A Comprehensive Review of Mental Health and Well-being Interventions in the Construction Industry

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The construction industry faces significant mental health challenges due to its demanding physical conditions, transient employment nature, and entrenched cultural stigmas. This comprehensive review examines key stressors such as job insecurity, hazardous work environments, and the "macho" workplace culture that contribute to elevated rates of anxiety, depression, and suicide among construction workers. It explores intervention strategies including workplace-based programs, technology-driven tools, and emerging frameworks for promoting positive mental health. Peer-led initiatives like MATES in Construction reduce stigma and enhance support systems, while digital tools such as apps and real-time stress monitors increase accessibility and privacy. A multi-tiered approach encompassing primary, secondary, and tertiary interventions is recommended to address mental health holistically. Additionally, this review advocates a shift from reactive to proactive strategies, emphasizing well-being through positive mental health promotion. Despite progress, barriers such as stigma and resource constraints hinder implementation. Future directions include longitudinal studies to assess intervention efficacy, tailored programs for underrepresented groups, and scalable solutions for smaller firms. By integrating these strategies, the construction industry can foster a more resilient workforce, improving productivity and overall well-being. This paper highlights the need for systemic change to address mental health challenges and sustain the sector's social and economic contributions.

Keywords: Mental Health, Interventions, Stressor, MATES in Construction, Health and Safety, Construction Workers

Introduction

The construction industry is a crucial pillar of the global economy, responsible for building and maintaining the infrastructure essential to modern life. This sector not only supports housing, transportation, and energy but also drives employment and economic growth (Blake et al., 2023). In many countries, construction accounts for a significant share of GDP and is a primary source of jobs, particularly for those without formal higher education (Greiner et al., 2022). However, the construction industry has been burdened with a reputation for being dangerous, stressful, nomadic, and generally unpleasant and often perceived as a low-status sector, with the workforce predominantly comprising migrants, and ethnic minorities (Mucci et al., 2019; Rotimi et al., 2023).

The construction industry faces unique and pressing mental health challenges, including elevated rates of stress, anxiety, depression, and suicide (Aurelius et al., 2024; Greiner et al., 2022; Mehany et al., 2024). For instance, in Australia, 20% of construction workers report experiencing psychological disorders (Liu et al.,

2021). Additionally, Blake et al. (2023), found that 97% of construction workers experience work related stress. High job demands, job insecurity, financial instability, and a "macho" work culture that often discourages help-seeking behaviors exacerbate these issues (Greiner et al., 2022; Mehany et al., 2024). These challenges have been associated with increased rates of drug and substance abuse as a coping mechanism, as well as suicides among construction workers (Aurelius et al., 2024; Blake et al., 2023). Alarmingly, multiple studies indicate that male construction workers are three to four times more likely to die by suicide compared to the national average for men in the general population (Aurelius et al., 2024; Blake et al., 2023; Greiner et al., 2022; Mehany et al., 2024). Additionally, the industry's unique demands, such as long hours, physical labor, and high-risk work conditions, often place immense strain on workers' mental health (Construction Industry Council, 2022). These factors contribute to significant job stressors that threaten the mental health of construction workers (Rotimi et al., 2023). To combat this trend and effectively address these issues, proper management and robust support systems from construction companies are essential (Nwaogu et al., 2022).

Poor mental health among construction workers has severe consequences, not only for the individuals involved but also for the industry's overall productivity, safety, and stability. Negative working conditions have been shown to adversely affect both the performance and productivity of construction workers as well as their physical and mental health (Oswald et al., 2019; Rotimi et al., 2023). On the physical front, other than fatalities, some of the disabilities and injuries experienced by construction workers include asthma, cancers, contact dermatitis, noise-induced hearing loss and musculoskeletal disorders (Turner & Lingard, 2020). On the mental front, anxiety, depression, and heightened risk of suicide, can lead to higher absenteeism, reduced productivity, and increased rates of turnover (Campbell & Gunning, 2020; Greiner et al., 2022; Liu et al., 2021). Additionally, the industry's "macho" culture discourages workers from seeking support, which exacerbates these issues and can contribute to accidents and safety hazards on-site or suicide and opioid addiction and misuse offsite (Blake et al., 2023; Campbell & Gunning, 2020; Lingard & Turner, 2017).

Addressing mental health in construction is thus essential, as it directly impacts workforce retention, project timelines, and the ability to maintain a skilled, resilient workforce (Construction Industry Council, 2022). It can therefore be inferred that efforts to prioritize mental health support within this industry are not only beneficial for workers but are also integral to sustaining the economic and social contributions that the construction industry provides. In response, numerous interventions, from peer-led support programs to organizational restructuring, have been developed to address these concerns. This paper is focused on synthesizing the current literature to provide a comprehensive analysis of existing mental health research in the construction industry, with a particular focus on stressors, intervention types, methodological approaches, and emerging perspectives that highlight the potential of positive mental health frameworks.

Methodology

This study employed a qualitative literature review to identify and synthesize themes related to mental health stressors and intervention methods in the construction industry. Articles were sourced from reputable online databases, including PubMed, Scopus, Web of Science, and Google Scholar, as well as through manual searches of key journals such as *Journal of Construction Engineering and Management* and *Occupational Health Psychology* to ensure comprehensive coverage. Articles were included if they focused specifically on mental health issues and interventions within the construction industry, were published between 2016 and 2024, were peer-reviewed, and written in English. Articles were excluded if they were published prior to 2016, did not address construction-specific mental health issues or intervention methods, or lacked relevance or methodological rigor. Titles, abstracts, and full texts were screened to ensure suitability. Data from the selected articles were extracted using a structured template, focusing on key aspects such as intervention methods, outcomes, challenges, and identified gaps in the literature. The findings were synthesized to provide a clear understanding of the interventions, stressors, and their effectiveness, which were then presented in the form of a literature review.

Discussion
Key Mental Health Stressors in the Construction Industry
Physical and Job-Related Demands
Construction work involves significant physical demands, such as long hours, repetitive heavy lifting, and exposure to unsafe or extreme conditions. These factors frequently result in chronic pain, fatigue, and physical injuries, which are closely linked to mental health challenges (Jia et al., 2016; Karthick et al., 2022; Oswald et al., 2019; Turner & Lingard, 2020). For instance, chronic pain from injuries is strongly associated with heightened stress and anxiety among workers (Oswald et al., 2019; Turner & Lingard, 2020). Moreover, the constant risk of severe injuries or fatalities on construction sites fosters a stressful work environment, often exacerbated by insufficient mental health support (Oswald et al., 2019). Long-term exposure to these conditions underscores the need to address the interplay between physical strain and mental health in the construction industry.

Financial Challenges
Job insecurity is another major stressor in the construction industry, where project-based employment often leads to financial instability and limited access to long-term benefits. This financial stress, particularly for lower-skilled workers, restricts access to resources that could improve mental health (Construction Industry Council, 2022). Greiner et al. (2022) found that financial insecurity significantly increases anxiety and discourages investment in self-care or mental health resources due to cost concerns. The transient nature of construction work further disrupts work-life balance, adding to the mental strain caused by career unpredictability (Construction Industry Council, 2022; Greiner et al., 2022).

Social and Cultural Challenges
Every industry develops a distinct culture influenced by its practices, values, and goals (Aurelius et al., 2024). In construction, a pervasive "macho" culture discourages discussions about mental health, fostering stigma and equating vulnerability with weakness (Nwaogu et al., 2022). This pressure, especially among male workers who dominate the industry, often prevents help seeking, worsening issues like depression, anxiety, and substance abuse (Blake et al., 2023). As a result, cultural stigma undermines the effectiveness of mental health programs, deterring participation and limiting access to critical support systems (Nwaogu et al., 2022).

Social dynamics in construction teams are often strained by hierarchical structures and high-stress demands, leading to conflicts, bullying, and harassment that heighten mental health risks (Blake et al., 2023; Nwaogu et al., 2022; Oswald et al., 2019). Nwaogu et al. (2022) highlight how poor relationships and workplace harassment are pervasive contributors to mental strain, emphasizing the need for interventions that promote respectful and supportive environments.

On the other end of the spectrum, female construction workers face unique stressors, including both overt and subtle forms of sexism (Blake et al., 2023; Nwaogu et al., 2022; Rotimi et al., 2023). Rotimi et al. (2023) highlight that women often encounter benevolent sexism (e.g., being assigned stereotypically "female" roles) as well as hostile sexism (e.g., harassment and exclusion from team discussions). These challenges contribute to higher stress levels among women in construction, as they must contend not only with the physically demanding aspects of the work but also with the added pressures of navigating a predominantly male-dominated space (Rotimi et al., 2023). Compounding this problem is the impact of isolation women generally experience in the industry. With women representing less than 10% of the construction workforce, isolation and lack of mentorship add to the mental health challenges faced by female workers. Studies show that women in construction report lower job satisfaction, higher turnover rates, and greater workplace disengagement, as they struggle with the absence of adequate support systems. This gender-specific stressor highlights the importance of interventions that address sexism and foster inclusive support networks (Blake et al., 2023; Nwaogu et al., 2022; Rotimi et al., 2023).

Intervention Strategies for Mental Health in Construction

To address the diverse mental health challenges faced by construction workers, researchers have identified various targeted intervention strategies aimed at specific stressors and mental health risks inherent to this high-demand field. These interventions include workplace-based programs designed to reduce on-the-job stressors, technology-driven approaches to support mental health as well as evolutions towards resilience and the maintenance of positive mental health. The following discussion examines these different types of mental health and wellbeing interventions in the construction industry.

Workplace-Based Programs
MATES in Construction (MIC).   Mental health problems including anxiety, stress and depression are prevalent among construction workers and require effective interventions (Nwaogu et al., 2022). To address this growing concern, several intervention programs have been developed and have gained popularity in the construction industry. MATES in Construction (MIC), a peer-led mental health intervention originating in Australia, is one of the most well-regarded programs aimed at reducing suicide rates and mental health stigma among construction workers. MIC trains peers on-site to identify signs of mental distress and fosters an environment where workers feel supported in discussing mental health issues openly (Gullestrup et al., 2023; Martin et al., 2016). Studies show that MIC significantly improves mental health literacy and encourages help-seeking behaviors among workers (Gullestrup et al., 2023).

Campbell and Gunning (2020) recommend enhancing MIC's effectiveness by adding structured group activities, such as scheduled mental health discussions and health screenings with the aim of providing workers with regular, non-stigmatizing opportunities to engage in conversations about mental health within a supportive, structured setting (Campbell & Gunning, 2020). This view is supported by Garbett (2022), who found that incorporating scheduled mental health discussions and health screenings reinforces MIC's benefits (Garbett, 2022). These initiatives provide workers with opportunities to openly discuss challenges in a supportive setting, with consistent engagement helping to reduce stigma and improve mental health outcomes. Additionally, health screenings serve to identify issues early, allowing interventions to be implemented before conditions worsen (Campbell & Gunning, 2020).

Changing Organizational Policy.   Other workplace-based programs unlike MIC focus on changing organizational policy and culture to foster positive mental health. Chan et al. (2020) suggests conducting regular psychosocial risk assessments and implementing policies that adjust job demands, improve job control, and provide leadership training (Chan et al., 2020). According to Blake et al. (2023), leaders who model openness to mental health issues can effectively shift workplace norms, promoting a culture of support that normalizes mental health discussions (Blake et al., 2023).

An Integrated Approach.   According to Nwaogu et al. (2022), an integrated approach is needed in ensuring mental well-being for construction workers (Nwaogu et al., 2022). Interventions have been broken down by Nwaogu et al. (2022) and Newaz et al. (2022) into three main categories: Primary interventions, Secondary interventions and Tertiary interventions (Newaz et al., 2022; Nwaogu et al., 2022). These interventions are categorized based on the timing of their implementation, their specific objectives, and the methodologies employed in their administration.

Primary interventions are defined as proactive measures aimed at identifying and mitigating potential mental health problems (Newaz et al., 2022; Nwaogu et al., 2022). This type of intervention involves identifying potential workplace stressors and mitigating them wherever possible (Newaz et al., 2022; Nwaogu et al., 2022). Lingard identifies systems level approaches to healthy outcomes as efforts by the construction companies geared towards addressing excessive workloads, job complexity and working on shifts (Turner & Lingard, 2020). This approach as described by Turner and Lingard (2020), is comparable to the primary intervention method outlined by Nwaogu et al. (2022) and Newaz et al (2022).

Secondary interventions on the other hand are focused directly on employees, aiming to build their resilience to workplace stressors. In this approach, the intervention seeks to influence how employees respond to inherent work-related stressors (Newaz et al., 2022; Nwaogu et al., 2022). Lingard further identified individual approaches, which can be likened to secondary interventions according to Nwaogu et al. (2022) and Newaz et al (2022) as inclusive of programs which encourage the cessation of smoking, dietary awareness and healthy eating initiatives and the importance of exercise (Turner & Lingard, 2020). As these examples illustrate, these approaches aim to modify individual human behaviors. The examples presented by (Turner & Lingard, 2020) support the view that food insecurity, exemplified by onsite food deserts can significantly impact the mental health of construction workers. It can therefore be inferred that onsite food insecurity plays a significant role in shaping construction workers' overall mental well-being.

In contrast to primary and secondary interventions, which focus on prevention and resilience, tertiary interventions are specifically aimed at treatment. When primary or secondary interventions fail to adequately safeguard the mental health of employees, it becomes essential to provide support for the treatment of mental health issues they may be experiencing (Newaz et al., 2022; Nwaogu et al., 2022). Although this final intervention method is reactive and serves as a fail-safe, it is a crucial component of any mental health framework. However, it should not be the sole basis for developing or implementing a framework. Ideally, it should be preceded or accompanied by primary and secondary interventions to ensure comprehensive mental health support for employees.

Like Nwaogu et al. (2022) and Newaz et al. (2022), Turner and Lingard (2020) also share the view that an integrated approach is needed in securing mental well-being for construction workers. However, the integrated approach envisioned by Turner and Lingard (2020) would require the observance of and conformance with Occupational Safety and Health (OSH) standards, a primary intervention, as well as worksite health promotion (WHP) which is a secondary intervention (Turner & Lingard, 2020). This integrated approach as proposed by Turner and Lingard (2020), unlike the model proposed by Nwaogu et al., (2022), did not explicitly include a tertiary intervention methodology, but on close examination, included strategies which would fall under each category of intervention as classified by Nwaogu et al. (2022). As evidenced by the consensus on primary, secondary, and tertiary interventions, researchers broadly agree on their critical role in addressing mental health concerns within the construction industry. This alignment across research underscores the shared recognition of these ideas, reinforcing the case for their integration into mental well-being frameworks. Nwaogu et al. (2022), through a survey study identified what they considered the most effective strategies for integrating mental well-being into the construction industry, findings that are also supported by Gruttadaro and Beyer (2021). The most effective strategies identified by both sets of researchers included implementation of a compressed workweek (allowing for a better work-life balance), job sculpting (tailoring job roles to better align with workers' interests), flexible work arrangements (offering flexible schedules to accommodate personal needs and reduce stress) and enhanced workplace support (fostering a supportive environment where discussions on mental well-being are encouraged, and company initiatives actively support mental health) (Gruttadaro & Beyer, 2021; Nwaogu et al., 2022). To better understand the impact and long-term effectiveness these strategies could have on the mental health and wellbeing of construction workers, further research in the form of a longitudinal study should be conducted. Longitudinal studies would provide valuable insights into mental health interventions, particularly how these interventions influence mental health of construction workers and could also help in fostering more openness surrounding mental health. Necessary adjustments to the intervention strategies could also be informed by longitudinal studies, enabling researchers and mental health advocates to refine and enhance the effectiveness of these strategies over time.

Technology-Driven Interventions
As technology plays an increasingly pivotal role in society, digital tools are opening new pathways for mental health interventions in the construction industry. These technological solutions offer key advantages, such as improving accessibility by offering on-demand services, the convenience of reaching workers in remote areas,

906

real-time mental health monitoring and support, and the anonymity for help-seekers which helps reduce stigma often associated with mental health (Jebelli et al., 2018; King et al., 2023; National Institute of Mental Health, 2024). Technology has greatly simplified mental health outreach, enabling anyone with a tablet, phone, or laptop to access a variety of help-seeking networks that are not limited to specific industries. For instance, in the U.S., individuals can access 24/7 mental health support through the 988 Suicide and Crisis Lifeline (https://988lifeline.org/), making assistance readily available to all (National Institute of Mental Health, 2024).

Blended Interventions: Combining Digital and In-person Support.   Research indicates that technology-based mental health tools, when combined with in-person support, can further encourage help-seeking behaviors and provide resources directly at the point of need (King et al., 2023). For instance, King et al. (2023) found that blending digital support (like the MATESmobile app) with in-person training significantly increases help-seeking intentions among construction workers. Created as a plugin to the MIC program, MATESmobile provides mental health support through a smartphone app, allowing workers to access resources, connect with mental health professionals, and even reach out to peer supporters. King et al. (2023) conducted a randomized controlled trial on the app's efficacy, revealing that when paired with in-person mental health training, it increased help-seeking intentions among construction workers. This combined approach to mental health interventions offers flexibility by providing mobile-accessible resources while also ensuring that in-person support is available when necessary (King et al., 2023). The blended intervention model, which combines digital resources with traditional in-person support, is especially effective in industries like construction, where stigma often hinders access to mental health care. The digital component provides privacy and accessibility, while in-person support fosters a workplace culture where mental health discussions are normalized. King et al. (2023) found that workers who participated in blended interventions reported higher levels of mental health literacy and demonstrated a greater willingness to use support services than those who had access only to digital resources.

Electroencephalogram and machine learning.   Jebelli et al. (2018) also recognize the potential of technology in supporting mental health, particularly as an early predictor of mental health challenges as they developed a tool that uses EEG (electroencephalogram) technology combined with machine learning to detect stress levels in real time on construction sites, achieving an accuracy rate of over 80% (Jebelli et al., 2018). An EEG measures brain activity by detecting electrical signals on the scalp. By using machine learning algorithms, the tool analyzes these signals and recognizes patterns that indicate stress. This data is then used to monitor workers' stress levels in real time, providing insights into their mental well-being. This tool continuously tracks stress, providing valuable support in the construction industry, where workers often face unpredictable, high-stress situations (Jebelli et al., 2018).

One of the key benefits of EEG technology is its ability to detect stress early, ideally before it impacts a worker's mental or physical health. For instance, real-time notifications could allow supervisors to adjust workloads or schedule rest periods, preventing acute stress from escalating into more serious mental health issues like anxiety or depression. Additionally, Jebelli et al. (2018) suggest that the data gathered can support broader organizational assessments, helping companies identify high-stress roles or job sites that may require targeted interventions (Jebelli et al., 2018). In general, technological advances in mental health interventions allow the collection of data to inform trends, effectiveness of interventions, accessibility studies and informs necessary modifications to mental health interventions (National Institute of Mental Health, 2024).

Enhanced Mental Health Literacy Through Digital Tools.   Construction companies are increasingly adding mental health literacy programs to their wellness initiatives, often delivered through digital apps. These apps offer educational resources on topics like stress management, coping strategies, and identifying common mental health conditions (Chan et al., 2020). By providing information, these tools help reduce stigma and dispel misconceptions about mental health. Educational apps are especially valuable in industries where stigma is common, empowering workers to recognize and address mental health concerns proactively. Studies

907

show that higher mental health literacy is linked to greater help-seeking behavior, as workers become more aware of available resources and feel more confident reaching out for support (Chan et al., 2020).

Table 1. Differences in Mental Health Interventions		
Aspect	**Workplace-Based Programs**	**Technology-Driven Interventions**
Focus	On-site peer support, policy changes, leadership training	Digital and real-time monitoring, anonymous help-seeking
Delivery Method	Structured group activities, health screenings, leadership models	Smartphone apps, EEG technology, digital tools
Targeted Approach	Organizational culture, job design, and psychosocial risk	Individual monitoring, early stress detection, mobile accessibility
Example Initiatives	MATES in Construction, psychosocial risk assessments	MATESmobile app, EEG-based stress monitoring
Strengths	Builds workplace culture, fosters open discussions, reduces stigma	Anonymity, remote access, continuous monitoring
Limitations	Requires organizational buy-in, resource-intensive	Potential dependency on technology, need for digital literacy

It is important to note that workplace-based and technology-driven interventions differ in focus, delivery methods, and targeted approaches, each with unique strengths and limitations. Workplace-based programs emphasize improving work conditions through initiatives like peer support networks, leadership training, and policy changes, fostering a positive workplace culture but requiring organizational buy-in (see table 1). In contrast, technology-driven interventions target individuals, offering anonymity and on-demand access via apps and digital tools, though they rely on users' technological literacy and self-recognition of the need for help (see table 1). A notable hybrid, MATESmobile, integrates both approaches by combining the organizational focus of workplace interventions with the accessibility of technology, offering a comprehensive solution to address mental health challenges in the construction industry.

Wellbeing and positive mental health – from Reactive to Proactive
The discourse on mental health interventions has evolved from reactive treatments addressing negative symptoms to proactive strategies promoting overall well-being. Dr. Tiffany Sauber Millacci's exploration of evidence-based mental health exercises emphasize practical activities such as mindfulness, gratitude practices, and group interactions that foster emotional resilience and psychological balance (Sauber Millaci, 2019). Mindfulness involves focusing attention on the present moment in a non-judgmental and accepting way and encourages awareness of thoughts, emotions, and bodily sensations without the need to control or suppress them, which collectively promotes resilience in challenging situations (Sauber Millaci, 2019). Gratitude practices, on the other hand, are intentional activities designed to cultivate an appreciation for life's positive aspects (Sauber Millaci, 2019). Millacci notes that such practices enhance positive emotions, strengthen social connections, and provide a sense of fulfillment, contributing to psychological balance and overall well-being.

Group interactions refer to structured activities conducted in social settings to foster collaboration, empathy, and mutual support. Millacci highlights that these interactions build emotional intelligence, improve self-awareness, and reinforce social bonds, which are vital for resilience and mental equilibrium (Sauber Millaci, 2019). Collectively, mindfulness, gratitude practices, and group interactions form a comprehensive framework for enhancing mental health by addressing both individual and social dimensions of well-being. These interventions aim to improve well-being across diverse populations, offering accessible tools for immediate and sustained mental health benefits. Similarly, Frimpong et al. (2024) advocate for a positive mental health

approach that shifts the focus from treating poor mental health to cultivating resilience and fulfillment. By emphasizing the importance of wellness promotion, their framework suggests that interventions should not only address challenges but actively empower individuals to maintain their mental health through proactive strategies (Frimpong et al., 2024).

Frimpong et al. (2024) situate their argument within a postmodern theoretical framework, which critiques existing power structures and underscores the role of systemic influences on mental health. They argue that mental health should be approached holistically, acknowledging the interplay of economic, social, cultural, and physical factors in shaping well-being. They also emphasize the importance of recognizing positive mental well-being as a crucial area of focus, advocating for it to receive equal attention alongside the treatment of poor mental health. This perspective aligns with the work of Nwaogu et al. (2022), who emphasize a multi-tiered approach that integrates primary, secondary, and tertiary interventions to address mental health comprehensively. Such a model complements Millacci's emphasis on individual-level practices by advocating for broader systemic changes, such as public policy reform and educational programs, to support mental health across industries, including construction.

Blending these perspectives highlights the need for a multidimensional approach to mental health that addresses individual, organizational, and societal factors. While Millacci provides practical tools that can be implemented at the personal and group levels, Frimpong et al. and Nwaogu et al. broaden the scope to include systemic interventions that challenge existing power dynamics and promote resilience within communities and workplaces. Together, these insights underline the importance of proactive, holistic mental health strategies that integrate evidence-based exercises with structural reforms. This integrated approach offers a comprehensive framework for fostering well-being, empowering individuals, and enhancing resilience across diverse sectors, particularly in high-stress environments like construction.

Conclusion and Future Research

This literature review has examined the multifaceted mental health challenges facing construction workers and the range of interventions designed to address these issues. The construction industry, with its intense physical demands, project-based employment, and deeply ingrained cultural stigmas, presents unique obstacles to mental well-being. Key stressors, including job insecurity, hazardous working conditions and a "macho" workplace culture contribute to high rates of mental health issues, including anxiety, depression, substance abuse, and elevated suicide risks. Additional stressors, such as gender disparities and workplace harassment, further intensify mental health risks. Addressing these challenges requires a combination of individualized support, organizational policy shifts, and innovative technology-driven solutions.

Various intervention strategies have shown promise in enhancing mental health outcomes in the construction sector. Peer-led programs like MIC have proven effective in reducing stigma and fostering open discussions about mental health, particularly when supported by leadership training and structured organizational policies. Technology-driven interventions, such as stress monitoring devices and mental health apps, expand access to resources and provide new opportunities for on-demand support, though their effectiveness is enhanced when used in conjunction with in-person interventions. These technology-driven solutions offer real-time stress monitoring and feedback and enhanced accessibility to mental health support, particularly for workers in remote or high-risk conditions. Workplace-based interventions such as leadership training and policy changes, which utilize primary, secondary, and tertiary methods to reduce workplace stressors, address behaviors contributing to poor mental health, and provide treatment for mental health challenges. These methods have also proven to be effective in addressing mental health concerns. Emerging perspectives, such as the positive mental health framework proposed by Frimpong et al., emphasize a proactive approach to mental health, advocating for policies and programs that promote resilience and overall well-being rather than focusing solely on addressing crises. The combination of workplace-based programs and technological tools has demonstrated the importance of a comprehensive, multi-tiered approach to mental health intervention. Despite

these advances, mental health interventions in the construction industry remain limited by stigma, cost, and cultural barriers. The effectiveness of these interventions depends not only on the individual elements but on a coordinated, comprehensive approach that integrates primary, secondary, and tertiary strategies. The findings underscore the need for a shift in both the industry's culture and the broader approach to mental health, moving toward environments that value and actively support the mental well-being of all workers.

Looking forward, a critical first step, is to evaluate the long-term impacts of existing interventions through longitudinal studies. Such research could provide valuable insights into the sustainability of current programs and reveal opportunities for refinement. For instance, combining workplace-based initiatives with digital tools could yield a more comprehensive approach, but their integration requires careful consideration to ensure consistency and accessibility along with long-term studies to evaluate their effectiveness. Secondly, addressing the underrepresentation of women in the industry by creating tailored interventions, such as mentorship programs and anti-harassment policies, would not only support gender equity but also reduce stressors unique to female workers. Similarly, implementing such strategies for other underrepresented groups in the industry can help create a more inclusive and supportive work environment. The adoption of proactive, positive mental health frameworks also presents a promising pathway for the industry to move beyond crisis management. By prioritizing resilience-building and overall well-being, construction companies can shift the narrative on mental health, fostering a culture of openness and inclusivity. Exploring scalable solutions that accommodate the needs of small- and medium-sized enterprises (SMEs) is also critical, as these organizations often lack the resources to implement large-scale programs. Developing such solutions would require active input from SMEs to create a framework that aligns with the unique needs of their workforce.

Finally, leveraging advancements in technology to improve mental health support, while simultaneously addressing barriers like digital literacy and stigma, will be vital in creating a comprehensive and effective mental health framework for the construction workforce. Through a coordinated effort that integrates these strategies, the construction industry can significantly enhance the well-being of its workforce. This shift will not only improve individual lives but also contribute to better retention, productivity, and resilience across the sector, ensuring its continued economic and social contributions.

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910

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912