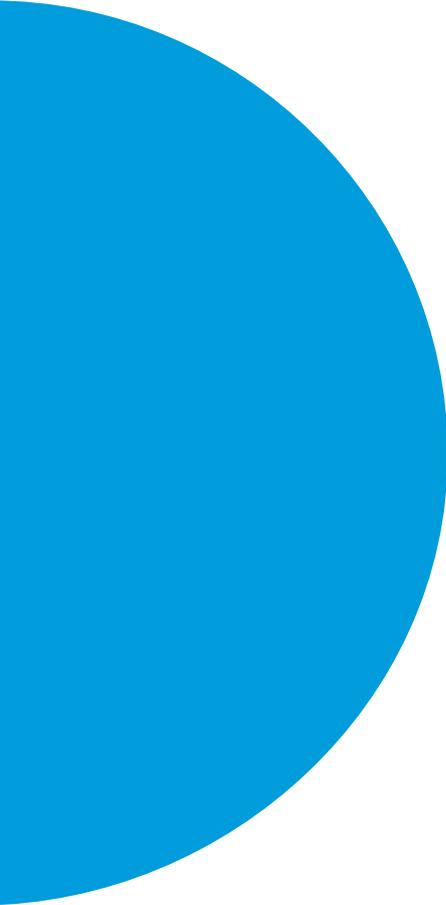
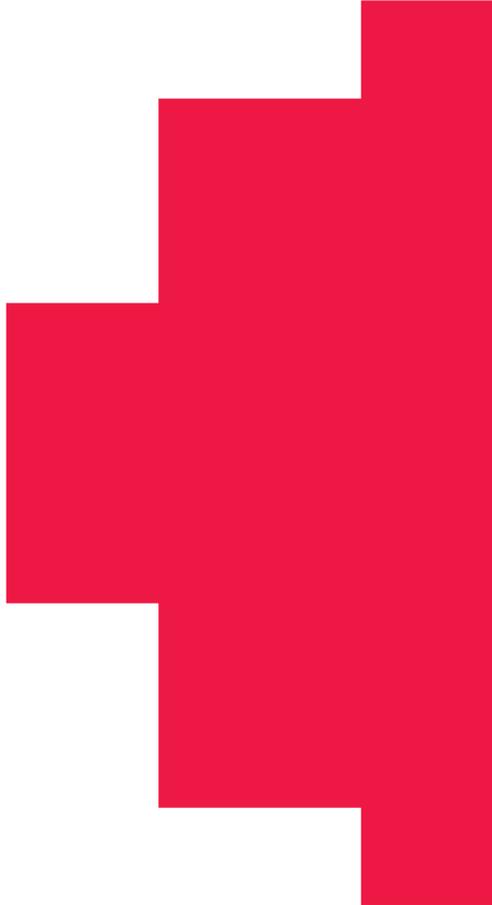


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# Exploring the relationship between bodily pain, mental health and work ability of construction workers

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Construction Work Health  
and Safety Research @ RMIT

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“My father actually did this [roof plumber] for 47 years. And he’s nearly 70 now and he can hardly walk. He can’t use his hands anymore. What else can’t he do? He gets gout bad and he’s got arthritis in his fingers. So, that’s what I’ve got to look forward to”

(roof plumber, 45 years old)

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## Overview

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Construction workers engaged in physically demanding roles are known to experience high levels of bodily pain and routinely undertake work while in pain. Bodily pain in construction workers is frequently associated with musculoskeletal conditions and includes both acute and chronic pain. The industry records around 12,600 workers' compensation claims for injuries and diseases involving one or more weeks off work, each year, which equates to 35 serious claims each day (Safe Work Australia, 2015).

Construction workers are also known to experience high rates of mental distress which is due to the need to undertake highly demanding work (both physically and psychologically) in an organisational environment characterised by low levels of autonomy, control or support.

When compared to other manual occupations, workers engaged in direct construction activity experience high levels of work incapacity. Physical health and exposures to psychosocial risks interact to produce work disability and early retirement. In some countries, up to two-thirds of construction workers retire early due to permanent disability.

Work ability means having the health and basic competence required for managing work tasks. Work ability is influenced by a worker's capacity to adapt to the physical and mental stressors associated with work activities.

While research has established that construction workers engaged in manual tasks experience high levels of mental distress and physical injury, the interaction between these factors and their impact on work ability is not well understood.

This guide highlights the relationship between the musculoskeletal bodily pain and mental health of construction workers and identifies the stressors which contribute to work ability.

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## The research

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Research was conducted by RMIT to understand Australian construction workers' experiences of bodily pain and its association with mental health. We collected information from construction workers who undertook manual roles and were involved in direct construction activity. We invited participants to complete

a short survey and follow up interview. The survey data enabled us to measure mental health and bodily pain and establish whether there was a significant relationship (or not) between these factors. The interview data enabled us to then explore why there may have been a relationship between mental health and bodily pain. Sixty-seven construction workers completed a survey, and 18 of these workers participated in an interview. Participants in the study included carpenters, plumbers, labourers, electricians, plasterers, and scaffolders.

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## Key findings

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Our findings reveal that the construction workers in our sample experienced body pain and injury originating from work tasks and accepted this as an inevitable consequence of their work. The proportion of participants rating their ability to undertake physical tasks as being 'very good' steadily declined with age. Importantly however, it was not only older workers who experienced pain. A proportion of workers from the 20-29 and 30-39 age groups regularly experienced pain:

- 17.6% of participants aged 20-29 years experienced lower back pain and joint pain in the fingers, shoulders, hips, knees, and/or ankles daily.
- 13.3% of participants aged 30-39 years experienced lower back pain daily.
- 16.7% of participants aged 30-39 years experienced daily joint pain in the fingers, shoulders, hips, knees, and/or ankles.

When broken down by age group, level of depression, anxiety, and stress were in the normal range for all age groups apart from participants in the 30-39 age group who experienced a mild level of anxiety. The results also reveal that workers whose pain had originated from work tasks had a higher severity of depression, anxiety, and stress than those workers whose pain had originated through non-work tasks (such as sporting injuries):

- participants whose pain had originated from work and who had upper neck and back pain, lower back pain, and pain in other joints had a significantly higher level of depression severity.
- participants whose pain had originated from work and who had pain in other joints had a significantly higher level of anxiety severity.

Our results suggest that the association between pain and mental health is complex. We developed an explanatory model from our findings to illustrate the relationship between the physical demands of the job and pain on mental health and work ability, as shown in Figure 1. The experience and anticipation of pain is shaped by the physical demands of the job, perceived low levels of work control and autonomy, and the aging process. Pain can lead directly to diminished mental health and impact on work ability. Pain can also trigger various pressures and stressors for the worker which may lead to diminished mental health. Some of these psychological demands include:

- the pressure to stay fit in the face of imminent pain and injury, and
- feeling trapped in a job that causes pain and distress because of no perceived alternative employment pathways.

Our interview findings also reveal that the experience of bodily pain has a negative impact on the work-life balance of construction workers, as pain can prevent workers from participating successfully in family life and in social and leisure activities. Work-life balance contributes to mental health, and thereby is another important component of work ability.

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## Implications for practice

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Given the high prevalence of pain and injury in the construction workforce and the resultant physical pain-mental health relationship, it is probable that many workers unknowingly experience poor mental health and wellbeing. This is illustrated by a participant who was asked how his physical pain affected his mental health: *“I’ve never thought about the mental side of it. I mean obviously it gets me”*. Due to a lack of awareness of the link between physical pain and mental health, construction workers may not be cognisant of their own diminished mental health, nor may they seek the support and treatment they require.

In situations where workers do seek help for mental health issues, treatment may occur in isolation from the physical aspects of the job and thereby not address a critical factor in workers’ experiences.

Work programs designed to promote mental health should not be considered in isolation of the broader work environment. Instead, workers’ health should be

considered holistically and interventions should focus on the work characteristics which lead to physical and mental strain.

Raising awareness among workers of the impact of physical pain on mental health is important. Resources relating to pain management may assist workers to be proactive in preventing and managing pain, but it is also important to fully appreciate the links between pain and mental health in manual construction workers.

Musculoskeletal disorders (MSDs) are the most common work-related conditions in Australia and are associated with hazardous manual tasks and poorly designed work. Risk factors associated with work-related MSDs include repetition, force required, awkward posture, vibration, and contact stress, all of which are physical risk factors inherent in manual, non-managerial work tasks. Decreasing the injury and pain associated with physical work is a serious challenge for the construction industry and merits further attention.

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## Acknowledgments

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## Published works

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Findings described in this guide are taken from the following peer-reviewed papers:

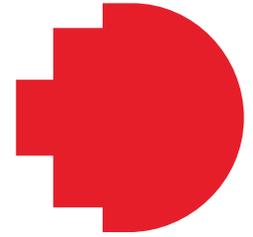
- Lingard, H., & Turner, M. (2021). Exploring the relationship between bodily pain and work-life balance among manual/non-managerial construction workers. *Community, Work & Family*, 1-18.
- Turner, M., & Lingard, H. (2020). Examining the interaction between bodily pain and mental health of construction workers. *Construction Management and Economics*, 38(11), 1009-1023.

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## References

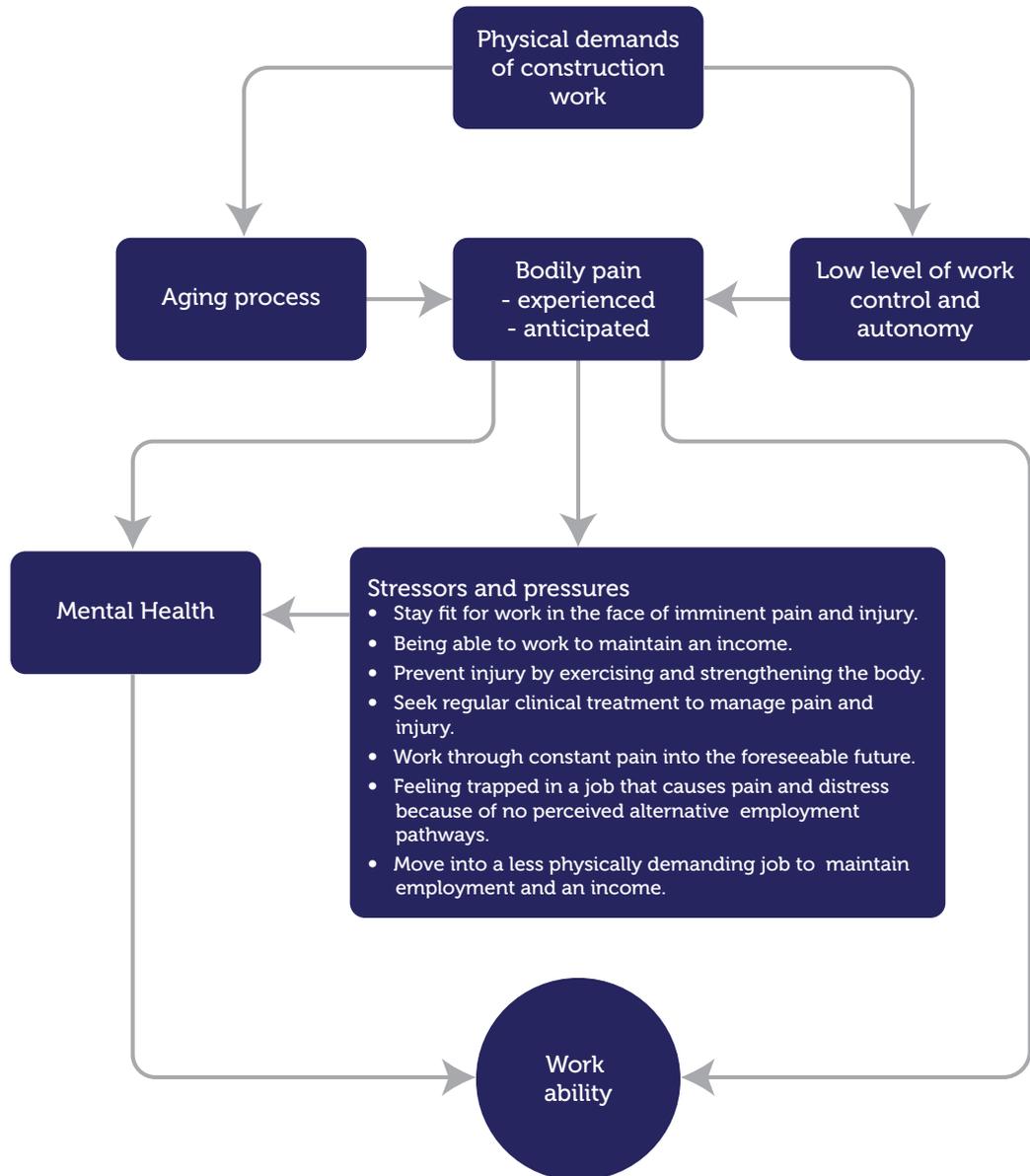
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Safe Work Australia. (2015). Construction Industry Profile. Safe Work Australia: Canberra. <https://www.enviroessentials.com.au/wp-content/uploads/2017/03/construction-industry-profile.pdf>



## Figure 1

Relationship between physical job demands and pain on mental health and work ability



### For more information contact:

Helen Lingard  
Distinguished Professor  
[helen.lingard@rmit.edu.au](mailto:helen.lingard@rmit.edu.au)

Michelle Turner  
Associate Professor  
[michelle.turner@rmit.edu.au](mailto:michelle.turner@rmit.edu.au)

[rmit.edu.au/about/schools-colleges/property-construction-and-project-management/research/research-centres-and-groups/construction-work-health-safety-research](https://rmit.edu.au/about/schools-colleges/property-construction-and-project-management/research/research-centres-and-groups/construction-work-health-safety-research)