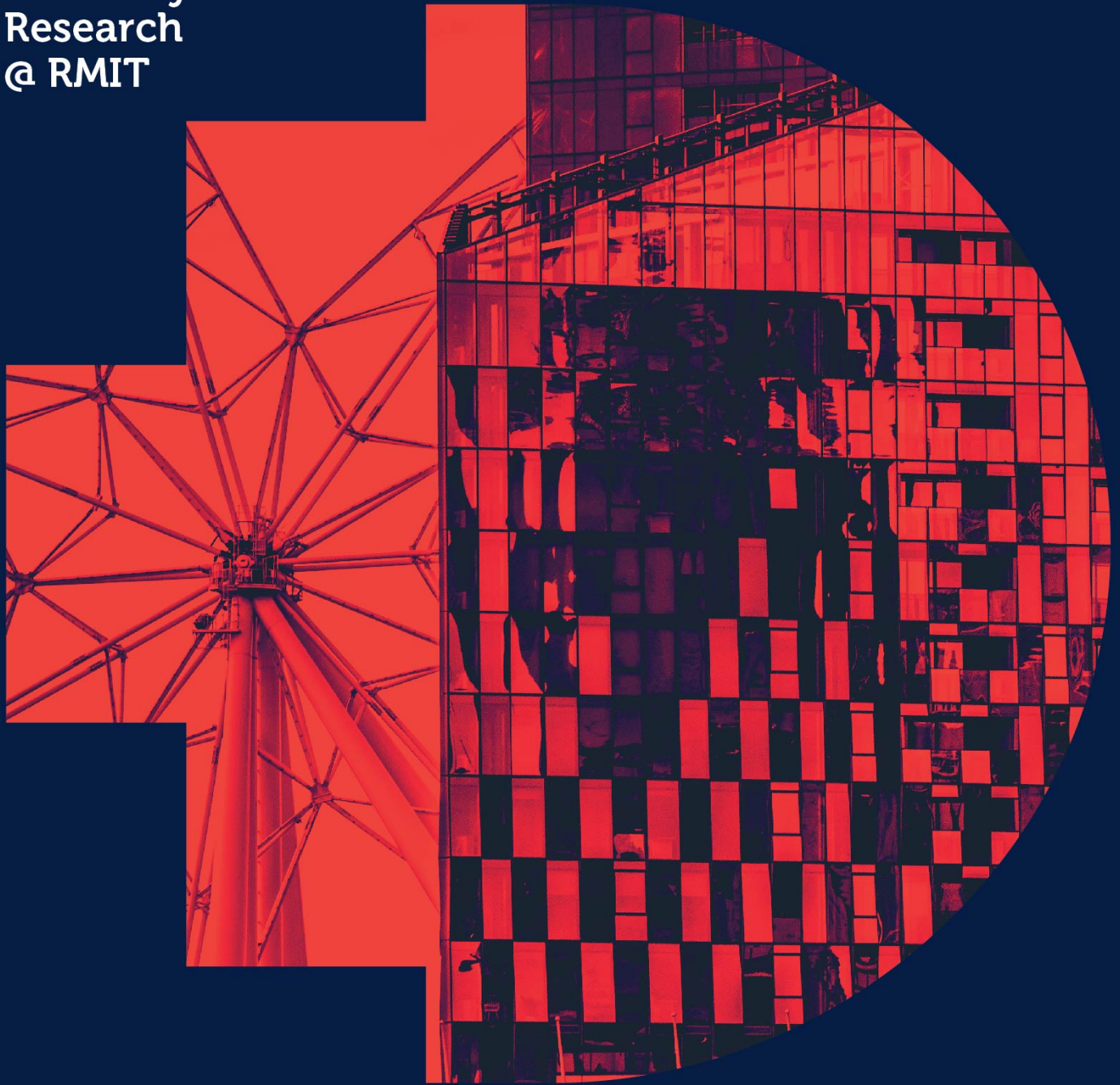


Construction
Work Health
and Safety
Research
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A Sense of Place: Building a Mentally Healthy Workplace

Literature Review

Final

Published by
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Note: For consistency, this report uses the spelling 'wellbeing', however 'well-being' is used when it is a direct quote or in the title of a reference source.

About Construction Work Health and Safety Research @ RMIT

Construction Work Health and Safety Research @ RMIT provides leading-edge, applied research to the construction and property industries. Our members are able to work with organisations to analyse health and safety (H&S) performance and identify opportunities for improvement. We can develop and evaluate innovative solutions, provide specialised H&S programs or undertake other research-based consulting activities. Our work addresses real-world H&S challenges and our strong international linkages provide a global perspective to our research.

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Executive summary

A Productivity Commission draft report on mental health, published in October 2019, describes the magnitude of the mental health problem facing Australia. The report states that ‘almost half of all Australian adults will meet the diagnostic criteria for a mental illness at some point in their lives, and one-in-five Australians will meet the criteria in a given year’ (Productivity Commission, 2019, p. 4).

This literature review identifies and explores some of the characteristics of a construction project environment that have the potential to contribute positively to workers’ happiness and mental health and that may be considered components of a health-promoting ‘Sense of Place’ (SoP). The review also seeks to identify the scales that can be used to measure the degree to which the individual components deliver to a SoP.

RMIT was contracted by Cross Yarra Partnership D&C (CYP) to undertake this literature review as a component of a broader suite of initiatives (funded by WorkSafe Victoria under the WorkWell Mental Health Improvement Fund) which sees CYP partnering with various providers to deliver mental health interventions across its workforce. In supporting these activities, CYP endeavours to create a ‘sense of place’ that addresses mental health in its construction workforce. In developing the SoP framework, CYP identifies four core components including connection, belonging, respect and support. In responding to the brief, RMIT has added an additional four components – community, life balance, resilience and engagement.

However, the development of a SoP in construction projects is likely to be particularly challenging because construction projects are temporary coalitions of permanent and temporary organisations working interdependently to achieve project outcomes, while also managing their own business interests (Berggren et al. 2001). There is a heavy reliance on subcontracting to undertake manual/non managerial construction work and the workforce is heavily transient.

CYP anticipates that initiatives designed specifically to create a sense of place in the construction project environment will yield substantial benefits for workers’ psychological wellbeing. Thus, the literature review explores the way that each of the original eight components of a SoP has been defined and measured in previous research and its link to mental health. In doing so a number of conceptual overlaps were identified.

In undertaking the review, and in the interests of clarity, the SoP model has subsequently reduced from the original eight components to six. Scales have been identified to measure these six components. These scales (which include demographic questions) will form the basis of a survey instrument (comprising a total of 47 questions) which can be delivered to targeted construction and program workers. The scales can be found in Appendix 6.2.

As the rationale for undertaking the literature review was to identify the scales to be used to determine the extent to which a sense of place is occurring on the CYP sites, a brief summary of the proposed measures and the underlying definitions of the six components is provided here.

In this research:

- while *Connection* is a distinct concept, the literature review has identified a strong definitional overlap with Support. There is also definitional overlap with Community and Belonging. Given the importance of definitional clarity, measurement of mutually exclusive concepts, and brevity of scales, the *Connection* component of SoP will be addressed through a measure of Community and a measure of Support.
- *Community* is measured using the Brief Sense of Community Scale (Peterson et al., 2008) which draws on McMillan and Chavis' (1986) definition of community and the associated four-factor model (see Table 3.1).
- *Engagement* is measured by the Oldenburg Burnout Inventory (Demerouti et al., 2010) which incorporates the dimensions of vigour and dedication as defined by Schaufeli et al. (2002) and Bakker et al. (2008).
- while *Belonging* is a distinct concept, the literature review has identified a definitional overlap with Connection and Community. As previously stated, definitional clarity and measurement of mutually exclusive concepts are critical, therefore the *Belonging* component of SoP will be addressed through a measure of Community.
- *Respect* in the workplace is measured by the Civility Norms Questionnaire-Brief scale (Walsh et al., 2012). Walsh et al. (2012) drew on Pearson et al.'s (2000) conceptualisation to develop a measure which focuses on perceptions of a climate for civility in the workplace. In their measure, Walsh et al. (2012, p.410) define a climate for civility as 'employee perceptions of norms supporting respectful treatment among workgroup members'.
- *Life Balance* is measured by the Work life balance scale of Haar (2013). Haar (2013) draws on the integrated approach to work-life balance, defined as the 'extent to which an individual is able to adequately manage the multiple roles in their life, including work, family and other major responsibilities. For some employees, this will be work and family only, while for others, this will be work and sports, or community, church, etc. Balance is not conceptualised as a 50/50 split between two major roles, as employees may not view this distinction as universally desirable or realistically attainable' (p.3308).
- emotional and instrumental dimensions of *Support* from supervisors and coworkers is measured using the Social Support from Supervisor Index and the Social Support from Coworkers Index (Caplan et al., 1975).
- *Resilience* is measured by the Employee Resilience Scale (Näswall et al., 2015). In this measure, employee resilience is conceptualised as an 'employee capability, facilitated and supported by the organisation, to utilise resources to continually adapt and flourish at work, even if/when faced with challenging circumstances' (p.1).

Part 1: Introduction

This document is structured in the following way:

Part Two looks at the project context, discussing aspects of mental ill-health in Australia and in the construction industry, whilst also touching on the relationship between work and mental health and associated interventions.

Part Three of the document introduces the SoP conceptual model and provides an overview of the eight components: connection, community, engagement, belonging, respect, life balance, support and resilience. The review of these components presents a summary of:

- the conceptual definition of each of the eight components
- the evidence of a link between each component and mental health, and
- a review of measurement methods, performance indicators and metrics for each component.

At the end of each discussion on the components is a summary of the measures being proposed and the underlying definition.

Part Four provides concluding remarks about the literature review and the development of the new conceptual model, whilst a reference list of the literature referred to in the preceding sections can be found in Part Five.

Part Six (the Appendices) provides a redrawn conceptual model (now showing 6 components rather than 8) plus a description of the scales to be used for collecting and measuring data in reference to the refined conceptual model.

Part 2: Project context

2.1 Mental ill-health in Australia

A Productivity Commission draft report on mental health, published in October 2019, describes the magnitude of the mental health problem facing Australia. The report states that ‘almost half of all Australian adults will meet the diagnostic criteria for a mental illness at some point in their lives, and one-in-five Australians will meet the criteria in a given year’ (Productivity Commission, 2019, p. 4). The Productivity Commission identifies long-standing problems for the prevention of mental ill-health in Australia as:

- under-investment in prevention for mental ill-health
- a focus on clinical services which overlooks the determinants of and factors contributing to mental ill-health
- stigma and discrimination, and
- inadequacies in the provision of, or difficulties accessing, appropriate supports.

The Productivity Commission draft report identifies difficulties inherent in estimating the costs of mental health. It also acknowledges the assignment of a monetary value to pain and suffering is problematic and – to some people – also objectionable.

However, the draft report identifies the costs of mental health and suicide in Australia as being large and pervasive. In 2018-19 it is estimated the costs of mental ill-health and suicide to the Australian economy ranged between \$43 and \$51 billion. This included the direct cost of healthcare and support services (\$18 billion), the cost of lost productivity due to lower employment, absenteeism and presenteeism (between \$10 billion and \$18 billion), and informal care provided by family and friends (\$15 billion) (Productivity Commission, 2019).

2.2 The relationship between work and mental health

The Productivity Commission draft report on mental health identifies strong links between employment and mental health. Employment can improve mental health in several ways, including providing people with:

- a sense of identity and providing regular interaction and shared experiences with people outside of one’s immediate family
- a sense of collective effort and achievement, and
- a structured routine, purpose and the need to plan and prioritise time and activities (Productivity Commission, 2019).

Notwithstanding the beneficial effect of work there is strong evidence indicating that an unfavourable working environment negatively impacts the mental health of workers.

A number of key theories have been developed to explain the relationship between job characteristics and mental health. For example, the job demands-control (JD-C) posits that high psychological demands (such as workload and work pressure) and low decision latitude (i.e. control over the way work is performed) are risk factors for psychological distress (Karasek, 1979). Consistent with this theory, there is a considerable body of evidence linking job conditions to workers' mental ill-health. For example, several systematic reviews of the academic literature have linked job conditions with stress disorders, mental disorders and depression (Nieuwenhuijsen et al. 2010; Stansfield and Candy 2006; Netterstrom et al. 2008).

The JD-C model was subsequently extended by Johnson and Hall (1988) to incorporate social support as a third factor impacting workers' stress, strain and health impacts. Thus, it is argued that the most negative health outcomes will be found in workers whose jobs are high in demands, low in control and low in social support.

The job demands-resources (JD-R) model developed explains work stress as arising from an imbalance between:

- job demands, defined as physical, psychological, social or organizational aspects of a job that require workers to expend effort and energy and therefore create a physiological or psychological 'cost' for workers, and
- job resources, defined as physical, psychological, social or organizational aspects of a job that support goal achievement, reduce demands or stimulate learning, growth and development (Bakker and Demerouti, 2007).

A common feature of these theories is that they explain the link between work and mental health in terms of the combined effects of the demands inherent in the job, and other factors that are believed to be protective or supportive of healthy functioning (i.e. job control, social support or resources).

2.3 Mental health in the construction industry

Mental ill-health is reported to 'cluster within' particular industries and occupations, with workers in male-dominated industries being at increased risk (Roche et al. 2016, p. 280). Construction workers are a particularly high-risk group for mental ill-health (Roche et al. 2016) and suicide (Milner et al. 2014; Turner et al. 2017). Every year 190 Australian construction workers take their own lives, which equates to one death by suicide every second day. Construction workers are six times more likely to die from suicide than an accident at work (Mates in Construction, 2020). There is strong evidence that young construction workers are particularly at risk of psychological distress, which has been linked to job stress, bullying and the use of 'avoidance' coping strategies (Pidd et al. 2017; McCormack et al. 2013). Young construction workers are more than twice as likely to take their own lives as other young Australian men (Mates in Construction, 2020).

The factors contributing to mental ill-health and suicide among construction workers are multi-faceted and complex. However, work conditions and the organisation and culture underpinning work within the construction industry have been identified as contributing factors.

A recent report undertaken on behalf of the Chartered Institute of Building revealed that construction industry workers are worse off than workers in other industries in terms of experiencing:

- poor work-life balance
- high workload
- excessive travel time
- technology overload, and
- unrealistic deadlines (Cattell et al. 2017).

Work speed and quantity of work have also been linked to symptoms of depression in bricklayers and construction supervisors (foremen/leading hands), while low participation in decision-making and low levels of supervisor support were linked with symptoms of depression in supervisors (Boschman et al. 2013).

Construction work is project-based, and work hours are long and inflexible. Since 1985 the proportion of people in the Australian construction industry working more than 44 hours per week increased by 11% - one of the largest increases in any industry (Van Wanrooy and Wilson, 2006). Lingard and Francis (2004) report the average number of hours worked each week is 63 among site-based workers in direct construction activity, 56 hours among site office-based workers and 49 hours in corporate office-based roles. Long work hours are a risk factor for poor mental health, depression and anxiety (Artazcoz et al. 2009; Bannai and Tamakoshi, 2014). Research, based on Australian data, reveals that work hours are positively related to mental health until they reach a 'tipping point' beyond which they become damaging (Dinh et al. 2017). This analysis reveals that mental health begins to decline when work hours exceed a tipping point of 39 hours per week. Assuming similar resources and time constraints, there is a five-hour gender gap in this tipping point (43.5 for men and 38 for women). However, when resources and time constraints (such as time spent in domestic work and caring roles) are taken into consideration, the gender gap increases (46.7 for men and 34.1 for women). These tipping points are currently exceeded in the majority of construction industry roles, which is likely to negatively impact mental health and create a barrier to gender equality.

Long, inflexible and antisocial hours typical of work in the construction industry are linked to high levels of work-family conflict (WFC) (Lingard et al. 2010a). Research demonstrates that project-based workers' ability to manage work-life balance and satisfactorily meet demands at home and at work is substantially impacted by project schedule demands that can dramatically increase required work quantity and pace at critical pressure points in a project lifecycle (Lingard et al. 2010b). WFC is strongly and consistently linked to psychological distress, depression, anxiety, sleep problems and negative attitudes towards mental health in international samples of construction industry workers (Bowen et al. 2018; Kotera et al. 2019). In the Australian construction context, WFC has also been identified as the mechanism through which job schedule demands are related to employee burnout (Lingard and Francis, 2005).

Co-worker/supervisor support and job insecurity have also been linked to stress-related disorders in male workers (Niewenhuijsen et al. 2010). The delivery of construction projects is heavily reliant on winning competitive tendering opportunities and projects are delivered through a complicated multi-tiered subcontracting system. Intense competition for contracts,

coupled with low profit margins and incentive payment systems increase the pressure experiences throughout the supply chain. Flexible employment practices have increased workforce casualisation and concerns about job security have been linked to construction workers' mental wellbeing (Turner and Lingard, 2016). Mayhew and Quinlan (2006) report long working hours, stressed and chronically fatigued workers in similar multi-tiered subcontracting arrangements in the Australian trucking industry. The health impacts of subcontracting have also been reported in international studies in which subcontracted workers are reported to be three times more likely to experience anxiety or depression, and to miss work due to illness, compared to directly employed workers (Min et al. 2013). Milner et al. (2017) analysed coronial findings to identify the stressors precipitating death by suicide in a sample of Australian construction workers. Transient work conditions, concerns about job insecurity and feelings of pressure were all identified as precipitating factors in these deaths (Milner et al. 2017).

The research conducted in the construction industry is consistent with studies linking conditions of work with job strain with mental ill-health in other industries (Cohidon et al. 2012). However, the industry's characteristics create conditions in which workers are at a particularly high risk of mental ill-health. Research has found that adverse work conditions (high demands, low control and job insecurity) influence mental health independently of one another. This means that jobs that combine two or three adverse conditions present a higher mental health risk, than jobs in which only one risk factor is present (Strazdins et al., 2011). Thus, the combination of risk factors in construction jobs is likely to amplify the risk of mental ill-health to workers.

2.4 Workplace mental health interventions

There is an increasing emphasis on the workplace as a point of intervention for targeting the prevention of mental illness and the promotion of wellbeing (Harvey et al. 2014). The workplace is seen to be an effective point of intervention for mental health promotion programs, particularly among men who are reported to have lower levels of mental health literacy and be less likely than women to seek help for personal difficulties (Roche et al. 2016).

Roche et al. (2016) argue that:

- large numbers of people can be accessed through workplace interventions
- workplaces already contain existing infrastructure and frameworks to support the implementation of mental health and wellbeing programs, and
- addressing mental health as part of workplace occupational health and safety management activities reduces stigma and encourages help-seeking behaviour in relation to mental health.

Some initiatives have already been implemented and are having a positive impact in the construction industry. For example, the Mates in Construction program provides a training/peer support program that is widely accepted in the construction industry and is effectively changing attitudes towards mental health and help-seeking behaviour (Ross et al. 2019).

While changing attitudes and behaviour in relation to mental ill-health is important, long term prevention measures also need to target the construction industry's culture and entrenched practices that contribute to the emergence of mental ill-health. Dextras-Gauthier et al. (2012) argue that the behaviours, structures and processes that produce adverse conditions of work are shaped by the values, assumptions and beliefs inherent in an industry or organisational culture. They argue that '...when dealing with mental health issues, including burnout, depression, and psychological distress, managers need to tread further upstream to identify those elements of organizational culture that are ultimately causing ill health' (Dextras-Gauthier et al. 2012, p.97).

Many occupational health initiatives have specifically focused on reducing sickness, presenteeism or sickness absence, which are all known to present a substantial cost to organisations. However, it is increasingly recognised that workers who are mentally and physically healthy are also more productive, shifting the emphasis from prevention of ill-health to the promotion of good health in workplaces (Christensen, 2017). Hakanen and Schaufeli (2012) argue that workers' general wellbeing should be understood as being more than the absence of depressive symptoms. Rather, a state of general wellbeing also constitutes the presence of a positive state of life satisfaction. There is an increasing call for research that investigates whether factors, other than those that cause ill-health, predict positive health measures (Torp et al. 2013). Understanding the determinants of positive wellbeing will enable the design and implementation of interventions that will create a psychologically healthy work environment.

Understanding the 'conditions and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions' is the overarching goal of the positive psychology movement (Gable and Haidt, 2005, p.104). Positive psychology is based on the premise that there is a need to focus scientific research and interest 'on understanding the entire breadth of human experience, from loss, suffering, illness, and distress through connection, fulfilment, health, and well-being' (Linley et al. 2006, p.6).

In relation to workplace interventions, the positive psychology movement has contributed to a relatively recent managerial focus on the creation of mentally healthy workplaces, defined as workplaces in which:

- 'risk factors are acknowledged and appropriate action [is] taken to minimise their potential negative impact,' and
- 'protective or resilience factors are fostered and maximized' (Harvey et al. 2014, p.12).

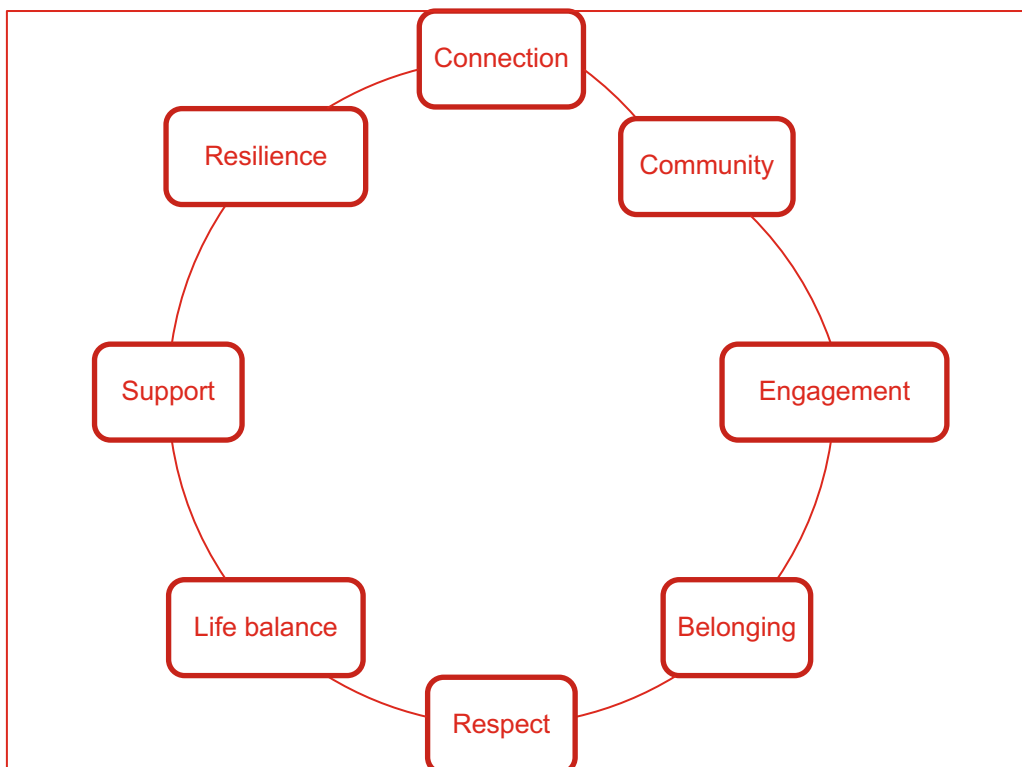
Thus, in a mentally healthy workplace steps are taken to eliminate risk factors for loss, suffering, illness, and distress, as well as to create a context within which workers are able to flourish.

Part 3: Sense of Place conceptual model

The SoP conceptual model comprises eight key components, as shown in Figure 3.1:

- connection
- community
- belonging
- respect
- life balance
- support
- resilience
- engagement

Figure 3.1: Sense of Place conceptual model



In the following section each of the eight components are defined and their relationship to mental health is considered.

3.1 Connection

Social connection is recognised as a determinant of mental health and wellbeing (VicHealth, 2010). Saeri et al. (2017) contend that social connectedness is a stronger and more consistent predictor of mental health than mental health was of social connectedness. In their study of connectedness, Lee et al. (2001, p.311) found that 'individuals with high connectedness have more appropriate interpersonal behaviors and these appropriate behaviors in turn contribute to less psychological distress. Conversely, individuals with low connectedness have more dysfunctional interpersonal behaviors and these dysfunctional behaviors in turn contribute to more psychological distress'. Spence (2015) found that workers identified the importance of social connections in supporting their psychological and wellbeing needs.

While models of social connection vary, the notion of social support is a central element. For example, in one model social connection (also referred to as social connectedness) is described as a multi-dimensional concept that includes structural, functional, and qualitative aspects of social relationships, all of which contribute to risk and protection (Holt-Lunstad, 2018, p.1308):

- (i) social connection as a source of structural support via the physical or behavioural presence of relationships in people's lives (e.g. size of social network, frequency of social contact)
- (ii) social connection as a source of functional support via the resources or functions our relationships provide or are cognitively perceived to be available (e.g. perceived or received support, loneliness), and
- (iii) social connection as a source of quality support via the positive and negative emotional nature of our relationships (e.g. relationship satisfaction, conflict, strain).

Holt-Lunstad (2018) further posits that social connection can be understood of as a continuum of high social connection (e.g. large social network, high social support, relationship satisfaction) to low social connection (or social disconnection; e.g. social isolation, loneliness, poor quality relationships).

While there is some commonality with Holt-Lunstad's (2018) model of social connection, Frieling et al. (2018, p.7) contend that social connectedness refers to the social ties between people and identify three components:

- socialising: the interaction between two or more individuals coming together (whether planned or unplanned) to have a good time and enjoy each other's company
- social support: the support from people in one's social network that is either provided or perceived to be readily available in times of need
- sense of belonging: the feeling of being connected to and valued by other people.

In contrast to Frieling et al. (2018), Hall and Partners & Open Mind (2014, p.10) considered men's social connectedness and identified that for this group, social connectedness comprises three domains:

- attachment relationships: indicates the availability of close relationships, e.g. spouse, children, siblings
- integration: indicates the degree to which an individual is immersed in a social network and the broader community
- perceptions: indicates an individual's subjective appraisal of the adequacy of their social connectedness, such as their level of satisfaction with their social connections.

Of these three domains, perceptions of social connectedness have been shown to be most strongly correlated with mental health issues.

While *Connection* is a distinct concept, the literature review has identified a strong definitional overlap with Support. There is also definitional overlap with Community and Belonging. Given the importance of definitional clarity, measurement of mutually exclusive concepts, and brevity of scales, the *Connection* component of SoP will be addressed through a measure of Community and a measure of Support.

3.2 Community

Sense of community (SOC), also referred to as psychological sense of community, refers to the fundamental human phenomenon of collective experience (Peterson et al., 2008). McMillan and Chavis (1976, p.9) describe SOC as 'a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together'.

A workplace community is identifiable as a set of formal and informal networks of individuals who share a common association (Burroughs and Eby, 1998). In a work setting, Lambert and Hopkins (1995, p.152) define a sense of community as 'mutual commitment between workers and their employing organization'. Lambert and Hopkins (1995) draw on Mowday et al. (1982, p.153) to clarify that mutual commitment can be understood within the context of organisational commitment, described as 'the relative strength of an individual's identification with and involvement in a particular organization, which is characterized by belief and acceptance of organizational goals, and values, willingness to exert effort on behalf of the organization, and a desire to maintain a membership in that organization'.

SOC is commonly described as a multidimensional construct in which reference is often made to McMillan and Chavis' (1986, p.9) four elements of: membership; influence; integration and fulfillment of needs; and shared emotional connection. Boyd and Nowell (2014, p.109-110) later extended the concept to include a fifth element termed responsibility:

- (i) membership: a feeling of belonging or of sharing a sense of personal relatedness (McMillan and Chavis, 1986). In an organisational context, membership refers to feelings of belonging and personal relatedness to specific social collectives such as a work unit or team, a department or division, or a whole organisation (Boyd and Nowell, 2014).
- (ii) influence: a sense of mattering, of making a difference to a group and of the group mattering to its members (McMillan and Chavis, 1986). In organisational contexts, influence translates to worker and manager perceptions about the extent to which they are able to express their opinions in ways that shape decision making and organisational plans and actions (Boyd and Nowell, 2014).
- (iii) integration and fulfillment of needs: a feeling that members' needs will be met by the resources received through their membership in the group (McMillan and Chavis, 1986). In an organisational context, this refers to the degree to which workers view that a variety of physiological and psychological needs are being fulfilled by receiving pay, benefits, training, safety, and recognition (Boyd and Nowell, 2014).
- (iv) shared emotional connection: the commitment and belief that members have shared and will share history, common places, time together, and similar experiences (McMillan and Chavis, 1986). In organisational contexts, workers feel shared emotional connections as they work together on projects, collectively experience up and down economies, share the prospects of company growth together, and experience times of personal joy and sadness with each other (Boyd and Nowell, 2014).
- (v) responsibility: a commitment to the wellbeing of the group and its individual members. In organisational settings, workers may feel a sense of responsibility to co-workers in the form of project help, advice and counselling, and emotional support. In addition, workers may feel responsible for the success and wellbeing of the organisation as a whole (Boyd and Nowell, 2014).

Nowell and Boyd (2014) contend that McMillan and Chavis' (1986) initial four-factor model emphasises a 'community as resource' perspective which focuses on what one gets from their community (needs for belonging, influence, and connection). The four-factor model of SOC has been shown to have a positive relationship with psychological wellbeing (Klein and D'Aunno, 1986; Peterson et al., 2008; Boyd and Nowell, 2017). In contrast, the more recent responsibility dimension of SOC has been linked to organisational citizenship behaviour rather than psychological wellbeing.

In contrast to McMillan and Chavis' (1986) four-factor model of SOC, Burroughs and Eby (1998) found support for a nine-factor model which included emotional safety, coworker support, team orientation, spiritual bond, sense of belonging, tolerance for individual differences, neighbourliness, sense of collectivism, and reflection. While later models of SOC may appear to diverge from McMillan and Chavis' (1986) initial four-factor model of SOC, there remains a high level of commonality between models. For example, Burroughs and Eby (1998) draw on McMillan and Chavis' (1986) work as is seen by the similarity between model components, summarised in Table 3.1.

Table 3.1: Similarity between conceptual models of Sense of Community

McMillan and Chavis (1986)	Burroughs and Eby (1998)
Membership	Sense of belonging
Influence	Coworker support
Integration and fulfillment of needs	Team orientation
Shared emotional connection	Emotional safety

In this research, *Community* is measured using the Brief Sense of Community Scale (Peterson et al., 2008) which draws on McMillan and Chavis' (1986) definition of community and the associated four-factor model (see Table 3.1).

3.3 Engagement

Work engagement has been described as 'a positive, fulfilling, affective-motivational state of work-related well-being' (Bakker et al., 2008, p187-188). Work engagement is often regarded as the opposite of job burnout. For example, Maslach and Leiter (1997) suggested engagement comprises energy, involvement and effectiveness, which are the direct opposites of the three burnout dimensions of exhaustion, cynicism and diminished personal efficacy. They suggest that management processes and structures impact six critical areas of organisational life (i.e. workload; control; reward; community; fairness and values) that shape workers' engagement with their work (p.104).

Other researchers have defined and operationalised work engagement as a distinct construct to burnout. For example, Schaufeli et al. (2002) define work engagement as 'a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication and absorption' (p.74). The components of work engagement have been further defined as follows:

- vigour is characterised by 'high levels of mental resilience while working, the willingness to invest effort in one's work and persistence even in the face of difficulties'
- dedication describes 'being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride and challenge,' and
- absorption is characterised by 'being fully concentrated and happily engrossed in one's work, whereby time passes quickly, and one has difficulties with detaching oneself from work.' (Bakker et al. 2008, p.188)

Of these three dimensions, vigour and dedication are regarded as being the core dimensions of work engagement (González-Romá et al. 2006; Bakker et al. 2011).

Bakker et al. (2008) propose that vigour and dedication are the direct opposites of exhaustion and cynicism (two core dimensions of burnout). Thus, exhaustion and vigour were understood

to be positioned at opposite ends of an 'energy' continuum, while cynicism and dedication were understood to lie at opposite ends of an 'identification' continuum (Bakker et al. 2008). However, empirical studies do not support this view (Schaufeli et al. 2008). Demerouti et al. (2010) similarly found that the burnout dimension of exhaustion and the engagement dimension of vigour do not reflect two opposite ends of an 'energy' continuum and recommended they be treated as independent and distinct concepts. Hakanen and Schaufeli (2012) also report the findings of a three-wave, seven-year longitudinal study in which burnout and work engagement were both found to have long term effects on depressive symptoms and life satisfaction, even after controlling for each other's effects on the alternative outcome variables. This finding supports the view that burnout and engagement are not direct opposites of the same concept and that they both contribute independently to the prediction of general wellbeing. This finding led Hakanen and Schaufeli (2012) to conclude that, in order to protect workers from mental ill-health and to promote a sense of general wellbeing, organisations should focus on factors that concurrently prevent burnout and foster work engagement. Halbesleben (2010) suggests that interventions designed to build work engagement could target the individual and/or consider issues of job design. For example, at an individual level, strategies to build personal resources such as psychological capital, training, coaching and development could be considered. While at the job level, redesigning jobs to increase resources, such as social support, control and skill variety is recommended. However, Bakker et al. (2011) also identify a need for more research to evaluate the impact of interventions designed to increase work engagement. Knight et al. (2017) also report that leadership training interventions, involving knowledge and skill building workshops for managers can have a positive impact on workers' engagement.

Work engagement has been linked to the availability of job resources, defined as 'physical, social or organisational aspects of the job that may: (1) reduce job demands and the associated physiological and psychological costs; (2) be functional in achieving work goals; or (3) stimulate personal growth, learning and development' (Bakker et al. 2008, p. 191). Job resources, such as job controls, skill variety and social support in the workplace, are reported to be stronger predictors of work engagement than job demands (Mauno et al. 2007). Bakker et al. (2011) argue, based on the Job Demands-Resources model of job stress, that job resources are more salient and important to wellbeing when workers face high demands arising from their work. Consistent with this argument, empirical studies confirm that job resources have a particularly beneficial impact on work engagement in situations in which workers experience high job demands (Bakker et al. 2007). Work engagement is also enhanced when workers are psychologically detached from their work during periods of respite, thus highlighting the importance of rest and recovery opportunities within working time arrangements (Kühnel et al. 2009).

The conservation of resources (COR) theory has been used to explain the health-promoting effects of positive experiences or resources in work and life. Thus, when resources are available, people are more capable of gaining further resources in the future creating reciprocal and self-reinforcing 'gain spirals' (Hakanen, Perhoniemi et al. 2008).

In their study of the longitudinal relationship between burnout and depression and between work engagement and commitment, Hakanen, Schaufeli et al. (2008) report a negative correlational relationship between engagement and depression, although they did not directly

test for a longitudinal relationship. A similar negative correlation between work engagement and depression was found in a cross-sectional study conducted by Torp et al. (2013). Innestrand et al (2012) directly tested for a relationship between work engagement and symptoms of anxiety or depression using a two-wave longitudinal dataset (with a two-year time interval). They report the statistical model that positioned work engagement as a predictor of symptoms of anxiety or depression was stronger than an alternative model in which work engagement was positioned as the outcome of experiencing symptoms of anxiety or depression. Thus, the direction of causality is likely to be from engagement to the absence of mental ill-health. In particular, the lagged negative effect of vigour on symptoms of depression and anxiety over the two-year data collection period provides evidence that work engagement has a positive protective effect on mental health. Innestrand et al (2012) argue that this suggests that, in addition to eliminating organisational risk factors for mental ill-health, workplaces should also focus on creating the conditions in which workers can flourish. Hakanen and Schaufeli (2012) similarly report that a positive state of work engagement negatively predicted depressive symptoms over a seven-year longitudinal study, suggesting that engaged workers are able to draw upon many resources (in work and non-work domains) that increase the likelihood that they will experience a positive 'gain spiral' that, in turn, produces a context-free sense of wellbeing. Leitjen et al. (2015) examined the relationship between engagement and mental health in older working people and found high work engagement at baseline was related to better mental health at the time of a one-year follow-up. They suggest that interventions to build work engagement would be beneficial to older workers' mental health.

In this research, *Engagement* is measured by the Oldenburg Burnout Inventory (Demerouti et al., 2010) which incorporates the dimensions of vigour and dedication as defined by Schaufeli et al. (2002) and Bakker et al. (2008).

3.4 Belonging

In a school context, Goodenow et al. (1993) described the concept of belongingness as 'the extent to which students feel accepted, respected, included and supported by others in the school social environment' (p.81). Hagerty et al. (1992) similarly defined a sense of belonging as 'the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment' (p.173).

Following a robust analysis of the concept of belongingness, Hagerty et al. (1992) report a sense of belonging to have two core features:

- (i) 'the person experiences being valued, needed, or important with respect to other people, groups, objects, organisations, environments or spiritual dimensions and
- (ii) the person experiences a fit or congruence with other people, groups, objects, organisations, environments or spiritual dimensions through shared or complementary characteristics' (p.174).

Hagerty and her colleagues developed a general measure of sense of belonging and demonstrated that a sense of belonging is associated with social and psychological functioning

and should therefore be considered an important concept in understanding mental health (and ill-health) (Hagerty et al. 1996). The relationships between feeling a general sense of belonging and psychological health were statistically significant for both men and women.

A general sense of belonging is correlated with social support but is not considered to be the same construct (Hagerty et al. 1996). Hagerty and Williams (1999) investigated social support and a sense of belonging as predictors of depression. They report a significant (inverse) relationship between sense of belonging and depression, but no direct relationship between social support and depression. The independent effects of a sense of belonging on mental health was further demonstrated by Choenarom et al. (2005) who found a moderate to strong direct relationship between a general sense of belonging and depression, even when controlling for stress, spousal support and social support.

The role of belongingness in protecting against mental ill-health is sometimes explained with reference to the Belonging Hypothesis of Baumeister and Leary (1995). According to this argument, people naturally pursue and seek to maintain a sense of belongingness that enables them to flourish. Significant disruption to a person's sense of belongingness is experienced as distressing. Armstrong et al. (2016) argue that the attainment of a sense of belonging requires pleasant interpersonal interactions that reflect a care for wellbeing, as well as a consistent and stable relationship context.

Cockshaw et al. (2013) identify different domains in which people are motivated to maintain general belongingness. These include:

- macro-level groups, such as villages or communities
- instrumental coalitions, such as workplaces
- intimate personal, family or kinship relationships, and
- supportive friendships.

Cockshaw et al. (2013) argue that, because general measures of belongingness are so broad, they do not adequately capture context specific experiences of belongingness. Cockshaw et al. (2013) used a psychological sense of organisational membership (PSOM) and demonstrated that this measures a distinct and separable construct from general belongingness in a sample of employed Australian adults. Further, general belongingness and organisational belongingness (measured by the PSOM) accounted for 45% of variance in depressive symptoms. This is considerably greater than the variance reported in studies that measured general belongingness. Cockshaw et al. (2013) therefore argue that it is helpful to disaggregate aspects of belongingness and supplement general measures with context-specific measures, particularly when considering belongingness in an organisational context.

Measures of workplace belongingness have been subsequently used and linked with mental health in a number of studies. For example, workplace belongingness was found to be a strong negative predictor for psychological distress and a strong positive predictor of resilience in Australian emergency service workers (Shakespeare-Finch and Daley, 2017). Shakespeare-Finch and Daley (2017) report that workplace belongingness was the strongest predictor of psychological distress and resilience after controlling for a variety of work context factors, including length of service, trauma history and severity, employee assistance program access

and experience of Provider of Support training. Armstrong et al. (2016) also found workplace belongingness was a significant mediating mechanism between the experience of work-related stress and emergency service workers making positive changes (known as post-traumatic growth) after exposure to traumatic events in the workplace. It is noteworthy that workplace belongingness has been found to be particularly important in its relationship to wellbeing, leading Armstrong et al. (2016) to recommend that organisations implement strategies to foster belongingness as a positive protective measure against work stress.

While *Belonging* is a distinct concept, the literature review has identified a definitional overlap with Connection and Community. As previously stated, definitional clarity and measurement of mutually exclusive concepts are critical, therefore the *Belonging* component of SoP will be addressed through a measure of Community.

3.5 Respect

Respect in the workplace has demonstrated positive outcomes for the individual, the group, and the organisation. Workers who feel respected invest more in the group's success (Tyler and Blader, 2003), and it's been suggested that leaders require respect in order for followers to be influenced by them (Conger et al., 2000). In contrast, disrespectful treatment in the workplace is associated with decreased job satisfaction, decreased trust in management, and decreased commitment to the organisation (Colquitt et al., 2001). In a study with stigmatised groups, Henry (2011) found that respect may have special importance for these members as a means of reassuring them of their belonging and value.

Respect has been defined and operationalised in various ways within the organisational literature. For example, Bies and Moag (1986) define respect as being treated politely, while disrespect includes inconsiderate actions, use of abusive language, and coercion (Grover, 2013). De Cremer and Tyler (2005) refer to respect as how worthy and recognised one feels, while van Quaquebeke and Eckloff (2010) define respectful leadership as 'maintaining an appreciative attitude toward the other person and acting on the basis of this attitude even if one does not personally like or agree with the object of respect' (p. 344). Clarke (2011) combined respect typologies to define respect in leadership as a 'set of judgments relating to the perceived worthiness, ethical behaviors and shared values that exist between leader and follower' (p. 319). Andersson and Pearson (1999) consider respect from a workplace incivility lens, defining incivility as 'low intensity deviant behaviour with an ambiguous intent to harm the target, in violation of workplace norms for mutual respect' (p.457).

In the workplace respect has been studied in the context of the organisational justice literature. Organisational justice refers to 'employees' perception of fairness in the organizational work systems and workplace relationships' (Pattnaik and Tripathy, 2019, p.58). Organisational justice has also been described as a personal evaluation about the ethical and moral standing of managerial conduct (Cropanzano et al., 2007). Cropanzano et al. (2007) contend that while justice contributes to workers' relationships with their employer, injustice is reported to dissolve bonds within the work community. There is evidence that low organisational justice is a risk to the health of employees (Elovainio et al., 2002). Furthermore, organisational justice

contributes to the development of a sustainable and high-performing organisational culture by acting as a strong predictor of workplace attitudes and behaviours (Aryee et al., 2015).

Pattnaik and Tripathy (2019) reviewed six decades of research and identified various models and associated measures of organisational justice. Organisational justice evolved from being a single-dimensional construct (distributive justice) to become a two-dimensional construct (distributive and procedural justice), then three (distributive, procedural and interactional justice) and then a four-dimensional construct (distributive, procedural, interpersonal and informational justice). Distributive, procedural, and interactional justice are reported to be correlated, and are considered as three components of overall fairness (Ambrose and Arnaud, 2005). Each dimension of organisational justice, however, is generated in distinct ways and arises from different managerial actions (Cropanzano et al., 2007).

The interactional justice dimension of organisational justice is closely aligned with the notion of respect, defined as the 'appropriateness of the treatment one receives from authority figures' and 'treating an employee with dignity, courtesy, and respect' (Cropanzano et al., 2007, p.36). Bies and Moag (1986) identified four guiding rules for interpersonal treatment that authorities implementing decision-making procedures should follow:

- (a) truthfulness: open and candid communication about procedures
- (b) justification: adequate explanations of the outcomes of a decision-making process
- (c) respect: respect for individual dignity and polite behaviour, and
- (d) propriety: refraining from making improper remarks regarding one's age, gender, race or religion.

Based on the four-dimensional construct of organisational justice (distributive, procedural, interpersonal and informational justice), Colquitt (2001) developed a scale which incorporates four items measuring interpersonal justice. In contrast, Moorman's (1991) scale for the three-dimensional justice model incorporates a 6-item measure of interactional justice. While these measures are useful, they are restricted to the extent to which workers are treated respectfully by supervisors. Arguably, respect at work is inclusive of treatment from both supervisors and coworkers.

While respect in the workplace has been considered from an incivility lens, it has been considered using a positive-based civility lens. For example, Pearson et al. (2000, p.125) describe workplace civility as 'behavior that helps to preserve the norms for mutual respect at work; it comprises behaviors that are fundamental to positively connecting with another, building relationships, and empathizing'. Similarly, Gill and Sypher (2009, p.55) state that 'civility demands that one speaks in ways that are respectful, responsible, restrained, and principled and avoid that which is offensive, rude, demeaning, and threatening.

In this research, *Respect* in the workplace is measured by the Civility Norms Questionnaire-Brief scale (Walsh et al., 2012). Walsh et al. (2012) drew on Pearson et al.'s (2000)

conceptualisation to develop a measure which focuses on perceptions of a climate for civility in the workplace. In their measure, Walsh et al. (2012, p.410) define a climate for civility as 'employee perceptions of norms supporting respectful treatment among workgroup members'.

3.6 Life balance

Kossek et al. (2014) argue that work-life balance and wellbeing are key components of a sustainable workforce. However, achieving a balance between work and participation in other life domains is difficult in the context of long working hours, inflexible work schedules, demanding, intensive work and a lack of autonomy experienced by workers (Cooklin et al., 2016).

Despite a great deal of literature on the topic of work-life balance, no clear and consistently used definition of the term exists. Kossek et al. (2014) note that many researchers refer to work-*family* balance, reflecting the fact that the nuclear family and paid work are the role domains that are most likely to conflict because, for many people, these two life domains have high priority and take up a large amount of available time. However, Kossek et al. (2014) acknowledge that this term does not adequately reflect the experiences of a growing number of workers, for example singles and people in non-traditional family structures. Jones et al. (2006) also observe that, although the focus has often been on work-*family* balance, it is important to recognise that people are involved in multiple roles outside of family life, for example engaging in community activities, study, sport and leisure.

For this reason, some writers prefer to use the term work-*life* balance because it is considered to be more inclusive and in recognition that people occupy multiple roles in both their work and non-[work] lives.

There is also ongoing debate about what is meant by the term balance in relation to work and other life domains. Marks and McDermid (1996) use the term to describe the extent to which someone is able to blend attention, satisfaction and effort between multiple roles in their lives. Drawing on an expansionist role theory, some researchers argue there are synergies and benefits associated with participation in multiple roles (Barnett and Hyde, 2001). For some, multiple role involvement is believed to enhance psychological wellbeing because access to resources and experiences in one role can enhance the experience of another role (Barnett and Baruch, 1985). Marks and McDermid (1996) define positive role balance as:

'...the tendency to become fully engaged in the performance of every role in one's total role system, to approach every typical role and role partner with an attitude of attentiveness and care. Put differently, it is the practice of that evenhanded alertness known sometimes as mindfulness.' (p.421).

Marks and McDermid (1996) developed a measure of life balance and used it to empirically demonstrate that people who report more balance across their individual systems of roles and activities score

- lower on measures of role strain and depression, and
- higher on measures of self-esteem, role ease, and other indicators of wellbeing.

Greenhaus et al. (2003) defined work-family balance as comprising:

- time balance, i.e. people devote an equal amount of time to work and family roles
- involvement balance, i.e. people have an equal level of psychological involvement in work and family roles, and
- satisfaction balance, i.e. people derive an equal amount of satisfaction from their work and family roles (Greenhaus et al.2003).

This definition adopts a 'physical' balance metaphor, in which balance reflects equality between domains. Greenhaus et al. (2003) also viewed work-family balance as a continuum. At one end being extensive imbalance in favour of a particular role (e.g. family), at the other end being extensive imbalance in favour of the other role (e.g. work), while the centre point reflects a relatively balanced state. This 'physical' balance metaphor has, however, been criticised because it implies that a 50:50 investment of allocation of time and involvement in work and family roles is ideal, which may not be the preferred arrangement for all people (Jones et al. 2006).

Some work-life balance researchers do not provide a direct definition of work-life balance. Rather, what constitutes a state of balance is inferred from what they measure. For example, many researchers have focused on the nature and strength of interaction between experiences in the work and family domains. This interaction has been framed in both negative and positive terms.

On the negative side, work-family conflict (WFC) has been defined as 'a form of interrole conflict in which role pressures from the work and family domains are mutually incompatible in some respect' (Greenhaus & Beutell, 1985, p. 77). WFC is understood to operate in two directions, negative work interference with family and negative family interference with work.

WFC has been consistently linked to negative outcomes for individuals, families and employing organisations. For example, work interference with family has been associated with job dissatisfaction, life dissatisfaction, intention to turnover, general wellbeing, psychological strain, psychiatric disorders, substance abuse and problem drinking (Netemeyer et al. 1996; Boyar et al., 2003; O'Driscoll et al. 2003; Grant-Vallone & Donaldson, 2001; Hammer et al. 2004; Frone, 2000; Grzywacz & Marks, 2000; Allen et al. 2000; Wang et al. 2007).

Cooklin et al. (2016) studied the relationship between mental health and WFC using a large longitudinal dataset collected in Australia. They analysed changes in the experience of WFC over time in relation to mental health experiences. Cooklin et al. (2016) report that Australian working men and women who get 'trapped' in a situation of chronic WFC have the lowest levels of mental health, while those who report they 'never' experience WFC had the best mental health scores. Men and women who move into a situation of WFC experienced deteriorating mental health, while those who move out of a situation of WFC experience significant improvements in mental health.

These findings provide strong evidence for a causal relationship between the experience of WFC and mental ill-health in working Australians, irrespective of their sex. Importantly, research in the Australian construction industry revealed that project-based construction workers experience high levels of work–family conflict, which is predicted by job demands, including long and irregular work hours (Lingard and Francis, 2004; Lingard et al. 2010a).

On the positive side of the work-family relationship researchers have also examined situations in which work and family domain experiences enrich or facilitate one another. For example, work–family enrichment has been defined as ‘the extent to which experiences in one role improve the quality of life in the other role’ (Greenhaus and Powell, 2006, p. 73). Enrichment thus describes the transfer of positive moods, behaviours or skills between domains, which then has a beneficial effect on performance in the receiving domain. Wayne et al. (2007) similarly define work–family facilitation as the positive influence of an individual’s involvement in one domain on the functioning of the other system e.g. the family or workgroup. Grzywacz et al (2007) propose that enrichment occurs at an individual level, whereas facilitation occurs when engagement in one domain creates a system-level catalyst in the other domain which results in positive growth or change in the second domain, for example, when a workplace health promotion intervention is transferred and amplified, resulting in greater health-awareness and the adoption of healthy lifestyle behaviours in an entire family.

Positive interaction between work and family have been linked to psychological wellbeing. For example, Allis and O’Driscoll (2008) report that nonwork-to-work facilitation is associated with higher levels of employee wellbeing, while Haar and Bardoel (2008) report that positive spill-over between work and family life was negatively associated with psychological distress and turnover intention in a sample of Australian workers. Van Steenberge et al. (2007) also found work-to-family facilitation contributed to the prediction of previously reported work–family outcomes, including work satisfaction, organisational commitment, job performance, home performance, home commitment, home satisfaction and general life satisfaction, over and above variance explained by traditional measures of work–family conflict. In a two-staged longitudinal study, Innstrand et al. (2008) similarly found that work-to-family facilitation at ‘time one’ was associated with lower levels of employee burnout at ‘time two’.

Lingard et al. (2010c) studied work to family enrichment in the Australian construction industry and produced evidence to suggest that jobs may be designed to facilitate work–family enrichment in the construction industry, in particular through the provision of supervisor support, flexibility, time adequacy and control.

An array of job quality characteristics has been identified as predicting whether workers experience WFC or work-family enrichment. For example, Cooklin et al. (2015) studied the factors impacting the work-family interaction experiences of Australian working fathers of infants. They found that long and inflexible hours, night shift, job insecurity, a lack of autonomy and more children in the household were associated with higher levels of WFC, which was associated with increased psychological distress. In contrast, job security and being in a prestigious job were associated with work-family enrichment and better mental health.

Other ways of viewing work-life interaction reflect the fact that individuals make cognitive appraisals of the effects that different domains have on each other. For example, Eby et al.

(2005) suggest work-life balance depends upon the extent to which a person's 'expectations about work and family roles are met or not' (p.184). Research shows that a person's appraisal of the extent to which they experience a balance between work and family/personal life is strongly related to their mental health. For example, Canadian research reveals that people who report they 'never' felt balance between work and family/personal lives in the past month had a very high prevalence of mental disorders. Wang et al. (2006) report that the one-month prevalence of major depressive disorder, mood disorders, anxiety disorders and any mood or anxiety disorder in this group was 14.6%, 21.2%, 17.9% and 31.0%, respectively.

Voydanoff (2007) introduced the term work-family fit to describe the extent to which the relative demands and resources associated with participation in work and family roles are compatible. Two dimensions of fit are defined:

- work demands-family resources fit, and
- family demands-work resources fit.

Voydanoff suggests that work-family balance is a 'global assessment of the extent to which work and family resources are sufficient to meet work and family demands' (p.126).

Recently, some writers have attempted to bring together different conceptualisations of work-life balance into a single, over-arching definition. For example, Kossek et al. (2014) define work-life balance as 'satisfaction and perceptions of success in meeting work and nonwork role demands, low levels of conflict among roles, and opportunity for inter-role enrichment, meaning that experiences in one role can improve performance and satisfaction in other roles as well' (p.301). Based upon this integrated definition of work-life balance, Haar (2013) developed a three-item measure. This measure was used in an international study comprising people who were Malaysian, Chinese, New Zealand Maori, New Zealand European, Spanish, French, and from Italian populations. The three items loaded onto a single factor universally across the seven samples and achieved internal consistency reliability in all samples (ranging from 0.80 to 0.89). This study also found that, measured in this way, work-life balance was positively related to job and life satisfaction and negatively related to anxiety and depression across the seven cultures (Haar et al. 2014).

In this research *Life Balance* is measured by the Work life balance scale of Haar (2013). Haar (2013) draws on the integrated approach to work-life balance, defined as the 'extent to which an individual is able to adequately manage the multiple roles in their life, including work, family and other major responsibilities. For some employees, this will be work and family only, while for others, this will be work and sports, or community, church, etc. Balance is not conceptualised as a 50/50 split between two major roles, as employees may not view this distinction as universally desirable or realistically attainable' (p.3308).

3.7 Support

Social support refers to situations in which one person or group needs help to achieve an objective and another person or group offers resources to provide help (Dovidio, Piliavin,

Schroeder & Penner, 2006). According to Brough and Pears (2004, p.472) workplace social support focuses on 'collaborative problem solving and sharing information, reappraising situations and obtaining advice from a variety of personnel such as colleagues, supervisors and managers (i.e. sources of social support)'. In the workplace, social support is defined as the degree to which individuals perceive that their wellbeing is valued by workplace sources, such as supervisors and the broader organisation in which they are embedded, and the perception that these sources provide help to support this wellbeing (Eisenberger et al., 2002; Kossek et al., 2011). Kossek et al (2011, p.291) conceptualise workplace social support as '(a) emanating from multiple sources, such as supervisors, coworkers, and employing organisations; and (b) distinguished by different types or foci of support that are either 'content general' or 'content specific.' General work support refers to the degree to which workers perceive that supervisors or employers care about their global wellbeing on the job through providing positive social interaction or resources. Content-specific support refers to perceptions of care and the provision of resources to reinforce a particular type of role demand.

In a work setting, social support can occur at three levels, and this is reflected in measures of support:

- organisational support: perceptions of workers regarding the extent to which their organisation appreciates their effort and cares about their wellbeing (Eisenberger et al., 1986)
- supervisor support: perceptions of workers regarding the degree to which supervisors value their contributions and care about their wellbeing (Eisenberger et al., 2002), and
- co-worker support: perceptions that co-workers are helpful, can be relied upon in times of need, and are receptive to work-related problems (Menguc and Boichuk, 2012).

There is strong evidence of the association between social support and health, including mental health (Kawachi & Berkman 2001). Perceived organisational support is positively linked to worker engagement and wellbeing (Caesens et al., 2016) and negatively related to burnout (Walters and Raybould, 2007). The absence of support in a supervisor-employee relationship has also been observed to have an impact on the performance of employees, their satisfaction at work and on the engagement and burnout of the affected employees (Baruch-Feldman et al, 2002; Neves and Eisenberger, 2014). Johnson and Hall (1988) incorporated social support into the Job Demand-Control model of occupational stress (Karasek, 1979) and demonstrated that in environments characterised by high demands and low control, workers experienced reduced levels of strain when social support was high.

In the construction industry, support at work is important in the fostering of good mental health, and the absence of these supports can have a significant impact on poor mental health (Love et al., 2010). Bowen et al. (2014) found a significant relationship with occupational stress and the presence of support from line managers in difficult situations at work. Chan et al. (2020) identified that lack of social support from colleagues / immediate supervisors is a risk factor for mental ill-health in the construction industry.

Together with the different levels of social support (organisational, supervisor, co-worker), four types of social support have been identified: emotional, instrumental, informational and appraisal (House, 1981):

- emotional support refers to the amount of ‘love and caring, sympathy and understanding and/or esteem or value available from others’ (Thoits, 1995, p. 55).
- instrumental support focuses on help with practical things, such as financial assistance, lending items or help with childcare responsibilities. House (1981) refers to instrumental support as aid in-kind, money or labour. Some authors have noted that instrumental support often carries an emotional meaning as well, by communicating to recipients that they are cared for (e.g. Semmer et al., 2008).
- informational support refers to individuals who serve as a source of information and referral or who provide advice on expert matters (House, 1981), and
- appraisal support involves the communication of information which is relevant to self-evaluation (Langford et al., 1997).

The effects of different types of stressors may be mitigated, or buffered, by one support type rather than another (Schonfeld, 1991, p. 2), therefore differentiating between types of support is critical because different support types can have different effects in varying circumstances. For example, providing instrumental support to construction workers experiencing work overload may be more beneficial for their wellbeing than providing informational support. In contrast, providing emotional support to workers who may be experiencing mental ill-health or work strain may be more beneficial than providing appraisal support.

Beehr (1985) contends that work-related stress is most effectively dealt with by work-related sources of support (supervisor and coworkers), because the stress treatment occurs in the context of the stressful situation. Beehr’s (1985) contention that within-domain supports are most effective in managing work-related stressors is consistent with the Job Demands-Resources (JD-R) model (Bakker and Demerouti, 2007). The JD-R model recognises supervisor and coworker support as critical resources (Schaufeli and Taris, 2014; Lesener et al., 2019) which support worker wellbeing, and therefore both levels of support are measured in this research. Furthermore, given that emotional and instrumental support are both purported to be important to worker wellbeing (Caplan et al., 1975; Schonfeld, 1991; Mathieu et al., 2019), they are also included in the measure of support in this research.

This research measures emotional and instrumental dimensions of *Support* from supervisors and coworkers using the Social Support from Supervisor Index and the Social Support from Coworkers Index (Caplan et al., 1975).

3.8 Resilience

Resilience in the workplace is linked to various positive effects such as individual job performance and organisational commitment (Luthans et al., 2007), mental health (Kinman and Grant, 2011), physical health (Ferris et al., 2005), job satisfaction (Badran and Youssef-Morgan, 2015), and openness to organisational change (Wanberg and Banas, 2000). Yet, conceptual reviews (Herrman et al., 2011; Shaikh and Kauppi, 2010; Tusaie and Dyer, 2004; Windle, 2011) acknowledge the breadth and scope of definitions of resilience and the lack of conceptual clarity. Among the various definitions, the person-centred approach holds that resilience represents a set of personal characteristics which enable the individual to thrive in the face of adversity (Connor and Davidson, 2003; Greve and Staudinger, 2006). Consistent with this focus on the individual is another view contending that resilience is a relatively stable personality trait (Bartone 2007, Kirkwood et al., 2008) characterised by the ability to overcome, steer through and bounce back from adversity (Ong et al., 2006).

Arguably, frameworks which conceptualise resilience as a set of personal characteristics are limited as they do not consider the impact of the environment on the individual. In contrast, the process-centred approach considers how aspects of the person and environment are connected with consequences to adversities and risks (Greve and Staudinger, 2006). Masten (2018, p.16) aptly asserts that ‘resilience should not be construed as a singular or stable trait, as it arises from dynamic interactions involving many processes across and between systems’. In recognition that resilience is an interplay between an individual and their environment, alternative views of resilience have emerged which position resilience as a process that encompasses the individual and the wider environment (American Psychological Association, 2010; Bryan et al., 2018; Windle, 2011; World Health Organisation, 2017). Central to definitions which view resilience as a process is the notion that resilience is contextual and will differ over the life course. Resilience may change over time as a function of development and one’s interaction with their environment (Southwick et al., 2014).

Resilience in the work environment describes the ability of an individual worker or work group to respond to everyday problems and challenges associated with work (McEwan, 2014; Cooper et al., 2013). For example, Cooper et al. (2013, p.1) describe resilience in the workplace as: ‘being able to bounce back from setbacks and to stay effective in the face of tough demands and difficult circumstances’. Beyond merely bouncing back, Cooper et al. (2013, p.1) go on to emphasise that resilience in the work environment ‘goes beyond recovery from stressful or potentially stressful events, to include the sustainability of that recovery and the lasting benefit — the strength that builds through coping well with such situations’. Similarly, McEwan (2014, p. 6) describes resilience at work as the ability to ‘manage the everyday stress of work and remain healthy, rebound and learn from unexpected setbacks and prepare for future challenges proactively’. Näswall et al.(2015) consider employee resilience as an ability to thrive in a changing environment. Importantly, this ability is facilitated by the organisational context, including leadership and organisational culture.

Central to models of resilience are the inclusion of protective factors which are critical for managing stressful events effectively to either mitigate or eliminate risk. According to Windle (2011), protective factors are the defining attributes of resilience. Within the literature however, the terms used to describe protective factors vary and include ‘assets’, ‘resources’,

'capacities', 'capabilities', or 'strengths'. Some studies distinguish the individual level protective factors as assets, while resources are regarded as external to the individual (Fergus and Zimmerman, 2005; Sacker and Schoon, 2007):

- internal protective factors are individual qualities or characteristics/capabilities that are responsible for fostering resilience and are specific to the individual, and
- external protective factors are positive environmental support structures from the environment in which the individual is situated.

Using a process-based definition of resilience embedded with a social-ecological framework, occupational resilience is premised on the three requisite requirements of (1) the advent of a significant adversity/risk, (2) the presence of assets or resources to offset the effects of the adversity, and (3) the positive adaptation or the avoidance of a negative outcome (Windle, 2011).

In this research, *Resilience* is measured by the Employee Resilience Scale (Näswall et al., 2015). In this measure, employee resilience is conceptualised as an 'employee capability, facilitated and supported by the organisation, to utilise resources to continually adapt and flourish at work, even if/when faced with challenging circumstances' (p.1).

Part 4: Concluding remarks

This literature review explored eight potential components that were originally identified as being important to workers' experiences of a work environment that fosters a positive, supportive sense of place.

The strong and empirically demonstrated links between these components and positive mental health outcomes support their relevance to the provision of a mentally-healthy workplace.

Large and complex construction projects have many 'moving parts' as a multitude of different organisations come together in a temporary project organisation to deliver a bespoke project, often within a tight timeline and in the context of conditions of risk and uncertainty.

In this environment, a sense of place may be difficult to develop. However, initiatives designed specifically to create a sense of place construction project environments are likely to yield substantial benefits in terms of workers' psychological wellbeing and performance.

The literature review explored the way that each of the original eight components of a SoP has been defined and measured in previous research. The literature review revealed a number of conceptual overlaps.

In the interests of clarity, and on the basis of the research evidence, the sense of place model was reduced from the original eight components (shown in Figure 3.1) to six (shown in Appendix 6.1).

The six-component model reflects the fact that belonging and connectedness are sub-components of the broader concept of community. Thus, belonging and connectedness have been collapsed to form the single component of community.

The literature review also carefully examined the ways in which each of the sense of place components has been measured. Psychometric scales that are demonstrably well-tested and reliable were considered for inclusion in the sense of place survey tool.

The suitability of scales for inclusion in the survey tool was assessed using the following criteria:

- reliability in previous research (scales with strong internal consistency reliability were given preference)
- length (shorter scales were given preference)
- suitability of wording for professional/managerial and non-managerial/manual workers (scales with plain English wording were given preference), and
- positive/negative wording (scales that were worded positively rather than negatively were given preference).

The selected scales and their constituent items are presented in Appendix 6.2.

Part 5: References

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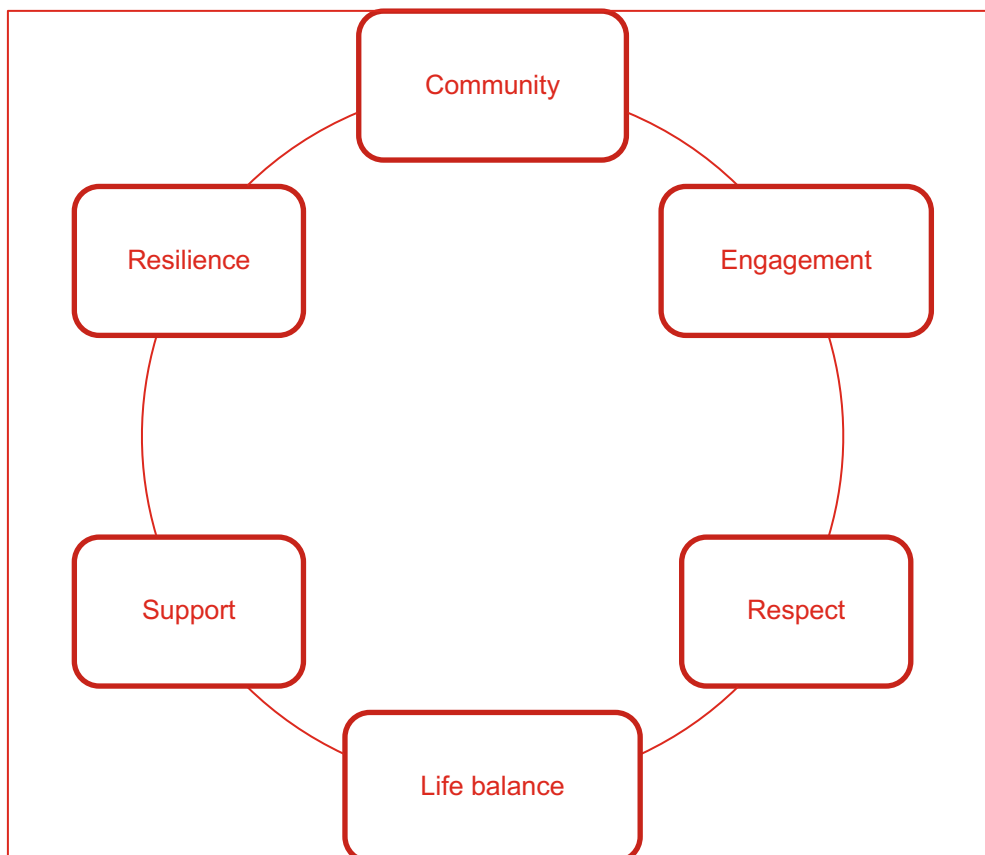
Part 6: Appendix

6.1 Conceptual model (refined)

From the literature review, we have identified elements of conceptual overlap between connection, support, belonging, and community. For example, Lee et al. (2001) argue that connectedness and belonging are distinct constructs, whereas Frieling et al., 2018 identify that belonging is an element of connection. Identification of these conceptual similarities will ensure that the metrics used to evaluate the Sense of Place program are evidence-based, are mutually exclusive, and relationships between components are understood.

The refined conceptual model has therefore been reduced to six components – community, engagement, respect, life balance, support and resilience, as shown in Figure 6.1.

Figure 6.1: Sense of Place conceptual model refined



6.2 Scales

Summary of scales

Table 6.1: Summary of scales

Scale	Number of items
Demographic	7
Community	8
Worker engagement	8
Respect	4
Life balance	3
Support - supervisor	4
Support - co-worker	4
Resilience	9
Willingness to seek help	4
TOTAL	51

Demographic questions

Table 6.2: Demographic questions

Demographic questions
Site details: Western, CBD, Eastern precinct
Completed survey before: yes/no
Time at project: less than 6 months, 7-12 months, more than 12 months
New to industry: yes/no
Role on project: on site in direct construction activity, onsite but mostly in the site office, corporate office
Gender: male/female
Age: under 20, 20-29, 30-39, 40-49, 50-59, above 60

Community

Scale name: Brief Sense of Community Scale

Citation: Peterson, N. A., Speer, P. W., & McMillan, D. W. (2008). Validation of A brief sense of community scale: Confirmation of the principal theory of sense of community. *Journal of Community Psychology*, 36(1), 61-73.

Scale structure: 8 items, 4 factors (needs fulfillment, membership, influence, emotional connection)

Our use: we use 'Melbourne Metro Tunnel Project' instead of 'organisation' in the items.

Response format: 1 = Strongly agree, 2 = Agree, 3 = Neither agree or disagree, 4 = Disagree, 5 = Strongly disagree.

Instruction: Using the scale of strongly agree (1) to strongly disagree (5) please indicate your level of agreement with the following statements.

Table 6.3: Community

Question	1	2	3	4	5
I can get what I need in the Melbourne Metro Tunnel Project (NF)					
The Melbourne Metro Tunnel Project helps me fulfil my needs (NF)					
I feel like a member of the Melbourne Metro Tunnel Project (MB)					
I belong in the Melbourne Metro Tunnel Project (MB)					
I have a say about what goes on in the Melbourne Metro Tunnel Project (IN)					
People in the Melbourne Metro Tunnel Project are good at influencing each other (IN)					
I feel connected to the Melbourne Metro Tunnel Project (EC)					
I feel connected with others in the Melbourne Metro Tunnel Project (EC)					

Note: **Needs fulfillment** items are indicated by NF, **membership** items are indicated by MB, **influence** items are indicated by IN, and **emotional connection** items are indicated by EC.

Worker engagement

Scale name: Oldenburg Burnout Inventory

Citation: Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology*, 15(3), 209-222.

Scale structure: 16-item 2 factor. Disengagement (dedication dimension) and Exhaustion (vigour dimension). Absorption dimension excluded from the scale.

Our use: 8 item 2 factors, use positively worded items only.

Response format: 1 = Strongly agree, 2 = Agree, 3 = Disagree, 4 = Strongly disagree.

Instruction: Using the scale of strongly agree (1) to strongly disagree (4) please indicate your level of agreement with the following statements.

Table 6.4: Worker engagement

Question	1	2	3	4
I always find new and interesting aspects in my work. D				
I can tolerate the pressure of my work very well. E				
I find my work to be a positive challenge. D				
After working, I have enough energy for my leisure activities. E				
This is the only type of work that I can imagine myself doing. D				
Usually, I can manage the amount of my work well. E				
I feel more and more engaged in my work. D				
When I work, I usually feel energised. E				

Note: **Disengagement** items are shown with a 'D' **Exhaustion** items are shown with an 'E'.

Respect

Scale name: Civility Norms Questionnaire-Brief

Citation: Walsh, B. M., Magley, V. J., Reeves, D. W., Davies-Schriels, K. A., Marmet, M. D., & Gallus, J. A. (2012). Assessing Workgroup Norms for Civility: The Development of the Civility Norms Questionnaire-Brief. *Journal of Business and Psychology, 27*(4), 407-420.

Scale structure: 4 items, 1 factor

Our use: use entire scale without modification.

Response format: 1 = Strongly disagree, 2 = Disagree, 3 = Somewhat disagree, 4 = Neither agree or disagree, 5 = Somewhat agree, 6 = Agree, 7 = Strongly agree.

Instruction: Using the scale of strongly disagree (1) to strongly agree (7) please indicate your level of agreement with the following statements.

Table 6.5: Respect

Question	1	2	3	4	5	6	7
Rude behaviour is not accepted by my co-workers							
Angry outbursts are not tolerated by anyone in my unit/workgroup							
Respectful treatment is the norm in my unit/workgroup							
My co-workers make sure everyone in my unit/workgroup is treated with respect							

Life balance

Scale name: Work life balance

Citation: Haar, J. M. (2013). Testing a new measure of work–life balance: a study of parent and non-parent employees from New Zealand. *The International Journal of Human Resource Management*, 24(17), 3305-3324.

Scale structure: 3 items, 1 factor

Our use: use entire scale without modification.

Response format: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree or disagree, 4 = Agree, 5 = Strongly agree

Instruction: Using the scale of strongly disagree (1) to strongly agree (5) please indicate your level of agreement with the following statements.

Table 6.6: Life balance

Question	1	2	3	4	5
I am satisfied with my work–life balance, enjoying both roles					
Nowadays, I seem to enjoy every part of my life equally well					
I manage to balance the demands of my work and personal/family life well					

Support – supervisor

Scale name: Social Support from Supervisor Index

Citation: Caplan, R. D., Cobb, S., French, J. R. P., Harrison, R.V. and Pinneau, S. R. (1975). Job Demands and Worker Health, NIOSH Research Report, Cincinnati, OH.

Scale structure: We are using four items to measure social support from supervisors. These four items were taken from a much larger survey of work demands and health developed by Caplan et al (above). The four-item scale has been used by other researchers to measure social support that is available from supervisors in a work context.

Our use: 4 items, 2 of which focus on emotional support and 2 which focus on practical support.

Response format: 1 = Not at all, 2 = A little, 3 = Somewhat, 4 = Very much.

Instruction: Using the scale of not at all (1) to very much (4) please indicate your experience at the project with the following statements.

Table 6.7: Social Support from Supervisor Index

Question	1	2	3	4
How much does your supervisor/manager go out of their way to do things to make your work easier for you?				
How easy is it for you to talk to your supervisor/manager?				
How much can your supervisor/manager be relied upon when things get tough at work?				
How much is your supervisor/manager willing to listen to your personal problems?				

Support – coworker

Scale name: Social Support from Coworkers Index

Citation: Caplan, R. D., Cobb, S., French, J. R. P., Harrison, R.V. and Pinneau, S. R. (1975). Job Demands and Worker Health, NIOSH Research Report, Cincinnati, OH.

Scale structure: We are using four items to measure social support from coworkers. These four items were taken from a much larger survey of work demands and health developed by Caplan et al (above). The four-item social support subscale has been used by other researchers to measure social support that is available from co-workers in a work context.

Our use: 4 items, 2 factors collecting emotional and practical aspects of support.

Response format: 1 = Not at all, 2 = A little, 3 = Somewhat, 4 = Very much.

Instruction: Using the scale of not at all (1) to very much (4) please indicate your experience at the project with the following statements.

Table 6.8: Social Support from Coworkers Index

Question	1	2	3	4
How much do your co-workers go out of their way to do things to make your work easier for you?				
How easy is it for you to talk to your co-workers?				
How much can your co-workers be relied upon when things get tough at work?				
How much are your co-workers willing to listen to your personal problems?				

Resilience

Scale name: Employee Resilience Scale

Citation: Näswall, K., Kuntz, J., & Malinen, S. (2015). Employee Resilience Scale (EmpRes): Technical Report. Resilient Organisations Research Report 2015/04. ISSN 1178-7279.

Scale structure: 9 items, one factor

Our use: use entire scale without modification.

Response format: 1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Sometimes, 5 = Frequently, 6 = Usually, 7 = Almost always.

Instruction: Using the scale of never (1) to almost always (7), please indicate how often you display these behaviours.

Table 6.9: Resilience

Question	1	2	3	4	5	6	7
I effectively collaborate with others to handle unexpected challenges at work							
I successfully manage a high workload for long periods of time							
I resolve crises competently at work							
I learn from mistakes at work and improve the way I do my job							
I re-evaluate my performance and continually improve the way I do my work							
I effectively respond to feedback at work, even criticism							
I seek assistance to work when I need specific resources							
I approach supervisors/managers when I need their support							
I use change at work as an opportunity for growth							

Willingness to seek help

Citation: King, T. L., Gullestrup, J., Batterham, P. J., Kelly, B., Lockwood, C., Lingard, H., Harvey, S. B., LaMontagne, A. D., & Milner, A. (2018). Shifting Beliefs about Suicide: Pre-Post Evaluation of the Effectiveness of a Program for Workers in the Construction Industry. *International Journal of Environmental Research and Public Health*, 15(10).

Scale structure: Single items rather than uni-dimensional

Response format: 1 = Extremely unlikely, 2 = unlikely, 3 = Neutral, 4 = Likely, 5 = Extremely likely.

Instruction: Using the scale of Extremely unlikely (1) to Extremely likely (5) please indicate your level of agreement with the following statements.

Table 6.10: Willingness to seek help

Question	1	2	3	4	5
I would seek help for my personal problems from					
- my co-worker/s at the Melbourne Metro Tunnel Project					
- my supervisor/manager at the Melbourne Metro Tunnel Project					
- the Melbourne Metro Tunnel Project workplace wellbeing rep (David Cronin)					
- other					