *et al.*, 2021). Remote work has been associated with a reduced risk of viral transmission during the COVID-19 pandemic (Li, Dai, Wu, Jia & Gao, 2019). Moreover, remote workers have reported lower levels of boredom, frustration, and anger, while experiencing higher levels of happiness and gratitude (Oakman *et al.*, 2020). In a cross-sectional study conducted by Smith, remote workers in Canada exhibited lower levels of anxiety and depression compared to on-site workers and individuals who experienced job loss ($p < 0.05$) (Smith, Oudyk, Potter & Mustard, 2021). Similarly, Traunmüller demonstrated that working from home serves as a protective factor against depression, anxiety, and post-traumatic symptoms ($p < 0.005$) (Traunmüller, Stefitz, Gaisbachgrabner & Schwerdtfeger, 2020). Additionally, a small cross-sectional study involving psychiatrists revealed that all participants expressed a desire to continue working from home to some extent, with over half of the doctors reporting being "very satisfied" with remote work (Steidtmann *et al.*, 2021).

Despite the myriad of positive associations linked to remote work, data analysis has provided significant evidence highlighting potential drawbacks (Sarangi, Kim & Rafael, 2021). Several studies have documented the adverse impact of remote work conditions on the psychological well-being of workers amidst the COVID-19 pandemic (Biroli *et al.*, 2021; Majumdar, Biswas & Sahu, 2020; Oakman *et al.*, 2020; Şentürk *et al.*, 2021; Toniolo-Barrios & Pitt, 2021; Xiao *et al.*, 2021). Workers who transitioned to remote work faced challenges such as reduced opportunities for communication with colleagues and decreased physical

movement due to the absence of walking between various meeting spaces (Tavares, 2017). Several studies have highlighted the significant deterioration in physical health experienced by remote workers, including increased sedentary behavior (Barone Gibbs, Kline, Huber, Paley & Perera, 2021). Furthermore, prolonged screen exposure resulting from continuous computer work has been associated with fatigue, headaches, symptoms of back pain, eye strain, and visual impairments (Majumdar *et al.*, 2020; Niu *et al.*, 2021).

Numerous studies have highlighted the challenge of maintaining work-life balance and establishing clear professional boundaries in the context of remote work (Birimoglu & Begen, 2022; Liu *et al.*, 2021). Niu observed a higher prevalence of work-family conflict distress among individuals engaged in remote work ($p < 0.001$). Additionally, 32.6% of workers who transitioned to remote work reported lacking access to a dedicated work office (Niu *et al.*, 2021). Some workers, as noted by Birimoglu, experienced decreased productivity as a result of remote work (Birimoglu & Begen, 2022). Furthermore, remote work has eliminated the need for employees to commute, resulting in reduced opportunities for recreation and entertainment (Niu *et al.*, 2021). It has also contributed to feelings of social isolation (Birimoglu & Begen 2022; Oakman *et al.*, 2020). In professions such as medicine, pedagogy, occupational therapy, veterinary medicine, and others, the absence of in-person interaction with students and colleagues can be particularly impactful. This forced social, emotional, and physical disconnection represents a significant factor indicating a negative influence on individuals' mental health, which is particularly relevant within the context of remote work. Numerous researchers have linked remote work to psychosocial stress, social isolation, sleep disturbances, difficulties with concentration, and fatigue resulting from extended working hours (Buomprisco, Ricci, Perri & De Sio, 2021; Majumdar *et al.*, 2020; Tavares, 2017; Xiao *et al.*, 2021). For individuals living alone, full-time remote work without regular personal communication and social support has been associated with mental health issues such as social isolation and depression (Tavares, 2017). Self-isolation resulting from quarantine measures and remote work significantly impacts various aspects of life, including daily activities, social engagement, and overall economic conditions. Depression, anxiety, and panic attacks are prevalent among individuals with limited social interactions, particularly in the context of enforced isolation, which can contribute to the escalation of family problems and alcohol misuse. Prolonged isolation, especially when compelled, can also lead to the emergence and progression of intrapersonal disorders such as helplessness, loneliness, boredom, and depression. These conditions form the basis of an individual's crisis and manifest in interpersonal relationships, potentially causing harm to others (Buomprisco, *et al.*, 2021; Majumdar *et al.*, 2020; Tavares, 2017; Xiao *et al.*, 2021).

The issue of limited access to technology was frequently reported among remote workers (Liu *et al.*, 2021; Steidtmann *et al.*, 2021). Remote work has also been associated with a higher prevalence of alcohol use compared to office

workers ($p < 0.01$) (Niu *et al.*, 2021). However, a study conducted by Wardwell did not find an association between remote work patterns and alcohol consumption (Wardell, Kempe, Rapinda, Single, Bilevicius, 2022). Furthermore, data from Mondal A. revealed that remote workers experience higher rates of insomnia compared to traditional workers, with 18.8%-24.3% of remote workers meeting the clinical criteria for insomnia (Mondal, Saha, Banerjee & Saha, 2021). It has been observed that distance learners exhibit less efficient sleep patterns, characterized by later bedtimes and shorter durations of nightly sleep compared to traditional students in previous semesters (Smit, Juda, Livingstone, Stephanie & Mistlberger, 2021). In the context of online university education, a cluster analysis conducted by Alam examined reported mood symptoms (e.g., anxiety and depression) and perceived stress among participants, revealing that over 70% of the sample experienced moderate levels of mental health imbalance during the pandemic (Alam, Ali, Banik, Yasmin & Salma, 2021).

Furthermore, existing literature indicates that individuals engaged in remote work have reported experiencing various mental health conditions, including anxiety, depression, and emotional burnout (Liu *et al.*, 2021). Steidtmann conducted a study in the United States and found that 38.5% of mental health workers reported increased levels of burnout and/or compassion fatigue after transitioning to remote work during the pandemic (Steidtmann *et al.*, 2021). As per the WHO definition, burnout syndrome is characterized by physical, emotional, or motivational exhaustion, impaired work performance, and symptoms such as fatigue, insomnia, and a decline in overall health. Burnout syndrome has emerged as a prevalent “occupational disease”, particularly with the rise of remote work enforced by the pandemic. Burnout can be accurately characterized by its primary symptom, which is a diminished capacity for emotional endurance. Individuals may experience feelings of emotional exhaustion, helplessness, and a lack of motivation. Professional burnout is evident when individuals struggle to fully concentrate on their work. They often feel fatigued, leading to the projection of aggression and irritability onto those they interact with, including colleagues, clients, and visitors. In a study conducted by Izdebski and Mazur, it was found that remote workers reported higher levels of loneliness (36.6% vs. 21.9%), depression and poor health (38.9% vs. 26.8%), and outbursts of anger/aggression (27.3% vs. 19.6%) compared to traditional workers ($p < 0.02$) (Izdebski & Mazur, 2021). Similarly, remote work was associated with a greater increase in stress levels ($p < 0.05$) and higher levels of depression and anxiety compared to in-person workers (Mondal *et al.*, 2021).

A prevalent challenge associated with achieving work-life balance is the need to harmonize work schedules with other family members, resulting in “porous” working hours for some parents (Eurofound and the International Labour Office, 2017). These individuals may find themselves juggling household chores and errands alongside work meetings. In certain instances, parents may need to sacrifice sleep and work during late night hours or early mornings, seeking the

only quiet time available to concentrate on their tasks and minimize interruptions. The persistent conflict between work and family responsibilities can contribute to emotional burnout (Van der Elst, Verhoogen & Sercu, 2017). Remote work is likely to exert a greater impact on workers with children, particularly due to the closure of schools and daycare centers. This necessitates working parents to navigate the challenges of homeschooling their children while concurrently managing a potentially disruptive work environment (Arntz *et al.*, 2020). Birimoglu further highlight that the widespread closure of educational and childcare facilities during the pandemic has intensified the difficulty of maintaining a harmonious work-life balance for individuals responsible for caring for young children at home (Birimoglu & Begen, 2022). Additionally, work-family conflict has been identified as a direct modulator of burnout in remote workers (Oakman *et al.*, 2020). It is important to acknowledge that not all workers have access to dedicated workstations within their homes. This may result in the sharing of workspaces, such as with children who are engaged in remote schooling, or the utilization of makeshift setups, such as dining room tables or various locations throughout the day, including kitchen counters, sofas, coffee tables, and beds (Bouziri, Smith, Descatha, Dab & Jean, 2020). The increased stress associated with sharing workspaces, coupled with poor ergonomic positioning due to the absence of a proper physical workstation, and prolonged periods of sitting can contribute to heightened discomfort and pain (Baradaran Mahdavi & Kelishadi, 2020). Working in an unsuitable work environment can adversely impact both physical and mental well-being, while also diminishing overall productivity.

Furthermore, several studies included in the review have demonstrated a significant negative association between long working hours and employees' psychological health (Li *et al.*, 2019; Park, Kook, Seok, Lee & Lim, 2020). This finding highlights the relationship between remote work and mental health, as excessive work hours can contribute to adverse psychological outcomes for remote workers (Choi *et al.*, 2021; Rugulies, Sørensen & Di Tecco, 2021; Şentürk *et al.*, 2021; Toniolo-Barrios & Pitt, 2021). Indeed, individuals who engage in remote work often exhibit longer working hours and spend more time utilizing their mobile phones and desktop/laptop devices compared to those who work in traditional office settings (Majumdar *et al.*, 2020; Tavares, 2017). Prolonged work hours can impact family activities and personal aspirations, contribute to work-life imbalance, disrupt health-related behaviors, and reduce the availability of time for self-care. Additionally, a significant association has been identified between mental health outcomes and work schedules. Specifically, fewer days engaged in remote work have been linked to increased work stress resulting from work overload and role uncertainty (Oakman *et al.*, 2020). On the other hand, a study conducted by S. Marmet revealed that engaging in remote work for 1% to 89% of the time did not exhibit significant impacts on employees' mental health parameters when compared to those in traditional work arrangements (Marmet, Wicki & Gmel, 2021). However, remote work which constituted 90% to 100% of

the time was associated with higher levels of depression, anxiety, and perceived stress. Similarly, A. Mondal found that both working remotely for fewer or more hours than the baseline were positively correlated with depression (Mondal *et al.*, 2021).

Furthermore, various factors such as media content orientation, social poverty, legal insecurity, unemployment, and prolonged exposure to negative emotions have been identified as contributors to the negative impact on mental health. Insufficient support from employers is associated with psychological stress among remote workers (Oakman *et al.*, 2020). Moreover, individuals engaged in remote work in developing countries have experienced a disproportionate number of adverse effects due to COVID-19-related restrictions when compared to their counterparts in developed countries (Liu *et al.*, 2021). In a study conducted by Alam in Bangladesh, several potential detrimental modulators of mental health were identified among students engaged in remote learning, including smoking, excessive use of social media, financial hardship, and having family members affected by COVID-19 (Alam *et al.*, 2021).

Discussion

The analysis of the existing literature on the psychological health of employees engaged in remote work reveals both positive and negative effects on their psychological well-being. The extent of these effects depends on various factors, including the individual's baseline psychological health, social status, and physical well-being. In the context of the global COVID-19 pandemic and subsequent war, the transition to remote work was a forced measure that occurred amidst a prevalent post-traumatic syndrome. As a result, the overall level of psychological health among the population declined, leading to a greater prevalence of negative impacts on the psychological well-being of professional remote workers, including the development of depression (Izdebski & Mazur, 2021; Liu *et al.*, 2021; Shepherd-Banigan *et al.*, 2016; Smit *et al.*, 2021), anxiety (Liu *et al.*, 2021; Mondal *et al.*, 2021; Smith *et al.*, 2021; Traunmüller *et al.*, 2020), stress (Barone Gibbs *et al.*, 2021; Liu *et al.*, 2021), and sleep quality (Mondal *et al.*, 2021; Smit *et al.*, 2021). The increasing prevalence of remote work has introduced new factors contributing to burnout. Both internal and external factors can contribute to this condition. Challenges associated with remote work include extended periods of sitting in front of a computer, primarily communicating with colleagues through messaging platforms. The boundaries between work and personal time become blurred when working from home. Individuals may experience disruptions from loved ones, making it difficult to concentrate, or conversely, feelings of isolation and a lack of communication can create pressure. Additionally, the demarcation between work and personal life becomes less distinct when working remotely. The impact of remote work on mental health and lifestyle is influenced by various protective

and detrimental factors, such as the level of social support (Jaspal, Lopes & Lopes, 2020; Oakman *et al.*, 2020), family dynamics, and the presence of work-family conflict (Liu *et al.*, 2021), work schedule and hours (Mondal *et al.*, 2021; Oakman *et al.*, 2020; Smit *et al.*, 2021), the professional environment, and factors directly related to the pandemic, such as the closure of childcare facilities (Birimoglu & Begen, 2022) and the availability of personal protective equipment (Traunmüller *et al.*, 2020). These findings suggest that the advantages and disadvantages of remote work are highly dependent on individual preferences and characteristics.

Future research should aim to identify specific subgroups within the population that may benefit most from remote work. To mitigate the negative impact on employees' psychological health, and address burnout and depression, employers should establish clear guidelines for work, including boundaries for after-hours work. Implementing a system of external and internal motivation for employees may also prove beneficial. Offering flexible working hours or hybrid work options, allowing employees to choose the conditions that best suit their needs, could help alleviate the challenges associated with remote work (Grzegorzcyk, Mariniello, Nurski & Schraepen *et al.*, 2021). The emotional well-being of employees should be regularly assessed, and a comprehensive corporate training system for remote work should be implemented. Offering employees the opportunity to work on a flexible schedule can enhance their sense of autonomy and reduce stress, leading to a positive perception of their work and increased personal happiness (Bosua, Gloet, Kurnia & Yong, 2019). In a study by Beno comparing the effects of a hybrid work model and a traditional office setting with cubicles, participants in the hybrid model reported higher levels of positive values such as support, care, and forgiveness compared to those who exclusively worked on-site. Research findings indicate that maintaining a balanced work environment can provide a protective effect on mental health (Beno, 2021). The implementation of flexible work schedules, particularly through the adoption of a hybrid model, can encourage older workers to extend their retirement period and create employment opportunities for individuals with physical disabilities (Moglia, Hopkins & Bardoel, 2021). Additionally, hybrid schedules can support the career advancement of women who seek to combine home and work responsibilities, aligning with cultural expectations or personal aspirations. Furthermore, the scientific literature highlights the presence of both protective and harmful factors associated with remote work. Therefore, employers are advised to prioritize the implementation of workplace safety measures to address potential negative impacts associated with virtual work environments. Based on the evidence, appropriate safeguards should include a robust technology support infrastructure to facilitate smooth remote work operations (Grzegorzcyk *et al.*, 2021), as well as policies that safeguard employees from excessive working hours to maintain a clear distinction between work and personal life (Moglia *et al.*, 2021). Moreover, it is recommended that hybrid work models promote opportunities for socialization and collaboration by leveraging digital conferencing platforms and incorporating virtual breaks between meetings to mitigate fatigue

and burnout (Grzegorzczuk *et al.*, 2021). As stated by Griep, the ability to control working time has the potential to enhance working conditions, safeguard against mental disorders, and foster a healthy work-life balance for remote workers (Griep *et al.*, 2022). Additionally, Shimura suggest that the increasing popularity of remote work can alleviate psychological and physical stress responses, although there may be concerns about the impact of full-time remote work on professional visibility. From a mental health perspective, the reevaluation of work styles is anticipated to yield positive effects even beyond the conclusion of the COVID-19 pandemic (Shimura *et al.*, 2021).

It is important to acknowledge that adaptation to remote work should encompass a comprehensive approach across all levels. While management plays a crucial role in implementing measures to enhance the psychological well-being of employees, individuals themselves must also proactively adjust to the changes in their living and working conditions. Adaptive strategies that promote protection may involve taking personal responsibility for one's well-being, cultivating self-awareness, practicing mindfulness, establishing a structured work schedule, effectively delineating boundaries between work and personal life, engaging in diverse activities, and incorporating practices such as physical exercise, yoga, meditation, and other relevant techniques.

The comprehensive analysis of the literature review, along with supporting evidence, highlights significant aspects of remote work that can be implemented to enhance the mental health and overall well-being of workers. Consequently, the potential value of flexible remote work arrangements warrants consideration in further research and development.

Conclusion

Our investigation elucidates an intricate web of factors that exacerbate the psychological strain on remote workers. Beyond the previously identified elements, such as sedentary lifestyles, unhealthy dietary habits, and limited peer interaction, this comprehensive analysis reveals additional layers of complexity. The psychological landscape of remote work is further marred by the pervasive sense of isolation, the blurring of work-life boundaries, and the relentless pressure to remain perpetually available, contributing to a profound sense of burnout and mental fatigue.

The research also highlights the disproportionate impact of remote work on specific demographics. Women, for instance, often bear the brunt of juggling professional responsibilities with an unequal share of domestic and caregiving duties, intensifying their psychological burden. Similarly, individuals with lower socioeconomic status face unique challenges, including inadequate workspaces, limited access to necessary technology, and the stress of financial insecurity, all of which amplify their vulnerability to mental health declines.

The synthesis of these findings points to an urgent need for holistic support systems that address the multifaceted nature of remote work-related stress. Organizations must prioritize the creation of virtual environments that foster social connection, implement flexible work policies that acknowledge the diversity of employee circumstances, and offer accessible mental health resources. Additionally, there is a call for societal shifts towards more equitable distribution of domestic responsibilities and enhanced support for those at the socioeconomic margins. Only through a concerted effort to tackle these diverse challenges can we hope to mitigate the adverse psychological effects of remote work and pave the way for a healthier, more resilient workforce.

References

- Alam, M. K., Ali, F. B., Banik, R., Yasmin, S., & Salma, N. (2021). Assessing the mental health condition of home-confined university-level students of Bangladesh due to the COVID-19 pandemic. *Z Gesundh Wiss*, 30(7), 1685-1692; DOI: 10.1007/s10389-021-01542-w.
- Alon, T. M., Doepke, M., Olmstead-Rumsey, J., & Tertilt, M. (2020). The impact of COVID-19 on gender equality: National Bureau of Economic Research. Report no. 0898-2937. Available at: <https://www.nber.org/papers/w26947>. Accessed 5 Jun 2020.
- Arntz, M., Ben Yahmed, S., & Berlingieri, F. (2020). Working from Home and COVID-19: The Chances and Risks for Gender Gaps. *Intereconomics*, 55, 381-386; DOI: 10.1007/s10272-020-0938-5.
- Baradaran Mahdavi, S., & Kelishadi, R. (2020). Impact of sedentary behavior on bodily pain while staying at home in COVID-19 pandemic and potential preventive strategies. *Asian J Sports Med*, 11; DOI: 10.5812/asjsm.103511.
- Barbieri, B., Balia, S., Sulis, I., Cois, E., Cabras, C., Atzara, S., & De Simona, S. (2021). Don't Call It Smart: Working from Home During the Pandemic Crisis. *Front. Psychol*, 12; DOI: 10.3389/fpsyg.2021.741585.
- Barone Gibbs, B., Kline, C. E., Huber, K. A., Paley, J. L., & Perera, S. (2021). Covid-19 shelter-at-home and work, lifestyle and well-being in desk workers. *Occup Med Oxf Engl*, 71(12), 86-94; DOI: 10.1093/occmed/kqab011.
- Belzunegui-Eraso, A., & Erro-Garcés, A. (2020). Teleworking in the context of the Covid-19 crisis. *Sustainability*, 12(9); DOI: 10.3390/su12093662.
- Beno, M. (2021). On-site and hybrid workplace culture of positivity and effectiveness: case study from Austria. *Acad J Interdiscip Stud*. 10(5), 331; DOI: 10.36941/ajis-2021-0142.
- Birimoglu, O.C., & Begen, M. A. (2022). Working from home during the COVID-19 pandemic, its effects on health, and recommendations: The pandemic and beyond. *Perspect Psychiatr Care*, 58(1), 173-179; DOI: 10.1111/ppc.12847.
- Biroli, P., Bosworth, S., Della Giusta, M., Di Girolamo, A., Jaworska, S., & Vollen, J. (2021). Family Life in Lockdown. *Front. Psychol*, 12; DOI: 10.3389/fpsyg.2021.687570.
- Bosua, R., Gloet, M., Kurnia, S., & Yong, J. (2013). Telework, productivity, and wellbeing: an Australian perspective. *Telecommun J Aust*, 63(1); DOI: 10.7790/TJA.V63I1.390.

- Bouziri, H., Smith, D. R. M., Descatha, A., Dab, W., & Jean, K. (2020). Working from home in the time of COVID-19: how to best preserve occupational health? *Occup Environ Med*, 77, 509-510; DOI: 10.1136/oemed-2020-106599.
- Buomprisco, G., Ricci, S., Perri, R., & De Sio, S. (2021). Health and Telework: New Challenges after COVID-19 Pandemic. *Eur. J. Environ. Public Health*, 5, em0073; DOI: 10.21601/ejeph/9705.
- Choi, E., Choi, K. W., Jeong, H.-G., Lee, M.-S., & Ko, Y.-H. (2021). Long working hours and depressive symptoms: Moderation by gender, income, and job status. *J. Affect. Disord*, 286, 99-107; DOI: 10.1016/j.jad.2021.03.001
- Di Renzo, L., Gualtieri, P., & Cinelli, G. (2020). Psychological aspects and eating habits during COVID-19 home confinement: results of EHLC-COVID-19 Italian Online Survey. *Nutrients*, 12, 2152.
- Douglas, M., Katikireddi, S. V., Taulbut, M., McKee, M., & McCartney, G. (2020). Mitigating the wider health effects of covid-19 pandemic response. *BMJ*, 369; DOI: 10.1136/bmj.m1557.
- Eurofound and the International Labour Office, (2017). Working anytime, anywhere: The effects on the world of work, Publications Office of the European Union, Luxembourg, and the International Labour Office, Geneva. Available at: <http://eurofound.link/efl658>.
- Galanti, T., Guidetti, G., Mazzei, E., Zappalà, S., & Toscano, F. (2021). Work from Home During the COVID-19 Outbreak. *J. Occup. Environ. Med*, 63, e426–e432; DOI: 10.1097/JOM.0000000000002236.
- Griep, R. H., Almeida, M. C. C., Barreto, S. M., Brunoni, A. R., & Duncan, B. B. (2022). Working from home, work-time control and mental health: Results from the Brazilian longitudinal study of adult health (ELSA-Brasil). *Front. Psychol*, 13; DOI: 10.3389/fpsyg.2022.993317
- Grzegorzczak, M., Mariniello, M., Nurski, L., & Schraepen, T. (2021). Blending the physical and virtual-a hybrid model for the future of work. *Policy Contribution*, 14, 43074.
- Henke, R. M., Benevent, R., Schulte, P., Rinehart, C., & Crighton, K. (2016). The effects of telecommuting intensity on employee health. *Am J Health Promot*, 30(8), 604-612; DOI: 10.4278/ajhp.141027-QUAN-544.
- Izdebski, Z. W., & Mazur, J. (2021). Changes in the mental well-being of adult Poles in the early period of the COVID-19 pandemic with reference to their occupational activity and remote work. *Int J Occup Environ Med*, 34(2), 251-262; DOI: 10.13075/ijomeh.1896.01778.
- Jaspal, R., Lopes, B., & Lopes, P. (2020). Predicting social distancing and compulsive buying behaviours in response to COVID-19 in a United Kingdom sample. Hubert M, ed. *Cogent Psychol*, 7(1); DOI: 10.1080/23311908.2020.1800924.
- Kim, J., & de Dear, R. (2013). Workspace satisfaction: the privacy-communication trade-off in open-plan offices. *J Environ Psychol*, 36, 18-26; DOI: 10.1016/j.jenvp.2013.06.007.
- Li, Z., Dai, J., Wu, N., Jia, Y., & Gao, J. (2019). Effect of Long Working Hours on Depression and Mental Well-Being among Employees in Shanghai: The Role of Having Leisure Hobbies. *Int. J. Environ. Res. Public Health*, 16, 4980; DOI: 10.3390/ijerph16244980.

- Liu, W., Xu, Y., & Ma, D. (2021). Work-related mental health under COVID-19 restrictions: a mini literature review. *Front Public Health*, 9(788370); DOI: 10.3389/fpubh.2021.788370.
- Majumdar, P., Biswas, A., & Sahu, S. (2020). COVID-19 pandemic and lockdown: Cause of sleep disruption, depression, somatic pain, and increased screen exposure of office workers and students of India. *Chronobiol. Int*, 37, 1191-1200; DOI: 10.1080/07420528.2020.1786107
- Marmet, S., Wicki, M., & Gmel G. (2021). The psychological impact of the COVID-19 crisis is higher among young Swiss men with a lower socioeconomic status: Evidence from a cohort study. *PLoS One*, 16(7), e0255050.
- Matthews, T. A., Chen, L., Omidakhsh, N., Zhang, D., & Han, X. (2022). Gender difference in working from home and psychological distress - A national survey of U.S. employees during the COVID-19 pandemic. *Ind. Health*, 60, 334-344; DOI: 10.2486/indhealth.2022-0077.
- Mendonça, I., Coelho, F., Ferrajão, P., & Abreu, A. M. (2022). Telework and Mental Health during COVID-19. *Int. J. Environ. Res. Public Health*, 19, 2602; DOI: 10.3390/ijerph19052602.
- Moglia, M., Hopkins, J., & Bardoel, A. (2021). Telework, Hybrid Work and the United Nation's Sustainable Development Goals: Towards Policy Coherence. *Sustainability*, 13(16), 9222.
- Mondal, A., Saha, I., Banerjee, N., & Saha, P. K. (2021). Impact of COVID-19 pandemic on psychological health and quality of sleep: An online survey from Kolkata. *Asian J Med Sci*, 12(10), 12-19; DOI: 10.3126/ajms.v12i10.38024.
- Moretti, A., Menna, F., Aulicino, M., Paoletta, M., Liguori, S., & Iolascon, G. (2020). Characterization of Home Working Population during COVID-19 Emergency: A Cross-Sectional Analysis. *Int. J. Environ. Res. Public Health*, 17; DOI: 10.3390/ijerph17176284.
- Niu, Q., Nagata, T., Fukutani, N., Tezuka, M., & Shimoura, K. (2021). Health effects of immediate telework introduction during the COVID-19 era in Japan: A cross-sectional study. *PLoS ONE*, 16; DOI: 10.1371/journal.pone.0256530.
- Oakman, J., Kinsman, N., Stuckey, R., Graham, M., & Weale, V. (2020). A rapid review of mental and physical health effects of working at home: How do we optimise health? *BMC Public Health*. 20, 1825; DOI: 10.1186/s12889-020-09875-z.
- Park, S., Kook, H., Seok, H., Lee, J. H., & Lim, D. (2020). The negative impact of long working hours on mental health in young Korean workers. *PLoS One*, 15; DOI: 10.1371/journal.pone.0236931.
- Rugulies, R., Sørensen, K., & Di Tecco, C. (2021). The effect of exposure to long working hours on depression: A systematic review and meta-analysis from the WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury. *Environ. Int*, 155; DOI: 10.1016/j.envint.2021.106629.
- Samani, S.A. (2015). The impact of personal control over office workspace on environmental satisfaction and performance. *J Soc Sci Humanit*, 1,163-172.
- Saranghi, A., Kim, D., & Rafael, J. (2022). The mental health impact of work from home: A literature review. *The Southwest Respiratory and Critical Care Chronicles*, 10(45), 10-18; DOI: 10.12746/swrccc.v10i45.1085.

- Sato, K., Sakata, R., Murayama, C., Yamaguchi, M., & Matsuoka, Y. (2021). Changes in work and life patterns associated with depressive symptoms during the COVID-19 pandemic: An observational study of health app (CALO mama) users. *Occup. Environ. Med*, 78, 632-637; DOI: 10.1136/oemed-2020-106945.
- Şentürk, E., Sağaltıcı, E., Geniş, B., & Günday Toker, Ö (2021). Predictors of depression, anxiety and stress among remote workers during the COVID-19 pandemic. *Work*, 70, 41-51; DOI: 10.3233/WOR-210082.
- Shepherd-Banigan, M., Bell, J. F., Basu, A, Booth-LaForce, C., & Harris, J. R. (2016). Workplace stress and working from home influence depressive symptoms among employed women with young children. *Int J Behav Med*, 23(1), 102-111; DOI: 10.1007/s12529-015-9482-2.
- Shimazu, A., Nakata, A., Nagata, T., Arakawa, Y., Kuroda, S., Inamizu, N., & Yamamoto, I. (2020). Psychosocial impact of COVID-19 for general workers. *J Occup Health*, 62(1); DOI: 10.1002/1348-9585.12132.
- Shimura, A., Yokoi, K., Ishibashi, Y., Akatsuka, Y., & Inoue, T. (2021). Remote Work Decreases Psychological and Physical Stress Responses, but Full-Remote Work Increases Presenteeism. *Front. Psychol*, 12; DOI: 10.3389/fpsyg.2021.730969.
- Smit, A. N., Juda, M., Livingstone, A., Stephanie R. U., & Mistlberger, R. E. (2021). Impact of COVID-19 social-distancing on sleep timing and duration during a university semester. *PLoS One*, 16(4); DOI: 10.1371/journal.pone.0250793.
- Smith, P. M., Oudyk, J., Potter, G., & Mustard, C. (2021). Labour market attachment, workplace infection control procedures, and mental health: a cross-sectional survey of Canadian non-healthcare workers during the COVID-19 pandemic. *Ann Work Expo Health*, 65(3), 266-276; DOI: 10.1093/annweh/wxaa119.
- Steidtmann, D., McBride, S., & Mishkind, M. C. (2021). Experiences of mental health clinicians and staff in rapidly converting to full-time telemental health and work from home during the COVID-19 pandemic. *Telemed J E Health*, 27(7), 785-791; DOI: 10.1089/tmj.2020.0305.
- Tavares, A. I. (2017). Telework and health effects review. *IJH*, 3, 30; DOI: 10.5430/ijh.v3n2p30.
- Toniolo-Barrios, M., & Pitt, L. (2021). Mindfulness and the challenges of working from home in times of crisis. *Bus. Horiz*, 64, 189-197; DOI: 10.1016/j.bushor.2020.09.004.
- Traunmüller, C., Stefitz, R., Gaisbachgrabner, K., & Schwerdtfeger, A. (2020). Psychological correlates of COVID-19 pandemic in the Austrian population. *BMC Public Health*, 20(1395); DOI: 10.1186/s12889-020-09489-5.
- Van der Elst, T., Verhoogen, R., Sercu, M., Van den Broeck, A., & Baillien, E. (2017). Not extent of telecommuting, but job characteristics as proximal predictors of work-related well-being. *J Occup Environ Med*, 59, e180-e186.
- Wang, C., Pan, R., Wan, X., Tan, Y., & Xu, L. (2020). Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int J Environ Res Public Health*, 17(5), 1729; DOI: 10.3390/ijerph17051729.
- Wardell, J. D., Kempe, T., Rapinda, K. K., Single, A., & Bilevicius, E. (2020). Drinking to cope during covid-19 pandemic: the role of external and internal factors in coping motive pathways to alcohol use, solitary drinking, and alcohol problems. *Alcohol Clin Exp Res*, 44(10), 2073-2083; DOI: 10.1111/acer.14425.

- Wenham, C., Smith J., & Morgan, R. (2020). COVID-19: the gendered impacts of the outbreak. *Lancet*, 395(10227), 846-848; DOI: 10.1016/S0140-6736(20)30526-2
- Xiao, Y., Becerik-Gerber, B., Lucas, G., & Roll, S.C. (2021). Impacts of Working from Home During COVID-19 Pandemic on Physical and Mental Well-Being of Office Workstation Users. *J. Occup. Environ. Med.*, 63, 181-190; DOI: 10.1097/JOM.0000000000002097.