# The Impact of Remote Work on Workplace Loneliness During and after COVID-19: A Literature Review

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*Abstract:* The COVID-19 pandemic has significantly transformed work practices, making remote work a mainstream operation rather than an option. This literature review investigates the complex relationship between remote work and workplace loneliness during and post-COVID-19. The review synthesizes findings from 13 empirical studies published between January 2020 and July 2024. Remote work offers flexibility, reduces commute times, and increases feelings of loneliness due to reduced social interactions. Key factors moderating this impact include social support, communication technologies, job demands, and job control. The review highlights the importance of robust social support systems and advanced communication tools to mitigate loneliness. It emphasizes the need for longitudinal research to understand the long-term effects of remote work on workplace loneliness. Practical insights for organizational leaders are provided to design remote work policies that enhance employee well-being and engagement.

*Keywords:* Remote work, Workplace loneliness, COVID-19, Social support, Communication technologies.

## 1. Introduction

In the 1970s, the role of telecommunication and computer technology in organizations began to attract significant attention. Nilles defined *telecommunication* as transmitting information over distances to facilitate communication, typically involving telephones, computers, and satellites to relay data, voice, or video [1]. At that time, telecommunication was regarded as a future-oriented mode of work.

With the advancement of information technology, telecommunication and related technologies have fundamentally changed the nature of work, enabling employees to work remotely [2]. This shift has led many organizations to adopt and implement remote work practices. According to Twentyman, in 2010, it was predicted that there would be 1.2 trillion remote workers globally after two years, reflecting the significant growth in electronic workers [3]. Before the COVID-19 pandemic, organizations had already adopted and studied remote work as a viable method. Research has shown that remote working can improve employee productivity and decrease absenteeism, thus aiding employee retention [4]. However, it also has drawbacks, such as the blurring of work and home boundaries, which can lead to increased work-family conflicts and reduced restorative effects of home [5].

Although numerous studies focused on remote work at the time, the limited scope of its application indicated certain research limitations. These studies often concentrated on specific industries or job

types where remote work was more feasible, thus not capturing the broader implications across diverse work environments [6]. However, the onset of the COVID-19 pandemic brought about a significant transformation in work practices. The work location shifted from traditional workplaces to home environments, making remote work a mainstream mode of operation [7].

The COVID-19 pandemic necessitated rapid adaptations to remote work, which became a widespread necessity rather than a mere option. This sudden shift magnified both the benefits and challenges previously identified in research. Studies have shown that remote work during the pandemic has increased feelings of isolation and stress among employees, negatively impacting their mental health and overall well-being [8,9]. The psychological toll of prolonged remote work includes increased anxiety, depression, and a sense of disconnection from colleagues [8].

During the COVID-19 pandemic, workplace loneliness has garnered increasing attention from the public and policymakers [10]. According to Perlman and Peplau, loneliness is an unpleasant experience that arises when an individual's social relationships are perceived as deficient in either quantity or quality [11]. This highlights the subjective nature and distressing impact of loneliness. The effect of loneliness is far-reaching, affecting physical health, mental health, and even mortality rates [12]. The workplace plays a crucial role in adults' lives, as they spend significant time at work and may develop meaningful interpersonal relationships. Dissatisfaction with workplace relationships can lead to feelings of loneliness, which in turn can result in the emergence of mental health issues [10]. This is particularly relevant during COVID-19, as remote work has separated from established work relationships, exacerbating the sense of isolation [13]. The impact of remote work on workplace loneliness is profound, underscoring the need for further investigation into practical strategies to mitigate these effects.

Although there is considerable research on remote work, studies explicitly focusing on its impact on workplace loneliness are limited. Existing research has primarily addressed the effects of remote work on productivity and job satisfaction, leaving a gap in understanding its psychological and social implications. Studies often focus on broader well-being and mental health outcomes rather than specifically targeting the topic of loneliness. Research on mediators and moderators that could alleviate the adverse effects of remote work on loneliness, such as social support, job design, and the use of technology, needs to be more explored. Furthermore, much of the existing research on remote work and loneliness is rooted in the pre-pandemic era when remote work was less widely implemented. This needs to be clarified in summarizing the post-pandemic effects of remote work.

Additionally, most existing studies are cross-sectional, providing a snapshot of the impacts of remote work on loneliness. There is a need for longitudinal research to understand the long-term effects and trends of remote work on workplace loneliness and mental health [10]. This review aims to inspire future longitudinal research by highlighting the temporal differences in existing studies.

The primary purpose of this literature review is to investigate the complex relationship between remote work and workplace loneliness, particularly in the context of the COVID-19 pandemic. It aims to synthesize existing research findings to understand how remote work influences employees' loneliness experiences and identify factors that can mitigate or exacerbate this effect. The findings will offer practical insights for managers and organizational leaders, helping them design remote work policies that reduce loneliness and enhance employee well-being. By identifying gaps and limitations in existing research, this study will highlight areas for future investigation, encouraging further scholarly exploration in this critical field.

## 2.  Method

This literature review employs a systematic methodology to analyze the impact of remote work on workplace loneliness during and post-COVID-19. The review began by identifying critical research databases, including PubMed, Web of Science, and Google Scholar, chosen for their extensive

coverage of psychological, medical, and social science literature. A comprehensive search was conducted using a combination of keywords such as "remote work," "workplace loneliness," "COVID-19," "telecommuting," and "mental health." This search was restricted to empirical research articles published between January 2020 and July 2024 to ensure that the most relevant and recent studies were included.

The initial search yielded 62 articles related to remote work and workplace loneliness. In the first round, articles were meticulously screened based on their titles and abstracts. Non-empirical research, literature reviews, and articles that did not specifically address remote work and workplace loneliness were excluded. This rigorous screening process resulted in 38 articles. In the second round, we extensively read these articles' introduction and conclusion sections to assess their relevance to the review topic. After the second round, 25 articles were excluded because their focus was not directly related to the impact of remote work on workplace loneliness. The final selection included 13 highly relevant research articles.

## 3. Result

The advent of remote work, particularly accelerated by the COVID-19 pandemic, has significantly altered the work environment. While remote work offers numerous benefits, such as flexibility and reduced commute times, it also introduces challenges, notably increased feelings of loneliness among employees. Loneliness can lead to losing hope, reducing well-being and work engagement [14]. This literature review synthesizes findings from various studies to explore the relationship between remote work and loneliness, highlighting key themes and interventions that can mitigate loneliness in remote work settings.

### 3.1. Loneliness and Remote Work: A Complex Relationship

The relationship between remote work and workplace loneliness has been the subject of extensive investigation, particularly in light of the COVID-19 pandemic. Firstly, Rund conducted a cross-sectional survey among German employees and found no significant relationship between the extent of remote work and loneliness (b = 24.03, SE = 14.26, p = 0.09). However, loneliness at work was negatively associated with job-related subjective well-being (b = -0.50, SE = 0.15, p = 0.00)., indicating that employees who felt lonelier experienced lower well-being [15]. Similarly, Miyake et al. found no direct relationship between remote work and loneliness. Miyake et al. found while there was no significant difference in loneliness between remote and non-remote workers overall, those working remotely four or more days a week experienced marginally higher odds of feeling lonely (AOR = 1.23, 95% CI: 0.99–5.84, P = 0.066), highlighting the importance of social support from coworkers and supervisors [16].

Initial studies suggested no significant relationship between remote work and loneliness. However, as more data became available, newer studies began to uncover different aspects of this dynamic. Yang et al. examined the impact of workplace cyber ostracism on employee engagement and mental well-being. Their findings highlighted that remote work could exacerbate feelings of loneliness due to reduced social interactions [17]. Riski et al. focused on the impact of remote work on feelings of loneliness among workers in Jakarta during the COVID-19 pandemic. They found a significant positive effect of remote work on loneliness [18].

Further supporting this view, Bollestad et al. and Taser et al. found that remote work increased loneliness among employees, with Taser et al. emphasizing that the reduced face-to-face interactions inherent in remote work settings contribute significantly to heightened feelings of loneliness [19,20]. Cheng et al. identified a significant positive correlation between flexible work arrangements and

feelings of workplace loneliness. They noted that the flexibility provided by remote work could disrupt regular work routines and social interactions, leading to increased loneliness [21].

## 3.2. Factors Moderating Role in Remote Work and Loneliness

### 3.2.1. Social Support

The transition to remote work, especially during the COVID-19 pandemic, has significantly impacted employees' experiences of loneliness. Social support has been identified as a crucial factor in moderating the adverse effects of remote work on loneliness. Although Rund found no direct link between remote work and workplace loneliness, supervisor support was identified as a crucial factor in mitigating the negative effects of remote work on loneliness [15]. Miyake et al.investigated the relationship between job stress, loneliness, and remote work among desk workers in Japan. They found that low co-worker and supervisor support was strongly associated with increased loneliness [16]. This suggests that enhancing social support through communication technologies can reduce loneliness among remote workers. Becker et al. found that social support helps reduce emotional exhaustion and improve work-life balance, indirectly alleviating feelings of loneliness in remote work settings [22]. Similarly, Cheng et al. noted that higher interdependence, a form of social support, significantly reduces loneliness associated with remote work [21]. Recently, O'Hare et al. focused on healthcare workers and found that perceived social support significantly moderated the negative effects of remote work on well-being. Higher levels of social support were associated with reduced loneliness and improved well-being, suggesting that social support is a vital buffer against the adverse effects of remote work on loneliness [23]. The study advocated for interventions to enhance social support among remote workers.

Notably, Walz et al. explored how job and home support impacted workplace loneliness during remote work. Their findings indicated that job support effectively buffered the adverse effects of job demands on workplace loneliness. However, home support did not significantly buffer the impact of home demands, suggesting that workplace social support is more critical in mitigating loneliness in remote work environments. This study implies that different types of social support have varying impacts on workplace loneliness [24].

### 3.2.2. Influence of Communication Technologies on Loneliness

Communication technologies play a pivotal role in addressing the challenges of remote work, particularly in mitigating loneliness and enhancing job engagement. Taser et al. explored the role of technostress and loneliness in remote work settings, finding that these factors acted as serial mediators in the relationship between remote e-working and employee flow experiences. High levels of technostress and loneliness negatively impacted employees' flow states, thereby reducing their overall work satisfaction and engagement [20]. This underscores the importance of managing technostress to enhance job engagement and reduce loneliness in remote work environments. Yang et al. examined the impact of workplace cyber ostracism on employee engagement and mental well-being, revealing that loneliness significantly mediated this relationship. Ineffective communication was identified as a significant mediator, indicating that poor communication exacerbates feelings of isolation and loneliness in remote work settings. Therefore, improving communication strategies can mitigate the negative effects of cyber ostracism [17]. Similarly, Miyake et al. emphasized that enhancing social support through communication technologies can reduce loneliness among remote workers, highlighting the crucial role of these technologies in maintaining social connections and well-being [16].

Bareket-Bojmel et al. also found that employees with moderate and high levels of loneliness are at risk for decreased job engagement as the intensity of remote work increases. As remote work

density rises, effective communication technologies become even more critical in mitigating loneliness [25]. This highlights the need for robust communication technologies to foster hope and engagement, ensuring remote workers remain connected and motivated. Chuang et al. examined the role of information quality in remote work settings, discovering that timely and accurate information reduces loneliness and positively affects well-being. Improving information quality can enhance job engagement by reducing loneliness [26].

These studies underscore the critical role of communication technologies in mitigating loneliness and enhancing job engagement in remote work settings. Effective use of these technologies can reduce technostress, improve information quality, and address issues of cyber ostracism, thereby supporting employee well-being and productivity. Organizations should prioritize implementing advanced communication tools and strategies to maintain social connections and support remote workers effectively.

### 3.2.3. Job Demand & Job Control

The shift to remote work has brought about significant changes in job demands, job control, and employee work habits. This transformation requires a deeper understanding of how these job-related factors interact and influence employee well-being and productivity. Recognizing the moderating effects of these elements is essential for effectively managing the challenges and opportunities in remote work environments.

Job demands refer to a job's physical, psychological, social, and organizational aspects that require sustained effort and are associated with specific physiological and psychological costs. These demands include high work pressure, an unfavorable physical environment, and emotionally demanding client interactions [27]. Miyake et al. found that high psychological job demands were significantly associated with increased work loneliness (AOR = 2.04, 95% CI: 1.39–2.99, P < 0.001). This relationship underscores the importance of managing job demands to reduce feelings of isolation among remote workers [16]. Walz et al. examined the impact of job and home demands on workplace loneliness during remote work. They found job demands increased workplace loneliness through work-to-home interference [24]. This relationship was moderated by job support, indicating that support from the workplace can buffer the negative effects of job demands on loneliness.

On the other hand, Becker et al. focused on the impact of job control and work-related loneliness during the transition to remote work [22]. Job control refers to the extent to which employees can exert influence over their work environment, including decisions about how and when work is completed [28]. The study found that high job control was associated with lower levels of emotional exhaustion and better work-life balance. However, work-related loneliness was negatively related to these outcomes, highlighting the critical role of job control in mitigating the negative effects of loneliness. The findings suggest that enhancing job control can help reduce loneliness and improve overall well-being in remote work settings [22]. Similarly, Cheng et al. found that structured collaboration and job control, particularly flexible work arrangements, can help maintain social connections and support job engagement, thereby alleviating the loneliness associated with remote work [21].

These studies highlight the significant impact of job demands and job control on loneliness in remote work settings. High job demands are consistently associated with increased feelings of loneliness. Conversely, high job control reduces emotional exhaustion and improves work-life balance, thereby mitigating the negative effects of loneliness. Structured collaboration further enhances job engagement and social connections, addressing the isolation that remote work can entail. Organizations should focus on managing job demands, enhancing job control, and fostering a supportive work environment to improve the well-being and productivity of remote workers.

## 4.    Discussion

The results of this literature review highlight the complex relationship between remote work and workplace loneliness. The primary findings indicate that while some studies initially found no significant direct relationship between the extent of remote work and loneliness [15, 16], further investigation revealed that increased remote work could exacerbate feelings of loneliness, particularly due to reduced social interactions [17, 18]. Additionally, various factors, such as social support, communication technologies, job demands, and job control, play critical roles in moderating the impact of remote work on loneliness.

These results build on existing evidence of the adverse psychological effects of remote work and provide new insights into workplace loneliness. Specifically, the findings underscore the importance of implementing robust social support systems and leveraging communication technologies to mitigate the negative impact of remote work on employees' mental health. In a corporate setting, this can be achieved by fostering strong relationships through regular virtual team meetings, providing platforms for informal social interactions, and ensuring that supervisors offer consistent and meaningful support to their teams. Additionally, companies should invest in advanced communication tools that facilitate seamless collaboration and real-time interaction among remote workers. Providing training on effectively using these technologies can further enhance connectivity and reduce feelings of isolation. By prioritizing these strategies, organizations can maintain high employee engagement and well-being levels despite the physical distances imposed by remote work arrangements. This holistic approach addresses the immediate challenges posed by remote work and promotes a sustainable work environment conducive to long-term productivity and job satisfaction.

The generalizability of the results is limited by the scope of the literature review, which primarily focuses on studies conducted during and post-COVID-19. The cross-sectional nature of many impacts the reliability of this data, which included studies that provide a snapshot rather than a longitudinal view of the impacts of remote work on loneliness. Due to the lack of available longitudinal data, the results cannot confirm the long-term effects of remote work on workplace loneliness. Additionally, methodological choices were constrained by the availability and accessibility of relevant studies within the specified timeframe.

Further research is needed to establish a more comprehensive understanding of the long-term effects of remote work on workplace loneliness. Longitudinal research is crucial to understanding the evolving nature of remote work and its psychological implications. Future studies should consider the varying impacts of different types of remote work arrangements and explore the role of emerging communication technologies in mitigating loneliness. Additionally, investigating the effectiveness of various organizational interventions, such as structured collaboration and enhanced job control, can provide valuable insights into strategies for reducing loneliness and improving employee well-being in remote work settings.

## 5.    Conclusion

Remote workers experience significant workplace loneliness, as evidenced by the increased feelings of isolation during and after COVID-19. Efforts are being made to mitigate this loneliness, and although such aims are often regarded as challenging, they highlight a necessary move towards a more supportive remote work environment. Recent strategies include implementing robust social support systems, leveraging advanced communication technologies, and managing job demands and job control to alleviate loneliness. These strategies are crucial in fostering a sustainable work environment conducive to long-term productivity and employee well-being.

The primary findings of this literature review indicate a complex relationship between remote work and workplace loneliness. Remote work can exacerbate feelings of loneliness, particularly due to

reduced social interactions and support. However, effective social support, communication technologies, and job management strategies are critical in moderating these impacts. While these strategies are still developmental, they articulate a contemporary desire for the remote work system to support employees' diverse and complex psychological needs.

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