Chapter 7
Would Raising Psychological Well-Being Incentivize Construction Workers?

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Abstract Psychological well-being problems have raised concerns in the construction industry with reported high levels of mental health illness and suicide rate. Worse yet, the global COVID-19 pandemic has deteriorated the situation and caused more anxiety and depression cases. When basic psychological needs are not met, workers tend to experience less autonomous engagement at work. Thus, it is vital that management in the construction industry develop procedures, mechanisms, and interventions to improve worker experience. In this chapter, construction workers' experiences at work are examined by conceptualising the construct of psychological well-being in the context of construction community. Three types of well-being outcomes and their antecedents are discussed: Hedonic (i.e. job satisfaction, life satisfaction), Eudaimonic (i.e. work-life balance, job engagement) and Negative (i.e. Stress, burnout, psychological symptoms). The association between construction worker well-being experience and motivation at work is highlighted, emphasizing the importance of managerial commitment for a motivated and engaged workforce. More practically, hands-on prevention-focused leadership practices are suggested to support resilience and mitigate risks to health and well-being in times of disturbance. Management implications are recommended for decision makers to improve worker well-being and engagement in the construction community.

Keywords Psychological well-being · Construction industry · Motivation · Worker experience · Leadership

1 Introduction

Psychological well-being is a key component of individual overall health and well-being (WHO, 2021). Psychological well-being problem is a pervasive public health issue impacting over 2 in 5 Australians during their lifetime (ABS, 2022). The nature

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of construction work, high demands and rigid work practices had worsened the situation in the construction industry, resulting in pervasiveness of psychological illness across construction sectors. In Australia alone, more than two construction workers die as a result of suicide every working day in the past 10 years (Jenkin & Atkinson, 2021). And it has been reported that the construction workforce suffers from higher rates of suicide and mental illness issues, when compared to other industries (Kotera et al., 2020; PwC, 2014). Notorious psychological well-being problems in the construction industry might have deteriorated its low employee retention and made it a less attractive career choice for young professionals (Park et al., 2021).

Unfortunately, the COVID-19 pandemic has worsened the well-being crisis in the construction industry. Social restrictions during the pandemic, such as physical distancing, social isolation and remote working policies have triggered more loneliness, anxiety, and depression situations (OECD, 2021). According to Li and Griffin (2022a), experience of the pandemic could link to lower level of job satisfaction, when workers experienced increased psychological uncertainty and perceived less managerial support to their safety. With lower perceived leadership commitment, the uncertainties and pandemic-induced changes in the workplace might cause less role clarity and higher workload, thus resulting in poor well-being outcomes (Li & Griffin, 2022b). Moreover, when the global pandemic hit the labour market, workers perceived heightened job insecurity, causing a greater cognitive load that led to psychological exhaustion, reduced fulfilment, and higher levels of work stress (DeGhetto et al., 2017; Godinic et al., 2020). In times of uncertainty, construction workers have this increasing demand for more resources and corresponding mechanisms to support them to cope with psychological problems and well-being issues. It is vital that construction organizations focus on the challenge, provide well-being services and interventions to help employees thrive at work, and make the industry vibrant again.

2   Conceptualisation of Psychological Well-Being in the Construction Industry

The concept of psychological well-being was first highlighted by Aristotle when he argued that the ultimate life fulfilment was achieved by realizing one's true potential (Miller & Marjorie, 1986; Stones & Kozma, 1989). This provided insights for the following scholars to unpack and deepen the understanding of psychological well-being in different situations. Ryff and Singer (2008) suggested that psychological well-being should be studied based on individual's perceptions towards life, more specifically from the six aspects: self-acceptance, positive relations with others, personal growth, purpose in life, environmental mastery, and autonomy. Taking the perspective of individual's relationship with the external world, Fisher (2010) classified psychological well-being indicators into four categories: personal, such as meaning in life; communal, such as trust between individuals; environmental, such

as connection with nature; and transcendental, such as peace with God. Despite the different streams of well-being literature, there is a common understanding that well-being represents not only the status of illness-free, but also positive experiences, such as engagement and satisfaction (Robertson & Flint-Taylor, 2008; Rousseau et al., 2008). Two types of approach were widely used to study positive psychological well-being, and these are hedonic approach and eudaimonic approach (Robertson & Flint-Taylor, 2008; Ryan & Deci, 2001). Hedonic approach has a focus on positive perspectives, feelings, experiences, and overall satisfaction. In contrast, eudaimonic approach emphasizes the fulfillment of living a life that is full of meaningfulness and value. With different research foci, these two approaches were complementary in the formation of psychological well-being foundations: the combination of positive experiences and sense of purpose (Robertson & Cooper, 2010).

Although psychological well-being has been well-studied as a multidimensional concept in the organizational psychology literature, there remains a lack of frameworks in the construction literature to capture the indicators of construction worker well-being and the respective influencing factors. Li et al. (2022) filled this gap and proposed a categorisation of psychological well-being for the construction workforce to inform their experiences at work. They first conducted bibliometric analysis to map and visualize the chronological patterns, journal sources, fundamental theories, and methodologies of the reviewed articles. Then, thematic analysis was further applied to identify their theoretical connections and networks. In their study, five themes of influencing factors for the construction community psychological well-being were identified: motivational, relational, working environment, personal attributes, and social cognitive. Theoretically, their study introduced more clarity to well-being theories in the construction literature. More practically, their findings offered managerial insight into decision making in the construction industry to proactively develop measures, mechanisms, and interventions to improve health and safety.

3 Psychological Well-Being and Motivation at Work

An important theory of human motivation and their application in work organization is self-determination theory (SDT) (Deci & Ryan, 1985, 2000; Ryan & Deci, 2001). SDT differentiated two types of motivation: (1) autonomous motivation, including both intrinsic motivation and fully internalized extrinsic motivation; and (2) controlled motivation, such as externally and internally controlled extrinsic motivation (Deci et al., 2017). Autonomous motivation and controlled motivation are both intentional, and they are starkly juxtaposed with amotivation, which represents a paucity of intention and self-determination (Gagne & Deci, 2005). More related to the workplace, autonomous motivation happens when workers are willingly participating in tasks and have a comprehensive understanding of its worth and meaningfulness. While when motivation is controlled, the extrinsic nature might result in short-term gains on projected achievements yet have negative impact on

employee long-term engagement (Deci et al., 2017). Deci et al. (2017) further postulated that all employees have three basic psychological needs: the need for competence (White, 1959), the need for relatedness (Leary & Baumeister, 2000), and the need for autonomy (DeCharms, 1972). The satisfaction of these psychological needs could stimulate autonomous motivation.

Deci et al. (2017) expanded the STD model in the workplace context, and they argued that the influence from workplace context variables and individual differences to workplace health, well-being and behaviours were mediated by the psychological needs and different types of motivations. Moreover, the fulfillment of the three basic psychological needs could increase autonomous motivation. The following research further supported that satisfaction of the three needs led to less exhaustion and great enjoyment at work (Van den Andreassen et al., 2010; Broeck et al., 2008). DeCooman et al. (2013) examined basic need satisfaction and autonomous motivation at the same time, and they found that employees who felt greater need satisfaction at work also had a higher level of autonomous motivation. Adding more evidence to this, with a meta-analysis, Van den Broeck (2016) indicated that each of the three basic needs satisfaction explained independent variance in intrinsic motivation and well-being.

When applying the same in the construction industry, it is reasonable to draw the link between the fulfilment of psychological needs and construction workers' autonomous motivation. Based on Li et al. (2022), when efforts are made to redesign the work, optimize the job characteristics, and provide more job resources, construction workers tend to have greater satisfaction of their psychological needs. Put it in another way, the efforts to boost worker psychological well-being experience will contribute to the enhancement of worker autonomous motivation and engagement. This has been demonstrated in other industries with studies showing the positive correlations between worker well-being experience and motivation at work (Björklund et al., 2013; Ratanawongsa et al., 2008).

4   What Impacts Worker Psychological Well-Being in the Construction Industry?

In Li et al. (2022), construction worker psychological well-being outcomes are sorted into three groups: Hedonic (i.e. job satisfaction, life satisfaction), Eudaimonic (i.e. work-life balance, job engagement) and Negative (i.e. Stress, burnout, psychological symptoms). Five themes of antecedents were identified in their study, which could influence worker experience at work and their well-being. The dimensions, constructs and antecedents of construction worker psychological well-being are presented in Fig. 1. In this section, we will discuss each theme of these influencing factors and provide practical examples of how these are demonstrated in the construction workplace. The underpinning theories and antecedents under each theme were summarized and presented in Table 1.
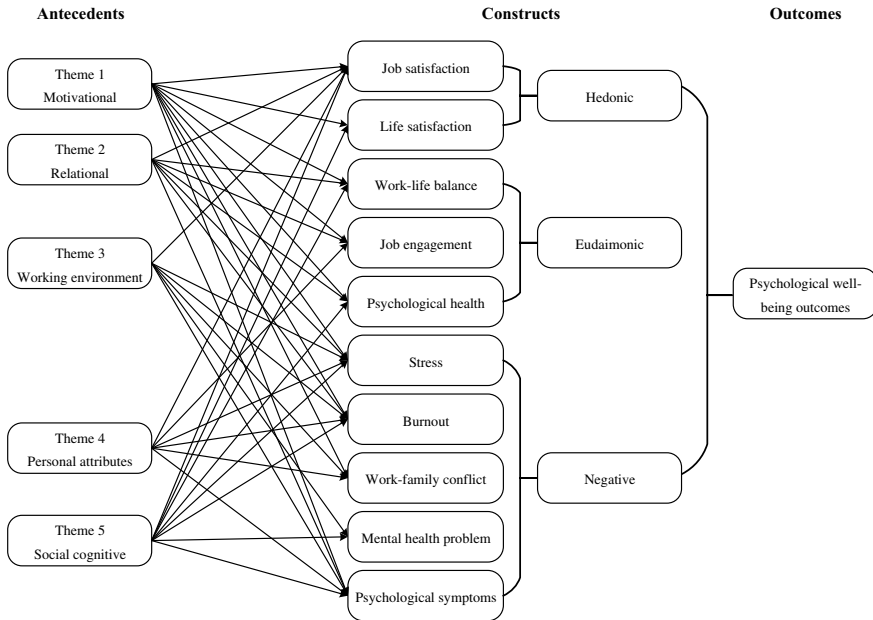
Fig. 1 Psychological well-being in the construction literature (Li et al., 2022)

Motivational theme describes how work conditions and characteristics could impact construction workers' motivational experience at work. The job demands-resources (JDR) theory is the key theoretical foundation that helps explain the rationales. The factors in this theme were categorized into job demands and job resources. Job resources refer to conditions, support and control at work and could enhance worker satisfaction and engagement (Hsu & Liao, 2016; Park & Jang, 2017; Zaniboni et al., 2016). Having adequate job resources is a prerequisite for construction workers to thrive at work. Examples of construction worker job resources include role clarity at work, feedback received at work, job support, and so on. Specifically in the construction community, decision-making autonomy, job security, compensation and rewards, and career development opportunities were identified as important job resources that could be beneficial for construction workers (Li et al., 2022). Job demands describe broadly all the efforts, physical, cognitive, and emotional, that are necessary for workers to do their tasks (Demerouti et al., 2001). High levels of demands are usually linked to negative psychological symptoms and health impairment (Arnold et al., 2007; Leiter, 1993; Steiner, 2018). Workload, as the principal job demand experienced by construction workers, has been found associated with intensified distress, lower satisfaction, exhaustion, and many other mental illness results (Li et al., 2022).

Relational theme describes workplace relationship, behaviours, and leadership practice. Having a good workgroup relationship and a social support network formed by co-workers and managers might improve worker well-being in the construction

Table 1 Antecedents of psychological well-being in the construction literature (Li et al., 2022)

Theme	Underpinning theory	Example
Theme 1: Motivational	Job demands-resources theory (Bakker & Demerouti, 2014); Job characteristics (Hackman & Lawler, 1971; Hackman & Oldham, 1976); Job demand-control model (Karasek, 1979)	Autonomy at work (Ling & Loo, 2015); Feedback (Hsu and Liao 2016); Workload (Idrees et al., 2017)
Theme 2: Relational	Leader-member-exchange model (Dienesch & Liden, 1986); Social exchange theory (Cook et al., 2013)	Workgroup relationships (Leung & Chan, 2012); Leadership support (Kerdngern & Thanitbenjasith, 2017)
Theme 3: Working environment	Organizational climate theory (James & Jones, 1974); Working condition and mental health (Ariza-Montes et al., 2019)	Culture and climate (Malone & Issa, 2013; Sutherland & Davidson, 1993; Toor & Ofori, 2009); Organizational Values (Panahi et al., 2016); Physical job demands (Janssen et al., 2001)
Theme 4: Personal attributes	Personality and well-being (DeNeve & Cooper, 1998); Family interference with work (Greenhaus & Beutell, 1985)	Tension in relationship with spouse/partner (Ligard and Francis 2007); Seniority (Lian & Ling, 2018); Physical health (Zaniboni et al., 2016)
Theme 5: Social cognitive	Social cognitive theory (Bandura, 1997); Social cognitive career theory (Lent, 2004; Lent & Brown, 2008); Social norms (Venkatesh & Davis, 2000; Ventakesh, 1999)	Career fit (Chew et al., 2020); Conflict difference between personal and organizational values (Panahi et al., 2016); Social influence (Fung et al., 2016); Psychological contract breach (Chih et al., 2016)

domain (Chan et al., 2016; Leung & Chan, 2012). Especially that the nature of construction work might require workers relocating to remote project sites, thus having supportive social connections plays an instrumental role in protecting on site workers' mental health. Due to the extreme gender stratification and macho nature of construction work, female construction workers and professionals were often found with limited job opportunities in the construction industry. Previous studies argued that gender-based harassment, discrimination, and bullying could link to not only physical symptoms (i.e. insomnia, stomach disorders, and headaches), but also severe mental illness (Greed, 2000; Bowen et al., 2013; Chew et al. 2020). The above interpersonal relationship factors in this theme highlighted the need for having more supportive leadership practice in the construction industry to improve workplace support and networks, in turn safety, health and well-being of construction workers.

Working environment theme represents another category of factors that could shape construction worker experience. Working environment involves not only physical working conditions but also workplace climate and culture, which could be determined by organization characteristics. It is not uncommon that construction projects are conducted in remote areas, with poor on site conditions such as extreme temperature, potential hazards, noise and poor light. These undesirable situations were found associated with worker physical health impairment and mental illness (Adhikary et al., 2018; Leung & Chan, 2012). Beyond physical working environment, organization attributes, culture and dynamics could all shape workplace climate. Studies have found that culture and value of an organization could affect how workers perceive the managerial support, and ultimately their engagement and satisfaction in the organization (Shan et al., 2017; Toor & Ofori, 2009). More recently, safety climate at workplace was found causing lower employee job satisfaction and less engagement in safety behaviours in times of turbulence, such as global pandemic (Li & Griffin, 2022a).

Of course, construction worker psychological well-being perceptions at work are affected by their **personal attributes and characteristics**. Type A personalities were found helpful in supporting construction workers to cope with challenges, difficulties, and stress at work (Çelik & Oral, 2021; Kamardeen & Sunindijo, 2017). When work under stress, construction workers with a marital status of separated, divorced, or widowed were relatively more vulnerable in developing mental illness symptoms (Kamardeen & Sunindijo, 2017). Relationship with partner, impact and support from family have also been found affecting worker experience and performance at work (Lingard & Francis, 2007; Pidd et al., 2017). Besides, worker smoking habits (Sutherland & Davidson, 1993), bad sleep status (Dong, 2018), and bad physical health (Holden & Sunindijo, 2018) might further worsen mental health situations. Notably, mindfulness attention training was reported helpful to support construction workers in reducing the negative influence from the construction site, such as loud noises (Boschman et al., 2013). Therefore, mindfulness techniques were suggested as effective strategies for workers to deal with stress (Carmody & Baer, 2008).

Comparing to other themes, **social cognition** theme is less studied yet underlies worker perception towards their jobs, their colleagues and organization environment. Career fit captures how well a worker considers himself or herself suitable for the job position. Career fit is an important part of workers' experiences and has the potential to affect their attitudes and observations at work, and ultimately their well-being status, especially for female construction workers in this male-dominated industry (Chew et al., 2020). How construction workers see their colleagues could also influence their work experience; for example, their stress level were increased when they perceived their colleagues having inadequate professional skills to complete the tasks (Leung & Chan, 2012). Workers' perceptions towards organization capture their emotional relations and connections with the organization. A poor organizational relationship, where there is a lack of trust and less organizational commitment could reduce worker job satisfaction and increase their turnover intentions (Leung et al. 2008; Idrees et al., 2017). In addition, workers' perceptions and feelings could be affected by their understanding of community expectations (Venkatesh & Davis,

2000; Ventakesh, 1999). For example, construction workers' attitudes and satisfaction at work can be influenced by their organizations' attitudes towards employee health and safety (Fung et al., 2016). Kotera et al. (2020) found that construction workers, who are in organizations with a shame-based attitude towards mental health issues, are the ones more likely to struggle with mental illness.

5 How to Improve Construction Worker Well-Being and Motivate Engagement at Work?

As discussed in the previous sections, worker psychological well-being experience and their motivation at work are closely related. Therefore, it is important that management in the construction industry develop procedures, mechanisms, and interventions to enhance worker experience, thus their motivated engagement at work. Job satisfaction is a well-studied indicator of worker psychological well-being, and it measures a pleasurable emotional state, describing workers' positive perception of their jobs, tasks, and work environment (Ali et al., 2014; Wang & Jing, 2018; Weiss et al., 1999). Using social exchange theory and organizational support theory, Michael et al (2005) argued that the increase of management commitment to safety could enhance workers' positive experience, because people formed their beliefs and attitudes based on their observations of whether their organization is valuing them. Similarly, Ayim Gyekye (2005) found that when workers noticed that their organization was promoting workplace safety, rewarding safe work, providing safe equipment, and responding to safety concerns, they would tend to experience higher levels of job satisfaction. Therefore, the positive association between managerial safety commitment and worker job satisfaction was supported and verified.

The influence of management safety commitment highlighted the need to deepen the understanding of leadership impact on worker experience and engagement. Especially in a time of uncertainty when the construction industry is navigating new paths for growth in a post-pandemic world. When the global pandemic unprecedentedly changed business and social landscape, the "new normal" would likely look a lot different comparing to the previous work routines in the construction industry. Safety leadership is important in times of turbulence when such leadership practices could contribute to workplace health, safety and performance (Griffin & Neal, 2000; Griffin & Talati, 2014). Li and Griffin (2022b) specifically proposed two types of leadership strategy to support resilience and adaptivity in times of crises, namely prevention-focused adapt strategy and defend strategy. The aim of prevention-focused adapt strategy is to understand the current crisis and use it as a stimulus to encourage active learning and improvement, so that the organization will be better equipped to reduce loss and damage in the similar situations in the future. This could be achieved by having open discussions at different levels of organization, on the mistakes and errors that led to the current setbacks, and strategies to

avoid future occurrence. Therefore, leaders with an adapt strategy encourage transparent communications and redirect organizational resources to build capability in facing new challenges in the future (De Smet et al., 2021). In contrast, the goal of defend strategy is to manage risks. With a defend strategy, leaders take initiatives to proactively identify and manage risks, through fostering a culture of vigilance, integrating frequent auditing, conducting repeated assessments, and maintaining constant preparedness for potential hazards. Therefore, defend strategy behaviours underscore the danger of disregarding safety procedures and legislated obligations. With empirical evidence, Li and Griffin (2022b) claimed that increases in both adapt and defend strategies could link to positive well-being outcomes, through the improvement of role clarity and employees' perceptions of leadership in the workplace. Therefore, safety leadership practices were vital to engage workforce and minimise risks to workplace health and well-being in times of turbulence. More practically, hands-on prevention-focused leadership practices were suggested by Li and Griffin (2022b) that might shape worker well-being. These are summarized and presented in Table 2.

As the global pandemic drastically brought changes to the workplace, these changes were found increasing psychological uncertainty for workers and negatively impacting their experiences and emotions at work (DiFonzo & Bordia, 1998; Rafferty & Griffin, 2006). Cullen et al. (2014) explained that the heightened psychological uncertainty was caused by inadequate knowledge about the impact of sudden changes, thus might reduce their sense of being in control and supported by the organization, in turn, impaired satisfaction at work. In addition, when workers are feeling

Table 2 Prevention-focused leadership practices for worker well-being

Leadership dimension	Leadership practice
Lead for vigilance	• Communicate safety standards and procedures regularly
	• Foster a vibrant safety culture
	• Build accountability
	• Conduct regular monitoring
	• Provide safety training
Lead for adaptability	• Promote adjustment
	• Highlight learning opportunities
	• Create formal and informal communication channels
	• Reflect on safety visions and policies
	• Cultivate learning mindset
Lead with compassion	• Be compassionate and understanding
	• Provide timely support
	• Show gratitude and appreciation
	• Foster belonging in the organization

insecure in their job, they might also feel like being deprived of a safe working environment, resulting in frustration of psychological needs (Khan & Ghufran, 2018; Nelson et al., 1995; Vander Elst et al., 2012). Not only mental status could be affected by increased psychological uncertainty, such as job insecurity (Ashford et al., 1989), low commitment (Hui & Lee, 2000), mistrust (Schweiger & DeNisi, 1991); but also workers' physical health conditions, such as systolic blood pressure (Pollard, 2001). Most recently, Li and Griffin (2022a) further supported that workers' experience during the pandemic decreased their job satisfaction by intensifying their perceived uncertainty. This added more evidence to the negative association between uncertainty and positive well-being outcomes, especially in times of crises.

To boost psychological well-being outcomes in general, Li et al. (2022) suggested a checklist for management and decision makers in the construction community. For instance, good work design practices, which serve to improve role clarity, responsibility, and transparency at work, could increase job commitment and engagement. Developing a healthy workplace culture and workgroup relationships could strengthen social connections, providing necessary resources to cope with stress brought by long working hours and heavy workload. Enhancing construction worker organizational commitment and psychology attachment would ultimately improve workers' sense of belonging and ownership mindset. These could be achieved by building a positive organization culture that priorities worker health and safety and acknowledges their contributions to the organization. In addition, it is important that organizations have policies in place to support worker work-life balance and provide relevant trainings to assist workers in developing healthy working habits. A list of managerial implications is presented in Table 3.

Table 3 Examples of managerial implications (Li et al., 2022)

Purpose	Managerial practice
Improve motivation at work	Optimise workplace design practices, examples include reducing ambiguity and improving feedback
Improve workplace relationship	Build workplace social support networks
Improve organization culture	Foster a compassionate culture; Prioritise worker health and safety
Improve personal support	Provide relevant training, support, and care
Improve worker organizational commitment	Introduce and communicate organizational value and vision
In general	Deploy a whole-of-organization approach to improve mental health and well-being

6 Summary

Worker psychological well-being issues have raised concerns in the construction industry with high prevalence of mental illness issues (Kotera et al. 2019; PwC 2014). Worse yet, the global COVID-19 pandemic has worsened the situation and further exacerbated anxiety and depression (OECD, 2021). It has been found that there is a positive correlation between worker well-being experience and motivation at work (Björklund et al., 2013; Ratanawongsa et al., 2008). When workers' basic psychological needs are satisfied, they tend to have more autonomous motivation (Deci et al., 2017; Gagne and Deci, 2005). Therefore, it is important that management in the construction industry develop procedures, mechanisms, and interventions to improve worker experience, thus their motivated engagement at work.

It was highlighted in this chapter the vital role of prevention-focused safety leadership in engaging workforce and minimising risks. Two types of prevention-focused leadership strategy in Li and Griffin (2022b) were introduced to improve resilience and encourage adaptivity in times of crises, namely adapt strategy and defend strategy. More practically, hands-on safety managerial practices were suggested (see Table 2) that might shape employee well-being. Furthermore, Li et al. (2022) conceptualized worker psychological well-being in the construction industry with three types of well-being outcome: Hedonic (i.e. job satisfaction, life satisfaction), Eudaimonic (i.e. work-life balance, job engagement) and Negative (i.e. Stress, burnout, psychological symptoms). Five themes of antecedents were identified that could impact worker well-being, and these are motivational, relational, working environment, personal attributes, and social cognitive. Based on these, managerial implications were suggested in this chapter (see Table 3) for management and decision makers in the construction community to promote worker experience and reduce negative outcomes.

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