Chapter 1
Psychosocial Safety Climate: A New Work Stress Theory and Implications for Method

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1.1 Introduction

This book responds to a public health priority (Whiteford et al., 2013) and a call from the WHO (2016), ILO (2016) and OECD (2012) to prevent and manage mental ill-health and promote health and well-being by drawing attention to the connection between work and mental health. By demonstrating a link between work factors and mental health-related issues, this book will provide public policy makers with evidence needed to shift policy attention to create mentally healthy workplaces and move investment of health, compensation, and insurance funding into proactive prevention strategies rather than costly treatments, medications, therapy, and hospitalisation. Ensuring workplaces globally have the conditions for good worker mental health is essential for the achievement of the United Nations 2030 Agenda for Sustainable Development and its Sustainable Development Goal of employment and decent work for all. However work factors must be considered in their context. In *Politics of the Mind, Marxism and Mental Health*, Ferguson (2017) highlighted the link between the economic, social and political system we live under—capitalism—and the extremely high levels of distress evident in the world today. In this chapter we consider worker mental health by exploring theories that emphasise the economic, social and political system, the corporate climate, work design, social-relational factors, person-environment fit, and individual psychology. Work stress

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theoretical frameworks have evolved to explain why work stress occurs, and the consequential negative outcomes, and they may be differentiated by their emphasis on the organisational, job design, or individual factors. It is important to understand the assumptions of the major aetiological frameworks and ideologies concerning the origin of the work stress problem, because this has implications regarding how and where to intervene. In this chapter we introduce various theoretical accounts of work stress, and Psychosocial Safety Climate (PSC) theory. We identify propositions and gaps in the PSC literature, linking them to the chapters in the book that provide some evidence for these new propositions.

1.2 Cost of Mental Ill-Health and Work Stress

The scale of mental ill-health in society is described by some as a crisis. Calls for national policy responses to tackle the rising burden of mental ill-health come from specialized agencies of the United Nations such as the World Health Organization and the International Labour Organization (ILO, 2016). According to the World Health Organization (2016) the burden of depression and other mental health conditions is on the rise globally. Mental health problems are a major contributor to the overall disease burden worldwide accounting for 21.2% of years lived with disability (Vos et al., 2013). Worldwide, more than 300 million people of all ages suffer from depression, and depression is one of the leading cause of disability (WHO, 2016). Depressive disorders affect the length and quality of life for example, via suicide and heart disease (Ferrari et al., 2013). In 2012, suicide deaths reached an annual global age-standardized suicide rate of 11.4 per 100,000 population (15.0 per 100,000 for males and 8.0 for females) amounting to 804,000 suicide deaths (WHO Europe, 2015). Consequently, in May 2013, the Sixty-sixth World Health Assembly adopted the first-ever Mental Health Action Plan of the World Health Organization featuring suicide prevention as an important part of the plan, with a goal to reduce the rate of suicide in countries by 10% by 2020 (WHO, 2014).

Examples from around the world highlight the gravity of the situation. In the Europe, community studies of European Union (EU) countries including Iceland, Norway and Switzerland revealed that 27% of adults aged 18–65, or roughly 83 million people, experienced at least one mental disorder, such as problems arising from depression, anxiety, substance use, psychoses, and eating disorders, in the past 12 months (Wittchen & Jacobi, 2005). In Australia in 2014–15, almost one in five people had a mental health or behavioural condition and suicide was the leading cause of death for working age Australians (ABS, 2015). In Australia in 2015–16, $8.5 billion was spent on mental health-related services, and 2.3 million Australians received Medicare-subsidised mental health-related services. At the same time, in Australia, 36 million prescriptions were issued for mental health conditions, and prescriptions for antidepressants have doubled since 2000 (AIHW, 2017; OECD, 2015). In the UK, the Adult Psychiatric Morbidity Survey (APMS) in 2014 showed that 15.2% of employees in full-time or part-time jobs, over the age of 16, had a

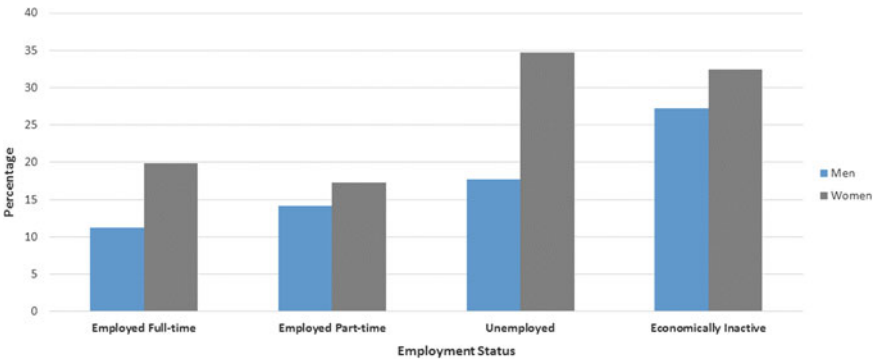

Fig. 1.1 Prevalence of common mental disorders in the past week (APMS, 2014)

common mental health problem in the past week (McManus, Bebbington, Jenkins, & Brugha, 2016).

Employment is presumed to have beneficial effects for worker mental health. As shown in Fig. 1.1, common mental health problems were more evident for those who were economically inactive and unemployed than for those in full-time or part-time jobs (McManus et al., 2016). But exactly how beneficial work is depends on one's gender (women usually reporting worse conditions) and the quality of work. For instance work that is insecure and low paid damages mental health (Marmot et al., 2010). Wege, Angerer, and Li (2017) found that previous experiences of unemployment and job insecurity predicted future new incidents of depression among the employed, therefore indicating a kind of "scarring" effect. In the UK in 2016/2017, work-related stress, depression or anxiety remained a significant ill-health condition, and accounted for 40% of work-related ill health and 49% of working days lost (HSE, 2017). The main reasons for work-related stress were workload, lack of managerial support and organisational change (HSE, 2017). In Australia the mental health of those unemployed is comparable to workers in the poorest quality jobs, those featuring low control, high demands and complexity, job insecurity and unfair pay (Butterworth et al., 2011). So the beneficial effects of work depends on the quality of work. The evidence linking poor work quality and mental health is clear, (demonstrated further in this book), and the phenomenon linking the two is often referred to as work stress. Poor work conditions and ensuing work stress are important social determinants of worker mental health.

1.2.1 Work Stress

Work stress is a term commonly used to refer to the link between poor work conditions and health. Several constructs in the literature have emerged to help our understanding of what work stress is. *Work stress* denotes a *condition* or intermediate arousal state

between *objective* stressors and strain. The US National Institute of Occupational Safety and Health define stress as "harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury" (Sauter et al., 1999, p. 6). The terms work stress, job stress and occupational stress are often used interchangeably. In certain theories *stress* is sometimes used interchangeably with cognitive appraisal, or perceived stress, or subjective person-environment fit (in psychological definitions). Some theories such as Job Demand-Control (JD-C) theory (Karasek, 1979) do not specifically define stress but implicitly assume it to be a mediating state between work stressors and health conditions.

Work Stressors are often referred to as workplace psychosocial risks, defined as "those aspects of work design and the organisation and management of work, and their social and environmental contexts, which have the potential for causing psychological, social or physical harm" (Cox, Griffiths, & Rial-González, 2000, p. 14). Examples include work pressure, lack of job control, low rewards, job insecurity, demeaning work, and long working hours.

Work Strain refers to the individual's acute response to a work stressor. Some authors use the term strain synonymously with stress, and others use it synonymously with stress symptoms. Here we define strain as those relative immediate (seconds to hours) symptoms that occur as a response to stressors that characterise the state of stress. Strain, or symptoms of stress, may be physiological (e.g., increased blood pressure or heart rate), psychological (e.g., acute cognitive impairment, fear, or boredom), and behavioural (e.g., drinking alcohol or acting aggressively) effects (Baker, 1985; Greenhaus & Parasuraman, 1987). Such symptoms could be really severe, but usually they diminish after recovery.

Recovery from job-related stress takes place during off-job time and is conceived as a process that is opposite to the stress process; through recovery employees' psychological and physical systems are replenished (e.g., Hahn & Dormann, 2013; Meijman & Mulder, 1998; Sonnentag & Fritz, 2007). Hence, recovery has been proposed to be an "explanatory mechanism in the relation between acute stress reactions and chronic health impairment" (Geurts & Sonnentag, 2006, p. 482), where the term 'acute stress reactions' refers to strain as we defined it earlier. Usually, recovery takes place during evenings and weekends, and longer term periods of non-work do not add much to this because these additional effects soon fade out after work resumption (de Bloom et al., 2009). Recovery may be incomplete if the exposures to stressors (or psychosocial risks) are too intense or too frequent, and where for example, employees cannot detach during weekends and continue thinking about work-related problems.

Mid- and long-term stress consequences or reactions occur if recovery is incomplete. Such consequences could also be physiological (e.g., chronic increased blood pressure and circulatory diseases, Becher, Dollard, Smith, & Li, 2018), psychological (e.g., depression or generalised anxiety), and behavioural (e.g., alcohol addiction or aggression) effects. As noted, compared to immediate strain responses, these stress consequences do not usually diminish even after extended periods of recovery unless particular actions (e.g., medication, physiotherapy, psychotherapy) are taken.

The development of mid- and long-term stress consequences could be explained by several mechanisms (cf. Frese & Zapf, 1994). For example, they could merely reflect accumulated short-term strain symptoms, and the pace of the process may dynamically increase with increased levels of stress consequences (e.g., work is exhausting more if people already feel exhausted when starting work). In some cases, mid- and long-term stress consequences represent a sleeper effect, that is, consequences occur with some delay after the stressor occurred. For example, traumatic events such as being exposed to bullying could sometimes lead to high levels of Post Traumatic Stress Disorder symptoms years later (Bond, Tuckey, & Dollard, 2010). Here we have highlighted the individual health consequences of work stress, but work stress impacts work engagement (Dollard & Bakker, 2010), quality of service, quality of care, accidents and injuries (see Zadow, Dollard, McLinton, Lawrence, & Tuckey, 2017), quality of products (e.g., Graziotin, Fagerholm, Wang, & Abrahamsson, 2018). Work stress also has societal impacts, increasing impacts, work-family conflict, (Hall, Dollard, Tuckey, Winefield, & Thompson, 2010), family breakdown (Poortman, 2005), suicide (Milner et al., 2017), medications (Jensen et al., 2019), health care and workers compensation costs (Bailey, Dollard, McLinton, & Richards, 2015) (see Fig. 1.1).

1.3 Broader Perspectives on Work Stress

1.3.1 Capitalism and Marxism

There are many factors that contribute to worker mental health including family, societal support, work status, socioeconomic status, and economic, social and political systems. In the field of work and organisational psychology, the main scientific discipline of this book, work stress has largely been studied within dominant paradigms that do not critique the structural forces that give rise to it. In recognition of the influence that neoliberal ideology has on the workplace and the research in the field of work and organizational psychology, scholars have advocated the importance of pluralism in understanding existing practices at work and in the field of work and organizational psychology research by integrating interdisciplinary perspectives such as sociology, political economy and geography because these disciplines explicitly debate neoliberalism in society (Bal & Dóci, 2018).

Capitalism is the dominant economic and political system underlying many economies of the world. Of course, capitalism itself can be extreme such as in the neoliberal economies of the US, UK, Australia and Ireland, or may combine capitalist and social democratic principles such as in the Nordic countries of Norway, Sweden, and Denmark. Neoliberalism, an extreme form of capitalism that aims to open markets and shrink governments (at least the public aspects), has been on the rise over the past 30 years, evident in globalised markets and the reduction of state involvement in matters of social care. In neoliberal economies the way to make a living is

through active participation in the labour market. The object of the political economy of neoliberalism, an extreme form of capitalism, is to shrink the welfare state and reduce corporate tax, and to increase productivity and GDP through competition and global markets (despite evidence that corporate tax and tax credits for the poor results in better general health, Rigby & Hatch, 2016). For those who are unable to participate in the labour market, the so-called unemployed or disabled, life can be difficult. In Nordic social democratic capitalist countries even without employment one can expect a reasonable standard of living through the support of the state. A driving aspect of capitalism is profits and the need for growth and expanding global markets, so profits and production are based on creating (through marketing) wants and tending to human wants rather than needs. How these forces manifest in the workplace is through increased competition, work pressure, work intensification, increased work hours, managerialism, increased monitoring and time dependent/measured actions, insecure work in the form of contracting, and changing demographics in the workplace. A focus on the bottom line, profits and competition creates a new conception of workers as dispensable throw away commodities. To improve the bottom line, organisations produce products at scale, reduce the size of the workforce, standardize, and centralize. All of these aspects act to reduce the meaning of work, because of an emphasis on quantity (making a thousand widgets) rather than quality (making a long lasting environmentally friendly interesting widget). The effects of capitalism on mental health of worker is likely evident in both the private and public sector. In the private sector the clear profit motivation puts pressure on workers to produce more with less resources. For the public sector at first it might be a little unclear how capitalist pressures manifest—but they manifest as less resourcing for public sector agencies, and privatisation. Managerialism in the public sector is a strategy hand in hand with capitalist ideology to rationalise everything in financial or economic terms. Public sector institutions such as hospitals and universities are run with a profit motive: in hospitals this translates to increased through-care of patients and hastened health interventions to free up beds; for universities it is mass on-line classes.

Another pressure for workers derives from a wave of corporate greed coming from business leaders. In 2017 UK Martin Sorrell CEO of WPP was one of highest paid in the UK earning more than £200 m from pay and reward schemes over the previous years (The Guardian, 2017). UK top executives earn 133 times more than the average UK worker—within 4 days the average executive earns the average annual salary of a worker (High Pay Centre, 2019). But it is not just executives, salary ratcheting by others at high echelons within organisations likely leads to further increased pressure on resources in the system for those at lower levels. Public university Vice Chancellors in Australia are paying themselves up to AUD$1.5 million over 10 times the average salary of a lecturer, and twice that of the Australian Prime Minister—this is in the context of increased casualisation of academic work and the emergence of gig researchers. The ideal of meritocracy, as argued by Bal and Dóci (2018), helps sustain a neoliberal ideology yet is fanciful since resources, are not aligned with individual talents and efforts and, are increasingly flowing to the top.

Mental illness arising from work under capitalism may be understood under a Marxist approach (Ferguson, 2017). Marx's critique of capitalism is majorly two-fold; that capitalism is alienating and exploitative (Lowe, 2015). Capitalism is a

socio-economic way of organising production (creating something for profit). Under Marxism the most important aspect of capitalism is the commodification of labour, where labour is sold as wages from the working class (proletariat) to the capitalist class who own (or manage) the means of production (factories, machinery, natural resources, tools) (Swain, 2012). Under these arrangements alienation occurs because the opportunity for genuinely fulfilling work is reduced. Marx viewed labour as a vital human activity, the collective free, creative transformation of the natural world to meet human needs, and the source of genuine fulfilment and expression (Swain, 2012). This conception of labour is far broader than that of work—referring to labour performed for a wage—which is burdensome because of ones alienation from it (Lowe, 2015).

Alienation[1] occurs in several forms. Alienation from the labour process occurs when there is loss of control over what commodities are made, how they are made, and the working conditions in which they are made—these decisions are made by the capitalists. Under these conditions, there is a denial of one's humanity; work can become meaningless, repetitive, boring and even dangerous (Lowe, 2015). Evidence shows that role conflict arising from reduced autonomy due to formalization of rules and processes in hierarchical organisations, is positively associated with work alienation, and reduced organisational commitment (Agarwal, 1993). Alienation from other humans occurs when there is competition between workers for jobs, types of work and wages, and leads to estrangement from each other (Herbert, 2014). And, alienation from self, loss of authentic self, occurs where work is performed to meet the goals of others (using the gendered language of the time):

> the fact that labor is external to the worker, i.e., does not belong to his essential being; that he, therefore, does not confirm himself in his work, but denies himself, feels miserable and not happy, does not develop free mental and physical energy, but mortifies his flesh and ruins his mind. Hence, the worker feels himself only when he is not working; when he is working, he does not feel himself. He is at home when he is not working, and not at home when he is working. (Marx, 1844, translated by Benton, 1974, p. 41)

Self-estrangement or alienation feature in Hochschild's (1983) *Managed Heart*, a hugely influential work in modern work stress theory. Hochschild recognized emotional labour as part of the capitalist labour process where rules are applied to emotional expression, 'feeling rules', so that true feelings are suppressed (such as the forced smile of attendants) in so called 'commercialization of feeling' (Hochschild, 1979). Incongruence between feelings and actions, termed emotional dissonance, may lead to poor self-esteem, depression, cynicism, and alienation from work (Ashforth & Humphrey, 1993), emotional exhaustion (Lewig & Dollard, 2003), and self-alienation as one loses touch with one's authentic self (Ashforth & Humphrey, 1993). Although Marx was writing in the 1800s when the industrial manufacturing sector was prominent, even now with the expansion of the service sector the issue of alienation is still relevant, as is disempowerment, because workers give up control of

[1]Moch (1980) defines work alienation as "an attitude or a condition in which an employee cares little about work, approaches work with little energy, and works primarily for extrinsic rewards". This has major resemblance to the euphemised reversed positive construct employee engagement.

their labour for a wage and participation in workplace decision making is restricted (Herbert, 2014).

Marx's concept of alienation helps us understand profound social, physical and mental ills beyond questions of absolute poverty or material wealth (Swain, 2012). Alienation seems inevitable in capitalism, therefore the issue of work stress seems infinite without the emancipation of the working class and the democratic collective ownership of the means of production. Whereas Marxist theory supports a radical restructuring of the social production system, the following work stress theories—working within the here and now of a capitalist system—call for revisions within it for the sake of worker mental health and wellbeing.

1.3.2 Psychosocial Safety Climate

Under capitalism a clear tension exists between the need for continuous growth and productivity and the mental health of workers (Dollard & Neser, 2019). This tension we believe is manifest in the different levels of Psychosocial Safety Climate across and within organisations. Psychosocial Safety Climate reflects the extent to which management fundamentally value the psychological health of workers; PSC is a counter-narrative to an emphasis in the work and organisational psychology field on organisational and individual performance (Bal & Dóci, 2018). PSC theory is a work stress theory and an innovation in the field by Dollard and colleagues (Dollard & Bakker, 2010; Dollard & Karasek, 2010; Law, Dollard, Tuckey, & Dormann, 2011). PSC refers to shared perceptions regarding "policies, practices and procedures for the protection of worker psychological health and safety" (Dollard & Bakker, 2010, p. 579). Aside from health effects PSC is also related to motivational and pro-organisational behaviours such as work engagement (note this term is obversely linked with alienation see footnote 1). PSC refers to management commitment to stress prevention, management priority for psychological health vs productivity concerns, organisational communication about psychological health issues, and organisational participation and involvement in relation to protecting worker psychological health (c.f. safety climate; Cox & Cheyne, 2000). PSC theory has gained prominence as a unifying construct bringing together the fields of work stress, organisational psychology, and safety science research. There is no other organisational climate measure that is as specific as PSC is for worker psychological health. The construct is distinct from related constructs such as team psychological climate, organisational social support, and safety climate (Dollard & Bakker, 2010) as shown empirically (Idris, Dollard, Coward, & Dormann, 2012; Zadow et al., 2017).

There are two main mechanisms whereby PSC relates to worker psychological health—through influencing (1) job design, and (2) social-relational aspects of work. Within organisations, within capitalist economies, the role of managers is to plan, organise, lead and control the efforts of organisational members using available organisational resources to achieve the goals of the organisation (Stoner, Freeman, & Gilbert, 1995). Since resources are finite any management decision requires the

weighing up of competing interests such as the need for productivity and profit versus concern for worker health. In making decisions managers are guided by ethics and values, including decisions about creating healthy workplaces, and the design and quality of work (World Health Organization, 2010). Job design refers to "the content and organization of one's work tasks, activities, relationships and responsibilities" (Parker, 2014, p. 662). The way workers' jobs are designed determines the quality of their work and frames how workers will go about fulfilling their role requirements, and how they might satisfy organisational and personal needs (Morgeson, Dierdorff, & Hmurovic, 2010). Adequate resourcing is an aspect of work quality. Resources have an extrinsic quality because they are instrumental in assisting employees achieve organisational goals (Schaufeli & Bakker, 2004). But resources also have an intrinsic quality, and can help to satisfy basic human needs such as the need for autonomy (DeCharms, 1968), competence (White, 1959), and relatedness (Baumeister & Leary, 1995). Work contexts that supply adequate job control satisfy the need for autonomy; those that provide a supportive environment satisfy the need to belong; and those that provide adequate feedback foster learning and in turn competence (Schaufeli & Bakker, 2004). When psychological needs are satisfied, according to self-determination theory (Deci & Ryan, 1985), people become intrinsically motivated and psychological health and well-being is increased (Ryan & Frederick, 1997; Schaufeli & Bakker, 2004). With these concerns and values in mind managers shape job design. In a high PSC context, where managers value and protect worker psychological health, high quality work featuring manageable job demands, high control and high learning possibilities is likely, leading to the fulfilment of psychological needs and nurturement of psychological health; in a low PSC context, low quality work such as excessive demands, low control, or boring work is likely which threatens and thwarts the fulfilment of psychological needs, leading to psychological health problems. Managers also set the tone of the organisational climate, and through their own behaviour, policies and procedures, provide cues to employees about social-relational aspects of work such as how people should relate to each other and the kinds of behaviours that will be rewarded or sanctioned (e.g., whether bullying, harassment, and discrimination will be tolerated).

Several multilevel studies have found empirical support for the proposition that high PSC is a leading indicator of (predicts) work quality factors such as reduced job demands (Dollard & Bakker, 2010; Dollard, Tuckey, & Dormann, 2012; Hall et al., 2010; Idris, Dollard, & Winefield, 2011), increased job resources (Dollard & Bakker, 2010; Idris et al., 2011), less effort-reward imbalance (Owen, Bailey, & Dollard, 2016), and social-relational factors such as less bullying and harassment (Bond et al., 2010; Law et al., 2011).

In addition to its main effects, PSC plays a *secondary* role, acting to moderate the detrimental relationship between demands and health symptoms (Dollard & Bakker, 2010). One possible mechanism for this is that PSC acts as a safety signal. When danger cues such as work pressure and workplace bullying are present, PSC at high levels serves as a safety signal indicating options (e.g., safe use of available resources) to offset the aversive stimuli, and avoid the development of psychological distress (Lohr, Olatunji, & Sawchuk, 2007). In addition to being a safety signal (Law et al., 2011), PSC could also trigger resource gain spirals or resource caravans that also

act to reduce detrimental symptoms and promote psychological health (Hobfoll, Halbesleben, Neveu, & Westman, 2018; Loh, Idris, Dollard, & Isahak, 2018).

In sum, theoretically PSC precedes work quality (such as demands, resources) and the social-relational aspects of work (such as harassment & bullying, social support). It is pronounced as a "cause of the causes" of work stress, and is an upstream theoretical precursor to job design based work stress theories and individual focused theories outlined below. PSC theory does not intend to replace the contribution of these theories but rather provides a fundamental reason why jobs are designed as they are, and why social-relations are as they are. Next we review the downstream work stress theories—the job design and individual focused theories.

1.4 Job Design Theories of Work Stress

1.4.1 The Job Demand-Control (JD-C) Model

The Job Demand-Control (JD-C) model has been the dominant work stress theory in the literature since the 1980s (Ganster & Schaubroeck, 1991). The theory draws from research in industrial sociology, animal research on "learned helplessness" (Abramson et al., 1978), P-E fit theory (e.g., Caplan, 1987) and job re-design research (e.g., Hackman & Oldham, 1976), and proposes that when workers are faced with high levels of demands and a lack of control over decision making and skill utilisation, adverse health effects will result. The JD-C model argues that work stress primarily arises from the way that work is designed rather than from personal attributes or demographics of the situation (Karasek, 1979). *Job demands* refer to psychological demands such as how fast and hard work tasks must be performed; excessive work; work pressure; or conflicting demands. *Job control* comprises two components: (1) skill discretion or skill variety which refers to level of control over the worker's use of skill (Karasek, 1989) or time allocation (Baker, 1985); and (2) decision making authority which refers to the worker's authority to make decisions about his/her own job (often called "autonomy", Karasek, 1989). Different combinations of demands and control give rise to four kinds of psychosocial work situations, (1) *high strain* jobs combine high demands and low control; (2) *low strain* jobs combine low demands and high control; (3) *active jobs* combine high demands and high control; and (4) *passive jobs* combine low demands and low control.

The JD-C model proposes two major hypotheses. The first is the psychological strain hypothesis, that: "the most adverse reactions of psychological strain (fatigue, anxiety, depression, and physical illness) occur when the psychological demands of a job are high and the worker's decision latitude in the task is low" (Karasek & Theorell, 1990, p. 32). Such *high strain* jobs may occur where there are high demands and bureaucratic rules rigidly limit worker responses such as is the case of call centre workers (Karasek & Theorell, 1990).

The second, the active learning hypothesis, is that when the challenge of the situation (demand) is matched by the individual's level of skill or control, increased motivation, learning and competency will occur (Karasek, 1979). Under this hypothesis demands are viewed as *prerequisites for learning and development* not merely contributors to psychological strain and physical illness (Karasek, 1989, p. 134). *Active jobs* thus combine high demands with high control—the situation of most managers—and are accompanied by high levels of learning and satisfaction. Alternatively *passive jobs* at the other extreme, typical of guards (Karasek & Theorell, 1990), involve few demands, little decision latitude and low skill acquisition, and result in boredom, low satisfaction, and learned helplessness (Maier & Seligman, 1976).

In the JD-C model, strain is understood to result from the "objective" levels of demands and control. For Karasek, to understand job stress it is not necessary to explore the impact of these environmental conditions by teasing out cognitive appraisals, coping responses, person-environment fit, or various needs that may prevail among workers (Karasek, 1989). The supposition is that should individual "needs" for job design aspects operate in the stress process, they do so by functioning similarly *for all people*. The JD-C model assumes a sociological causality because it views environmental causes as the starting point, and although theorists do not strictly preclude the importance of personal factors (Karasek & Theorell, 1990), its applied aim is to change work structures rather than individual behaviour (e.g., coping responses) (Muntaner & O'Campo, 1993). More recently social support was added as a third dimension to JD-C theory (Johnson & Hall, 1988) (now referred to as JDCS theory) proposing that social support from co-workers and supervisors such as instrumental and emotional support reduces the impact of demands or directly improves worker health (Karasek & Theorell, 1990).

In summary, the JD-C model is a dual outcome model, as it predicts both strain and motivational or performance related outcomes. Reviews of JDCS theory canvasing the period 1979–2007 have found strong support for the additive effects of demands, control, and support on psychological health (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010; Luchman & Gonzáles-Morales, 2013; van der Doef & Maes, 1999).

1.4.2 The Effort-Reward Imbalance Model

The Effort-Reward Imbalance (ERI) model (Siegrist, 1996, 1998) is a transactional theory of stress as it focuses on the interaction between environmental demands (constraints or threats) and individual coping resources. It derives from sociological and industrial medical frameworks, and emphasises the social (inequality) framework of the job (e.g., social status of job) (Siegrist, 2016). According to ERI theory the "work role in adult life provides a crucial link between self-regulatory functions such as self-esteem and self-efficacy and the social opportunity structure" (p. 192). Workers expend effort at work and as part of a social exchange process they expect rewards, such as money, esteem, and status control (job stability, career opportunities). When

effort is not reciprocated an imbalance occurs that results in strain. An imbalance may occur for example when high efforts are rewarded with low pay, or when, despite high effort on the job, threats are made to job security. The theory is supported by significant evidence. Epidemiological and psychological research has found that ERI imbalance is associated with emotional exhaustion and impaired immune system functions (Eddy, Heckenberg, Wertheim, Kent, & Wright, 2016; Feldt et al., 2013) as well as stress-related disorders, such as depression (Rugulies, Aust, & Madsen, 2017) and coronary heart disease (Dragano et al. 2017).

Moreover ERI takes into consideration both extrinsic and intrinsic effort simultaneously (Siegrist, 2016). Extrinsic effort is conceptually similar to the job demands concept in the JDCS model and is determined by the organisation. On the other hand, intrinsic efforts refer to a personal characteristic of coping (overcommitment), a pattern of excessive striving in combination with a strong desire of being approved and esteemed (Siegrist, 2010). In empirical tests of the model, the idea is that overcommitment could moderate or mediate the imbalance between demands and rewards (Feuerhahn, Kühnel, & Kudielka, 2012; Kinnunen, Feldt, & Makikangas, 2008; Kinman & Jones, 2008); however a recent review found inconclusive support for the overcommitment moderator role (Siegrist & Li, 2016).

1.4.3 The Demand-Induced Strain Compensation (DISC) Model

The DISC model was developed by De Jonge and Dormann (2002, 2006) as a refinement to all job stress models that propose some sort of resources (e.g., autonomy, rewards) to counteract the negative effects of some sort of demands (e.g., effort, workload), including the JD-C, ERI, and the Job Demands-Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Since then, the DISC model has been expanded and now includes aspects of recovery too (e.g., Niks, De Jonge, Gevers, & Houtman, 2017). The basic proposition of the DISC model is that demands cause states of physiological and psychological imbalance, which trigger homeostatic regulation processes. In particular, these processes involve self-regulation attempts to overcome the state of imbalance (Pomaki & Maes, 2002). However, cognitive, emotional or behavioral self-regulation is not possible endlessly as it depletes internal resources (e.g., Muraven & Baumeister, 2000). As substitutes, external resources may come into play. For example, lifting heavy loads could be accomplished by an employee's muscular strength for some time, but after some time direct instrumental help of colleagues may be helpful to avoid muscular acidosis. Similarly, when emotional demands (e.g., angry customers) threaten employees' self-esteem, they may be able to maintain their level of self-esteem by emotional self-regulation processes for some time, but after a certain period their self-regulation strength may be reduced so much that re-assuring or appreciative comments expressed by colleagues might

become necessary to prevent a further decline in self-esteem (cf. ***Schulte-Braucks and Dormann,*** 2019, Chap. 12).

The general principle proposed by the DISC model is the triple-match principle (TMP). According to the TMP, the more that demands, resources, and stress consequences (including strain as defined earlier) are based on qualitatively identical processes (i.e., physical, cognitive, or emotional), the more *likely* it is that resources moderate the impact of demands on stress consequences. The TMP is probabilistic because it does not deny that, for example, emotional resources may reduce the negative impact of cognitive demands. Indeed, appreciative comments expressed by colleagues could be helpful when facing complex problems. The TMP, however, proposes that, for example, informational (intellectual) support by colleagues rather than appreciation is more likely to 'offset the strain' elicited by solving complex challenging problems. Further, in the current example, this 'offset of strain' is less likely to be observed with regard to physical exhaustion; rather, it is more likely to be observed for psychological (i.e., cognitive) fatigue. Then the demand to solve complex problems, the intellectual support by colleagues, and psychological fatigue show a triple match because they all reflect cognitive processes.

1.4.4 The Job Demands-Resources Model

The Job Demands-Resources (JD-R) model (Demerouti et al., 2001) like JDCS and ERI models focuses on job design but extends these models by considering a wider range of demands and resources in modelling employee well-being. JD-R categorises occupation stress risk factors in general terms as job demands and job resources. *Job demands* are "things that have to be done" and refer to those physical, social, or organisational aspects of the job that require sustained physical and/or psychological effort that erode energy and can therefore lead to physiological and/or psychological health costs (Demerouti et al., 2001). *Job resources* help to get the job done and are physical, psychological, social, or organisational aspects of the job that may: (a) aid in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; and (c) stimulate personal growth and learning (Bakker, Demerouti, de Boer, & Schaufeli, 2003). JD-R theory links demands and resources to both health problems and positive work behaviour, such as engagement, via two separate psychological process pathways (Bakker et al., 2007; Demerouti et al., 2001). The first is a *health erosion process*, whereby efforts to cope with chronic job demands leads to over-taxing and an erosion of a worker's energy reserve leading in turn to negative responses (e.g., psychological distress), and in the longer term to psychological injury (e.g., depressive disorder) and health problems (e.g., CVD). The second process is *a motivational process* whereby adequate *resources* are motivating and lead to engagement, and in turn positive organisational outcomes (e.g., improved performance). There are a number of links between the two process pathways in the model (Schaufeli & Bakker, 2004). For instance resources have been linked with reduced psychological health problems (Hakanen, Bakker, & Schaufeli, 2006), and

resources play a buffering role on the relationship between job demands and burnout (Bakker, Demerouti, & Euwema, 2005). These cross-links are very important because they show for instance how the reduced health of workers impairs work performance (Schaufeli & Bakker, 2004). A recent innovation in JD-R theory is the inclusion of job crafting, which proposes that employees may proactively seek to modify tasks (e.g., try out a new process) and resources (e.g., ask for colleagues support) in their job (Bakker & Demerouti, 2017; Tims, Bakker, & Derks, 2015). Job crafting challenges classic job design theory (Hackman, & Oldham, 1976) which focuses on top down influences on work design, and highlights the proactive role of employees. Of course we expect proactivity is constrained by the decision making freedom of employees.

1.5 Overall Evaluation of Work Stress Theories

The theories discussed above each explain important aspects of the work stress picture and each has its own strengths and limitations. Marxist theory helps us look critically at the political, economic, and social context for clues about why we feel like we do at work. PSC theory brings the capital—labour conflict fundamental to Marxist theory to light as a values based proposition that predicates how things will inevitably materialise in an organisation. PSC theory focuses on the organisational structure and systems that give rise to working conditions. This is important because as Kristensen (1995) argues that by locating the sources of stress within the organisational structure of the work place, connections to the broader concepts of "alienation, power, qualifications, worker's collectives, labour conflicts, management, and so forth" can be made (p. 254). In relation to the JD-C and ERI model, it is likely worthwhile to consider the models in combination to explain health and well-being, in view of their differences and complementary aspects (Kasl, 1998). Likewise Theorell (1998) argued that a good exploration of the work environment should include components of both JDCS and ERI models (well as others relevant to the local context). JD-R theory is often criticized because it lacks specificity and is likely to use the constructs of job control and social support as indicators of a latent "resource" term, when their roles are specific. Luchman and Gonzales-Morales (2013) meta-analytic results suggest that resource factors such job control and social support sources should be treated independently, as opposed to as a latent factor, in terms of their prediction of well-being. None of theories is as specific as DISC in predictions about matching domain of predictors and outcomes.

Aside from job design theories there are individual focused work stress theories. These are commonly referred to as psychological theories that have been applied to work stress and include the Person-Environment fit (P-E fit) theory (French, Caplan & Harrison, 1984), the facet model (Beehr & Newman, 1978), role stress theory (Kahn, Wolfe, Quinn, & Snoek, 1964), burnout theory (Maslach, 1992), and the transactional cognitive model (Cox, 1981; Lazarus & Folkman, 1984). The individual transactional models elucidate important cognitive and coping processes which are largely ignored in job design approaches (Cox et al., 2000, p. 11). However there are a number of

limitations regarding the utility of individual approaches for studying work stress research. Understanding how individuals interact with various work situations does not provide insights into stressors or the ways to correct stressful circumstances or guide organisations in the prevention and management of stress. A lack of knowledge of the generalisability of the stress response and of particular interventions may result in an understanding of individual events rather than social patterns (Harris, 1991).

As Ganster and Schaubroeck (1991) point out: "we still need to focus on the objective conditions that give rise to the appraisals and learn what accounts for the linkage or lack of linkage between these factors" (p. 251), and … "we do not discount the importance of subjective appraisal in mediating one's response to the work environment, but ultimately these must be anchored in objective assessments" (p. 262). In a meta-theoretical evaluation of psychological models Eulberg, Weekley, and Bhagat (1988) reflected that: "If researchers are to make the best use of available resources, they must be guided by models that are exacting enough to provide both interpretable and valid results through rigorous empirical testing" (p. 333). Neither P-E fit theory, nor cognitive phenomenological theory are exacting enough to predict what work conditions are likely to be stressful raising doubts about the utility of psychological models in guiding work stress research and intervention.

But the fundamental criticism of the psychological models is that they are based on constraining ideological presumption that "the worker more than the workplace must be modified to prevent occupational stress" (Baker, 1985, p. 379). When stress is understood in terms of perception and individual difference it is likely viewed as an individual problem and the more complex re-organisation of work processes and critique and restructure of social forces is avoided. Strategies may instead be directed toward adapting the worker to the existing taxing working conditions (Baker, 1985), such as in resilience training.

It is clear that the concept of work stress is not value free. As proposed by Levi (1990, p. 1144) there are four value concerns that may underlie approaches to work stress:

- a humanistic-idealistic desire for a good society and working life
- a drive for health and well-being
- a belief in worker participation, influence, and control at the individual level
- an economic interest in competitiveness and profits of business organisations and the economic system.

Those values that have a humanistic-idealistic desire for a good society and working life collide with those that have an interest in competitiveness and profits. These opposing values highlight the potential conflict between broader notions of health and safety in the workplace and the economic goals of business and industry in the investigation of work stress (Baker, 1985). Levi explains that placed within this framework occupational stress becomes a social and political issue as much as a health problem (Levi, 1990).

This is why PSC theory is needed to forge new understanding about work stress because a fundamental aspect of it is the priority that management give to worker psychological health versus the priority for productivity and profits. Thus PSC links

the corporate climate to the broader concept of capitalism. This relationship is reinforced, shaped and driven prevailing by capitalist institutions and governments. The PSC humanitarian-paradigm may also transform the presuppositions of work and organisational research by centering the essence of worker humanity, then asking the question how can worker humanity be valued and promoted in the workplace (Bal & Dóci (2018) argue this point in relation to the theory of workplace dignity). PSC theory also requires a new definition of work stress; under PSC theory work stress is defined as "harmful physical and emotional responses that occur in organisations when the Psychosocial Safety Climate is poor".

1.6 Psychosocial Safety Climate Theory (Extant Gaps and New Propositions)

Theoretical and empirical studies on PSC have accumulated at an accelerating pace since the first publication in 2010. These studies are nicely summarized in Chap. 2, where ***Zadow, Dollard, Parker and Storey*** (2019) compile a narrative review of the PSC literature and also refer to a recent meta-analysis of PSC studies (Zadow, Dollard, & Tuckey, unpublished). Across the 18 chapters that comprise this volume the background theory of PSC is reiterated and new propositions are tested. Even though there are now more than 50 PSC published studies, of course, many conceptual and empirical gaps remain. In this section, we conclude the chapter by identifying these theoretical gaps in the PSC literature, make new propositions, and link them to the chapters in the book that provide some evidence for these new propositions.

1. **Causes of the cause of the causes**

We have situated PSC theory between Marxist theory about capitalism and job design theories. Marxist theory emphasizes the political, economic, and social determinants that likely affect worker health. Although job design theories are concerned about social determinants of working conditions, in general these theories have generated empirical tests that largely focus on job design (ERI, JDCS, JD-R). As shown in Fig. 1.2, building on previous research (Dollard & Bakker, 2010; Dollard & Neser, 2013), in a multilevel process we propose that economic, political and social determinants influence PSC, which in turn influences how jobs are designed (for example in terms of job demands and resources) and the status of social-relations; in turn job design and social-relational aspects, affect worker mental health and related health issues, engagement and alienation, work outcomes, and societal costs. Primary prevention targets PSC as a causal agent. Moreover at certain points in the process PSC can moderate (lessen or bolster) effects (as secondary intervention), such as reduce the impact of demands, or reduce the longer term impact of distress (as tertiary intervention). The first evidence of this "cause of the cause of the causes" process was found in national level research, where union density in society (as a form of labour protection) estimated at a national level was positively related to PSC within organisations across 31 European countries (Dollard & Neser, 2013). In turn PSC

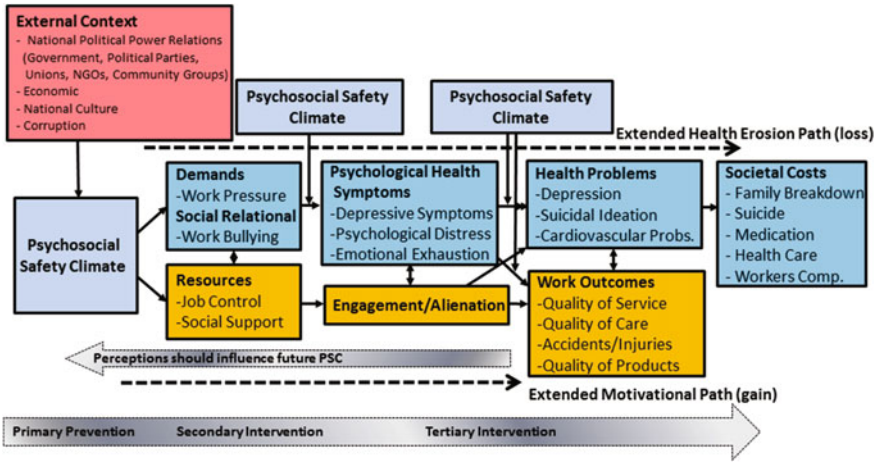

Fig. 1.2 Psychosocial safety climate and societal costs process model. © Maureen Dollard, 2019

was related to worker health. In sum, union density was related to worker health and national GDP via its effect on PSC.

Building on this, ***Dollard and Jain*** (2019, Chap. 3) identified that the corruption of public values in 31 European countries is another societal precursor to PSC that has the effect of reducing the potential for high PSC. They explore the ethics of corruption, underpinned by egoistic consequentialism, which undermines the kind of ethics in society required for leadership of PSC, with negative consequences for work conditions, worker health and well-being.

2. Climate specificity and differences with other climates

In the organisational climate field, researchers have moved the field forward (Schneider, 1975) by the identification of specific facets of organisational climate for specific organisational goals, for example by identifying a climate for innovation (i.e., innovation climate, Baer & Frese, 2003), and a climate for safety (i.e., safety climate, Zohar, 2010). As such in the field of organisational climate, PSC, like safety climate, is a narrow bandwidth concept (but broader than bullying mistreatment climate for instance, Dollard, Dormann, Tuckey, & Escartín, 2017 and climate for conflict management, Einarsen, Skogstad, Rørvik, Lande, & Nielsen, 2018).

Although safety climate is assumed to be an antecedent to physical hazards in the organisation, it is largely used to explain future safety behavior and motivations of workers, accidents and injuries (Griffin & Curcuruto, 2016). Likewise PSC provides cues about the kinds of behaviours that will be rewarded and supported (e.g., social-relational factors); but fundamentally PSC has been proposed as an antecedent to job design. Other differences between PSC and other facet specific climates (e.g., team psychological safety (Edmonson, 1999) are outlined elsewhere (Dollard & Bakker, 2010).

Previous research has established the discriminant validity of PSC with regard to physical safety climate. However, this research has been strictly limited to Australian workers. Still, we propose that the difference between physical and psychological safety climate exists across occupations and cultures. Therefore, ***Loh, Idris, and Dollard*** (2019) explore this issue in Chap. 9, using a sample of Malaysian healthcare workers.

3. **Reciprocal relationships between PSC, job design, and psychological health**

There is no doubt that PSC perceptions are informed by how employees experience their jobs but this supposition does not escape the fact that managers have the authority and resources to affect job quality in the first instance through pro-worker psychological health policies, practices and procedures. In research we should see evidence of reciprocal effects between PSC and work conditions. Particularly at the individual level reciprocal relationships between PSC and psychological health should be expected. As an individual's psychological health deteriorates the circumstances (i.e., the PSC) may become salient to that person. Thus, we propose that PSC is an upstream factor shaping job demands, job resources, and worker health, and we add the proposition that PSC also emerges from new understanding of PSC through shared and individual experiences, of work conditions, and psychological health states. This issue of emerging climate is addressed in a qualitative study by ***Potter, Bailey and Dollard*** (2019, Chap. 10).

4. **Climate strength and agreement across different kinds of members**

Climate strength refers to the level of agreement that members in a group have about the climate and this may have implications for the effect climate ultimately has. Climate strength could vary because of different member characteristics (e.g., gender, ethnicity, rank in organisation) or different individual exposures. Climate variability could be viewed as error, or of substantive interest. For instance Schneider, Salvaggio, and Subirats (2002) found that the longitudinal relationship between employee perceptions of climate and customer satisfaction was moderated by climate strength. Climate strength is potentially relevant for PSC; Afsharian and colleagues (Afsharian, Zadow, Dollard, Dormann, & Ziaian, 2018) found in multilevel analysis that PSC level alone was reliable and a better predictor than PSC strength (or their interactions) for most circumstances, in predicting job demands and resources, and psychological health; however for engagement they found that the positive relationship expected between PSC and work unit engagement was evident only when PSC strength was high, and was highest when PSC level was high and PSC strength was high. This evidence suggests that PSC theory does not need to be extended to include PSC strength, for health outcomes, but it does so for work engagement. What is lacking, however, are studies that combine PSC and PSC strength, that is, more evidence is required to tease out the conditions under which PSC strength really matters. Such a study is provided by ***Afsharian et al.*** (2019, Chap. 11).

5. **PSC is likely to vary according to the position of the perceptor**

As in other climate research, PSC is likely to be rated more favourably as the rank of the perceptor increases (Zyphur, Zammuto, & Zhang, 2016). This could simply be due to a vested interest that higher ranked personnel have in reporting a positive PSC, since they likely have a role in developing it. Likewise it may be argued that lower ranked personnel report PSC less favourably as a kind of grievance reaction. In addition to the level of PSC ratings, an important question is, which perception is the best predictor of lower ranked personnel (since they are the most abundant) psychological health and engagement? This issue is taken up by ***McCusker and Dollard*** (2019, Chap. 14), who investigate if perceptions of climate are affected by rank level of employees in organisations. As noted by Zohar and Luria (2005) in the safety literature, we expect that there is some congruence across rank level perceptions, but also some divergence.

6. **PSC can be changed**

A fundamental assumption of PSC theory is that PSC can be modified. Change could be achieved through management demonstration of commitment and support for stress prevention and psychological care, and through enhancing communication and participation systems around psychosocial risks and mental health issues, and enacting change. There is some empirical evidence for PSC change. Using a systems focused approach, Rickard et al. (2012) found in a quasi-experimental design that PSC increased over two years in two hospitals (one significantly so) using a system/organisational level intervention involving strategies such as the development and implementation of, a nursing workload tool to assess workloads, roster audits, increased numbers of nursing personnel to address shortfall, increased access to clinical supervision and support for graduates, increased access to professional development including postgraduate and short courses, and a recruitment campaign for new graduates and continuing employees. Moreover, in an internationally acclaimed workplace transformational policy change, a New Zealand company introduced a 4-day working week (reduced from 5 days with pay held at 5 days), over the eight week period trial. PSC increased significantly along with engagement and reduced stress (Haar, 2018). Finally using an educational individual focused approach researchers found that PSC increased after the introduction of an occupational safety website video to increase police understanding about stress and how to manage stress that arises in their daily work life. Almost all participants accessed the weblink and a significant change in PSC levels was reported (Rasdi, Ismail, Kong, & Saliluddin, 2018). These studies show how PSC levels can change through system level, job task level, and individual interventions. What is lacking, however, is a general model about how PSC interventions/change may be facilitated. We propose that **managers' commitment** is of utmost importance to any workplace intervention targeted at improving employees' health. In this respect, facilitating or hindering factors in the development of mangers' commitment are identified by ***Biron et al.,*** (2019, Chap. 15). Further, ***Dollard and Bailey*** (2019, Chap. 17) show how PSC may be used by practitioners and organisations to ascertain benchmark levels of PSC within the organisation and

implications; they present evidence about how PSC relates to workplace absence over time. Finally, changing and implementing PSC should be accompanied by measuring it. We propose that for many practical (and research) purposes, even short PSC measures are likely to be very helpful. In Chap. 16, ***Dollard*** (2019) describes the development of the parsimonious PSC-4 tool with the same domain coverage as the PSC-12 but with only four items, and provides evidence for its reliability, predictive validity, and performance against the PSC-12.

1.7 Concluding Remarks on the Universal Importance of PSC

The measurement properties of the PSC scales and the health-promoting effect of PSC for employees has already been demonstrated across different countries and occupations (see **Zadow & Dollard**, 2019, Chap. 2). Still, countries differ in what their citizens regard as positive for them, what they value, how they want their leaders to behave and so on (Hofstede, Hofstede & Minkov, 2010; House, Hanges, Javidan, Dorfman, & Gupta, 2004). For example, Meeuwesen, van den Brink-Muinen, and Hofstede (2009) found that in wealthy countries, more attention is given to psychosocial issues in medical communication. Thus, it is important to further our understanding of the structure and effects of PSC in different cultural settings. ***Afsharian, Dollard, Ziaian, Dormann, and Karimzadeh*** (2019, Chap. 11) used an Iranian sample of hospital workers to establish the validity of the PSC concept in Iran. ***Ertel and Formazin*** (Chap. 13) stress the need for testing the comprehensibility of the PSC tool in different cultural backgrounds. They present the results of a three-step qualitative study in Germany using expert interviews, cognitive interviewing, probing questions and they adapt the PSC instrument to everyday German language use. In a similar vein, ***Loh, Idris, and Dollard*** (2019, Chap. 9) used semi structured interviews with Malaysian healthcare employees to further our understanding of the role of PSC and how it helps to protect employees. These studies add to extant evidence that PSC is likely to be globally important.

Further, a limitation of most previous PSC studies is that they were closely aligned to the JD-R model. We propose that PSC also works in tandem with other work stress theories and models. In this regard, evidence is provided by ***Dollard, Winwood and Tuckey*** (2019, Chap. 7). They investigated the station-level PSC in an Australian sample of police constables, applying principles of DISC theory to improve model predictions. Further evidence that other stress models align with PSC theory is provided by ***Schulte-Braucks and Dormann*** (2019, Chap. 12), who linked PSC with the core variable of the stress-as-offense-to-self model. These studies add to evidence that PSC aligns well, particularly as a predictor of, other job stress models and theories.

The major body of extant PSC research has focused on the central outcome variables of the JD-R model, such as burnout/exhaustion and engagement. We propose that PSC links to a much larger bunch of outcome variables, covering the full

psychological range from human pleasure to pain. ***Krasniqi, Yulita, Idris, and Dollard*** (2019, Chap. 5) investigate boredom, and ***Wilton, McLinton, and Dollard*** (2019, Chap. 4), focus on cognitive failures. These studies add to evidence that PSC could explain the whole range of stress symptoms investigated in the stress literature.

Given that PSC is important across cultures, that it aligns well with a range of job stress theories, and that it explains a large range of stress symptoms, we are convinced that PSC is indeed universally important in the globalised world of the 21st century. Therefore, we also believe it was worth the effort to bring scholars from all over the world together to invest in the effort to compile this book.

1.8 Conclusion

This chapter emphasised that work factors that give rise to work stress must be considered in their context, and that there is a link between the economic, social and political system we live under – capitalism – and the extremely high levels of distress evident in the world today. In this chapter we explored theories of work stress that emphasised the economic, social and political system, the corporate climate, work design, social-relational factors, person-environment fit, and individual psychology, their underlying values and assumptions and implications for change. We introduced Psychosocial Safety Climate (PSC) as a theory that links the external context to the internal functioning of the organisation to worker psychological health and in turn to a range of work, employee and societal outcomes. We identified new propositions and gaps in the PSC literature, linking them forward to the proceeding book chapters.

Key Messages

- Poor work conditions and work related stress are important social determinants of worker mental health.
- PSC refers to shared perceptions regarding management priority for worker psychological health versus productivity.
- PSC theory is situated between Marxist theory about capitalism, and job design stress theories.
- PSC aligns well with a range of job stress theories, and therefore explains a large range of stress symptoms.

References

ABS. (2015). *National Health Survey: Mental Health and co-existing physical health conditions, 2014–15*. Canberra: Australian Bureau of Statistics.

Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87,* 49–74.

Afsharian, A., Dollard, M., Zadow, A., Dormann, C., & Ziaian, T. (2018). Should psychosocial safety climate theory be extended to include climate strength? *Journal of Occupational Health Psychology, 23,* 496–507.

Adult Psychiatric Morbidity Survey (APMS) (2014). NHS Digital. Accessed 14th May 2019. https://digital.nhs.uk/data-and-information/publications/statistical/adult-psychiatric-morbidity-survey/adult-psychiatric-morbidity-survey-survey-of-mentalhealth-and-wellbeing-england-2014

Agarwal, S. (1993). Influence of formalization on role stress, organizational commitment, and work alienation of salespersons: A cross-national comparative study. *Journal of International Business Studies, 24,* 715–739.

AIHW. (2017). *Mental health services in Australia*. Canberra: Australian Institute of Health and Welfare.

Ashforth, B. E., & Humphrey, R. H. (1993). Emotional labour in service roles: The influence of identity. *Academy of Management Review, 18,* 88–115.

Baer, M., & Frese, M. (2003). Innovation is not enough: Climates for initiative and psychological safety, process innovations, and firm performance. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 24,* 45–68.

Bailey, T. S., Dollard, M. F., McLinton, S. S., & Richards, P. A. (2015). Psychosocial safety climate, psychosocial and physical factors in the etiology of musculoskeletal disorder symptoms and workplace injury compensation claims. *Work & Stress, 29,* 190–211.

Baker, D. B. (1985). The study of stress at work. *Annual Review of Public Health, 6,* 367–381.

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22,* 273–285.

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10*, *170–180.* Retrieved from http://dx.doi.org/10.1037/1076-8998.10.2.170.

Bakker, A. B., Demerouti, E., De Boer, E., & Schaufeli, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior, 62,* 341–356.

Bal, P. M., & Dóci, E. (2018). Neoliberal ideology in work and organizational psychology. *European Journal of Work and Organizational Psychology, 27,* 536–548. https://doi.org/10.1080/1359432x.2018.1449108.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal. *The Use of Oral Narrative in North American Families, 117,* 497–529.

Becher, H., Dollard, M. F., Smith, P., & Li, J. (2018). Predicting circulatory diseases from psychosocial safety climate: A prospective cohort study from Australia. *International Journal of Environmental Research and Public Health, 15*(3), 415.

Beehr, T. A., & Newman, J. E. (1978). Job stress, employee health, and organizational effectiveness: A facet analysis, model, and literature review 1. *Personnel Psychology, 31,* 665–699.

Bond, S. A., Tuckey, M. R., & Dollard, M. F. (2010). Psychosocial safety climate, workplace bullying, and symptoms of posttraumatic stress. *Organization Development Journal, 28,* 37–56.

Butterworth, P., Leach, L. S., Strazdins, L., Olesen, S. C., Rodgers, B., & Broom, D. H. (2011). The psychosocial quality of work determines whether employment has benefits for mental health: Results from a longitudinal national household panel survey. *Occupational and Environmental Medicine, 68,* 806–811. https://doi.org/10.1136/oem.2010.059030.

Caplan, R. D. (1987). Person-environment fit theory and organizations: Commensurate dimensions, time perspectives, and mechanisms. *Journal of Vocational Behavior, 31,* 248–267.

Cox, T. (1981). *Stress*. Hong Kong: University Park Press.

Cox, S. J., & Cheyne, A. J. T. (2000). Assessing safety culture in offshore environments. *Safety Science*, *34*(1–3), 111–129.

Cox, T., Griffiths, A., & Rial-González, E. (2000). *Research on work related stress*. Luxembourg City, Luxembourg: Office for Official Publications of the European Communities.

de Bloom, J., Kompier, M. A. J., Guerts, S., de Weerth, C., Taris, T., & Sonnentag, S. (2009). Do we recover from vacation? Meta-analysis of vacation effects on health and well-being. *Journal of Occupational Health*, *51*, 13–25. https://doi.org/10.1539/joh.k8004.

de Charms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York, NY: Academic Press.

Deci, E., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. US, NY: Springer Science & Business Media.

de Jonge, J., & Dormann, C. (2006). Stressors, resources, and strain at work: A longitudinal test of the triple-match principle. *Journal of Applied Psychology, 91,* 1359–1374. https://doi.org/10.1037/0021-9010.91.5.1359.

de Jonge, J., & Dormann, C. (2002). The DISC model: Demand-induced strain compensation mechanisms in job stress. In M. F. Dollard, H. R. Winefield, & A. H. Winefield (Eds.), *Occupational stress in the service professions* (pp. 43–74). UK, London: Taylor & Francis.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86,* 499–512.

Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology, 83,* 579–599.

Dollard, M. F., & Karasek, R. (2010). Building psychosocial safety climate: Evaluation of a socially coordinated PAR risk management stress prevention study. In J. Houdmont, & S. Leka (Eds.), *Contemporary occupational health psychology: Global perspectives on research and practice* (pp. 208–233). Chichester: Wiley Blackwell.

Dollard, M. F., & Neser, D. Y. (2013). Work psychosocial determinants of European country differences in health beyond absolute income and income inequality. *Social Science and Medicine, 92,* 114–123.

Dollard, M. F., & Neser, D. Y. (2019). The work stress conundrum, Think Piece, International Labour Organisation, at https://www.ilo.org/safework/events/safeday/33thinkpieces/WCMS_681594/lang--en/index.htm

Dollard, M. F., Dormann, C., Tuckey, M. R., & Escartín, J. (2017). Psychosocial safety climate (PSC) and enacted PSC for workplace bullying and psychological health problem reduction. *European Journal of Work and Organizational Psychology, 26,* 844–857.

Dollard, M. F., Tuckey, M. R., & Dormann, C. (2012). Psychosocial safety climate moderates the job demand–resource interaction in predicting workgroup distress. *Accident Analysis and Prevention, 45,* 694–704.

Dragano, N., Siegrist, J., Nyberg, S. T., Lunau, T., Fransson, E. I., Alfredsson, L., & Fahlén, G. (2017). Effort–reward imbalance at work and incident coronary heart disease: A multi-cohort study of 90, 164 individuals. *Epidemiology*, *28*, 619.

Eddy, P., Heckenberg, R., Wertheim, E. H., Kent, S., & Wright, B. J. (2016). A systematic review and meta-analysis of the effort-reward imbalance model of workplace stress with indicators of immune function. *Journal of Psychosomatic Research, 91,* 1–8.

Edmonson, A. (1999). Psychological safety and learning behaviour in work teams. *Administrative Science Quarterly, 44,* 350–383.

Einarsen, S., Skogstad, A., Rørvik, E., Lande, Å. B., & Nielsen, M. B. (2018). Climate for conflict management, exposure to workplace bullying and work engagement: A moderated mediation analysis. *The International Journal of Human Resource Management, 29,* 549–570.

Eulberg, J. R., Weekley, J. A., & Bhagat, R. S. (1988). Models of stress in organizational research: A metatheoretical perspective. *Human Relations, 41,* 331–350.

Feldt, T., Huhtala, M., Kinnunen, U., Hyvönen, K., Mäkikangas, A., & Sonnentag, S. (2013). Long-term patterns of effort-reward imbalance and over commitment: Investigating occupational well-being and recovery experiences as outcomes. *Work & Stress, 27,* 64–87. https://doi.org/10.1080/02678373.2013.765670.

Ferguson, I. (2017). *Politics of the mind, Marxism and mental health*. Bookmarks Publications.

Ferrari, A. J., Charlson, F. J., Norman, R. E., Patten, S. B., Freedman, G., Murray, C. J. L., & Whiteford, H. A. (2013). Burden of depressive disorders by country, sex, age, and year: Findings from the global burden of disease study 2010. *PLOS Medicine, 10*(11), e1001547. https://doi.org/10.1371/journal.pmed.1001547.

Feuerhahn, N., Kühnel, J., & Kudielka, B. M. (2012). Interaction effects of effort–reward imbalance and over commitment on emotional exhaustion and job performance. *International Journal of Stress Management, 19,* 105–131. https://doi.org/10.1037/a0028338.

French, J. R. P., Jr., Caplan, R. D., & van Harrison, R. (1984). *The mechanisms of job stress and strain*. US, New York: Wiley.

Frese, M., & Zapf, D. (1994). Methodological issues in the study of work stress: Objective vs subjective measurement of work stress and the question of longitudinal studies. In C. L. Cooper & R. Payne (Eds.), *Causes, coping and consequences of stress at work* (pp. 375–411). Wiley series on studies in occupational stress. Oxford, England: Wiley.

Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of Management, 17,* 235–271.

Geurts, S. A., & Sonnentag, S. (2006). Recovery as an explanatory mechanism in the relation between acute stress reactions and chronic health impairment. *Scandinavian Journal of Work, Environment & Health, 32,* 482–492.

Graziotin, D., Fagerholm, F., Wang, X., & Abrahamsson, P. (2018). What happens when software developers are (un) happy. *Journal of Systems and Software, 140,* 32–47.

Greenhaus, J. H., & Parasuraman, S. (1987). A work-network interactive perspective of stress and its consequences. *Journal of Organizational Behavior Management, 8,* 37–60.

Griffin, M., & Curcuruto, M. (2016). Safety climate in organizations. *Annual Review of Organizational Psychology and Organizational Behavior, 3,* 191–212.

Haar, J. (2018). *Overview of the perpetual guardian 4-day (paid 5) work trial*. Retrieved from https://www.4dayweek.co.nz/research.

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance, 16,* 250–279.

Hahn, V. C., & Dormann, C. (2013). The role of partners and children for employees' psychological detachment from work and well-being. *Journal of Applied Psychology, 98,* 26–36. https://doi.org/10.1037/a0030650.

Hakanen, J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology, 43,* 495–513.

Hall, G., Dollard, M., Tuckey, M., Winefield, A., & Thompson, B. (2010). A longitudinal study of spill over of job demands and emotional exhaustion to work-family conflict in Australian frontline police. *Journal of Occupational Organisational Psychology, 83,* 237–250.

Harris, J. R. (1991). The utility of the transactional approach for occupational stress research. In Per review (Ed.), Handbook on job stress [Special Issue]. *Journal of Social Behavior and Personality, 6*, 21–29.

Häusser, J. A., Mojzisch, A., Niesel, M., & Schulz-Hardt, S. (2010). Ten years on: A review of recent research on the Job Demand-Control (-Support) model and psychological well-being. *Work & Stress, 24,* 1–35.

Herbert, D. (2014). A review of Swain, D. (2012). Alienation: An introduction to Marx's theory. Retrieved from https://marxandphilosophy.org.uk/reviews/7895_alienation-review-by-daniel-herbert/.

High Pay Centre. (2019). Fat Cat Friday; top bosses earning 133 times more than average UK worker, The Week, 4 Jan 2019. http://highpaycentre.org/press. February 28, 2019.

Hobfoll, S. E. (2011). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology, 84,* 116–122.

Hobfoll, S. E., Halbesleben, J., Neveu, J. P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior, 5,* 103–128.

Hochschild, A. (1979). Emotion work, feeling rules, and social structure. *American Journal of Sociology, 85,* 551–575.

Hochschild, A. (1983). *The managed heart: Commercialization of human feeling*. Berkeley: University of California Press.

Hochschild, A., Irwin, N., & Ptashne, M. (1983). Repressor structure and the mechanism of positive control. *Cell, 32,* 319–325.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. New York: McGraw-Hill.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. CA, Thousand Oaks: Sage.

HSE. Work-related Stress, Depression or Anxiety Statistics in Great Britain 2017. Retrieved from http://www.hse.gov.uk/statistics/causdis/stress/stress.pdf.

Idris, M. A., Dollard, M. F., & Winefield, A. H. (2011). Integrating psychosocial safety climate in the JD-R model: A study amongst Malaysian workers. *SA Journal of Industrial Psychology, 37,* 29–39.

Idris, M. A., Dollard, M. F., Coward, J., & Dormann, C. (2012). Psychosocial safety climate: Conceptual distinctiveness and effect on job demands and worker psychological health. *Safety Science, 50,* 19–28.

International Labour Organization. (2016). Workplace stress; A collective challenge. Turin, Italy.

Jensen, J. H., Bonde, J. P., Flachs, E. M., Skakon, J., Rod, N. H., & Kawachi, I. (2019). Work-unit organisational changes and subsequent prescriptions for psychotropic medication: A longitudinal study among public healthcare employees. *Occupational and Environmental Medicine, 76,* 143–150.

Johnson, J. V., & Hall, E. M. (1988). Job strain, work place social support, and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health, 78*(10), 1336–1342.

Kahn, R., Wolfe, D. M., Quinn, R. P., & Snoek, J. D. (1964). *Organisational stress: Studies in role conflict and ambiguity*. US, New York: Wiley.

Karasek, R. (1989). Control in the workplace and its health-related aspects. In S. L. Sauter, J. J. Hurrell, & Cooper, C. L. (Eds.), *Job control and worker health* (pp. 129–159). US, New York: Wiley.

Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24,* 285–308.

Karasek, R. A., & Theorell, T. (1990). *Healthy work: Stress, productivity and the reconstruction of working life*. US, New York: Basic Books.

Kasl, S. V. (1998). Measuring job stressors and studying the health impact of the work environment: An epidemiologic commentary. *Journal of Occupational Health Psychology, 3,* 390–401.

Kinman, G., & Jones, F. (2008). Effort-reward imbalance, over-commitment and work-life conflict: Testing an expanded model. *Journal of Managerial Psychology, 23,* 236–251. https://doi.org/10.1108/02683940810861365.

Kinnunen, U., Feldt, T., & Mäkikangas, A. (2008). Testing the effort-reward imbalance model among Finnish managers: The role of perceived organizational support. *Journal of Occupational Health Psychology, 13,* 114–127. https://doi.org/10.1037/1076-8998.13.2.114.

Kristensen, T. S. (1995). The demand-control-support model: Methodological challenges for future research. *Stress Medicine, 11,* 17–26.

Law, R., Dollard, M. F., Tuckey, M. R., & Dormann, C. (2011). Psychosocial safety climate as a lead indicator of workplace bullying and harassment, job resources, psychological health and employee engagement. *Accident Analysis & Prevention, 43*, 1782–1793. Retrieved from le:///C:/Users/dollarmf/Downloads/fundamental-facts-about-mental-health-2016.pdf.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. Springer publishing company.

Levi, L. (1990). Occupational stress: Spice of life or kiss of death? *American Psychologist, 45,* 1142–1145.

Lewig, K. A., & Dollard, M. F. (2003). Emotional dissonance, emotional exhaustion and job satisfaction in call centre workers. *European Journal of Work and Organizational Psychology*, *12*(4), 366–392.

Loh, M. Y., Idris, M. A., Dollard, M. F., & Isahak, M. (2018). Psychosocial safety climate as a moderator of the moderators: Contextualizing JDR models and emotional demands effects. *Journal of Occupational and Organizational Psychology, 91,* 620–644.

Lohr, J. M., Olatunji, B. O., & Sawchuk, C. N. (2007). A functional analysis of danger and safety signals in anxiety disorders. *Clinical Psychology Review, 27,* 114–126.

Lowe, D. (2015). Karl Marx's conception of alienation. 1000-Word philosophy. Retrieved from https://1000wordphilosophy.com/2015/05/13/karl-marxs-conception-of-alienation/.

Luchman, J. N., & González-Morales, M. G. (2013). Demands, control, and support: A meta-analytic review of work characteristics interrelationships. *Journal of Occupational Health Psychology, 18,* 37–52. https://doi.org/10.1037/a0030541.

Maier, S. F., & Seligman, M. E. (1976). Learned helplessness: Theory and evidence. *Journal of Experimental Psychology, 105,* 3–46.

Marmot, M., Allen, J., Goldblatt, P., Boyce, T., McNeish, D., Grady, M., & Geddes, I. (2010). *Fair society, healthy lives: Strategic review of health inequalities in England post 2010*. Retrieved from www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review. Accessed November 7, 2016.

Marx, K. (1844). The economic and philosophical manuscripts. Translated G. Benton, 1974. Accessed 14th May 2019. http://lust-for-life.org/Lust-For-Life/_Textual/KarlMarx_TheEconomicAndPhilosophicalManuscripts_1844_202pp.

Maslach, C. (1992). *Burnout: The cost of caring*. Upper Saddle River, NJ: Prentice Hall.

McManus, S., Bebbington, P., Jenkins, R., & Brugha, T. (2016). *Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014*. Leeds, UK: NHS Digital.

Meeuwesen, L., van den Brink-Muinen, A., & Hofstede, G. (2009). Can dimensions of national culture predict cross-national differences in medical communication? *Patient Education and Counseling, 75,* 58–66.

Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P. J. D. Drenth, H. Thierry, & C. J. de Wolff (Eds.), *Handbook of work and organizational psychology* (Vol. 2, pp. 5–33). Hove, England: Psychology Press.

Milner, A., Spittal, M. J., Pirkis, J., Chastang, J. F., Niedhammer, I., & LaMontagne, A. D. (2017). Low control and high demands at work as risk factors for suicide: An Australian national population-level case-control study. *Psychosomatic Medicine, 79*(3), 358–364.

Moch, M. K. (1980). Job involvement, internal motivation, and employees' integration into networks of work relationships. *Organizational Behavior and Human Performance, 25,* 15–31.

Morgeson, F. P., Dierdorff, E. C., & Hmurovic, J. L. (2010). Work design in situ: Understanding the role of occupational and organizational context. *Journal of Organizational Behavior, 31,* 351–360.

Muntaner, C., & O'Campo, P. J. (1993). A critical appraisal of the demand/control model of the psychosocial work environment: Epistemological, social, behavioral and class considerations. *Social Science Medicine, 36,* 1509–1517.

Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin, 126,* 247–259.

Niks, I. M. W., de De Jonge, J., Gevers, J. M. P., & Houtman, I. L. D. (2017). Divergent effects of detachment from work: A day-level study on employee creativity. *European Journal of Work and Organizational Psychology, 26,* 183–194.

OECD (2015). *Health at a glance 2015*. OECD Health Statistics, Luxembourg.

Owen, M. S., Bailey, T. B., & Dollard, M. F. (2016). Psychosocial safety climate as an extension of ERI theory: Evidence from Australia. In J. Siegrist & M. Wahrendorf (Eds.), *Work stress and health in a globalized economy—The model of effort-reward imbalance* (pp. 189–217). Germany, Cham: Springer.

Parker, S. K. (2014). Beyond motivation: Job and work design for development, health, ambidexterity, and more. *Annual Review of Psychology, 65,* 661–691.

Pomaki, G., & Maes, S. (2002). Predicting quality of work life: From work conditions to self-regulation. In E. Gullone & R. A. Cummins (Eds.), *The universality of subjective well-being indicators* (pp. 151–173). Dordrecht, Netherlands: Kluwer Academic.

Poortman, A. R. (2005). How work affects divorce: The mediating role of financial and time pressures. *Journal of Family Issues, 26*(2), 168–195.

Rasdi, I., Ismail, N. F., Kong, A. S. S., & Saliluddin, S. M. (2018). Introduction to customized occupational safety and health website and its effectiveness in improving psychosocial safety climate (PSC) among police officers. *Malaysia Journal of Medicine and Health Sciences, 14, 67–73*.

Rickard, G., Lenthall, S., Dollard, M., Opie, T., Knight, S., Dunn, S., & Brewster-Webb, D. (2012). Organisational intervention to reduce occupational stress and turnover in hospital nurses in the Northern Territory, Australia. *Collegian, 19*, 211–221.

Rigby, E., & Hatch, M. E. (2016). Incorporating economic policy into a 'health-in-all-policies' agenda. *Health Affairs, 35*(11), 2044–2052.

Rugulies, R., Aust, B., & Madsen, I. E. (2017). Effort-reward imbalance at work and risk of depressive disorders. A systematic review and meta-analysis of prospective cohort studies. *Scandinavian Journal of Work, Environment & Health, 43,* 294–306.

Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of personality*, *65*(3), 529–565.

Sauter S., Murphy, L., Colligan, M., Swanson, N., Hurrell, J., Scharf, F., … Tisdale, J. (1999). *Stress at work* (pp. 1–25, 99–101). NIOSH Publication.

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 25,* 293–315.

Schneider, B. (1975). Organizational climates: An essay 1. *Personnel Psychology, 28,* 447–479.

Schneider, B., Salvaggio, A. N., & Subirats, M. (2002). Climate strength: a new direction for climate research. *Journal of Applied Psychology, 87,* 220–229.

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology, 1,* 27–41.

Siegrist, J. (1998). Adverse health effects of effort-reward imbalance at work. *Theories of organizational stress* (pp. 190–204). New York, US: Oxford University Press.

Siegrist, J. (2010). Effort-reward imbalance at work and cardiovascular diseases. *International Journal of Occupational Medicine and Environmental Health, 23,* 279–285. https://doi.org/10.2478/v10001-010-0013-8.

Siegrist, J. (2016). A theoretical model in the context of economic globalization. In J. Siegrist & M. Wahrendorf (Eds.), *Work stress and health in a globalized economy: The model of effort-reward imbalance* (pp. 3–21). Springer.

Siegrist, J., & Li, J. (2016). Associations of extrinsic and intrinsic components of work stress with health: A systematic review of evidence on the effort-reward imbalance model. *International Journal of Environmental Research and Public Health, 13,* 432–446.

Sonnentag, S., & Fritz, C. (2007). The recovery experience questionnaire: Development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology, 12,* 204–221. https://doi.org/10.1037/1076-8998.12.3.204.

Stoner, J. A., Freeman, R. E., & Gilbert, D. R., Jr. (1995). *Management* (6th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Swain, D. (2012). *Alienation: An introduction to Marx's theory*. London, U.K.: Bookmarks.

The Guardian. (2017, March 10). *Sir Martin Sorrell's £42 m payout takes earnings to £210 m in five years*. www.theguardian.com/business/2017/mar/09/sir-martin-sorrell-earnings-wpp-chief-executive-ftse-100. Accessed August 28, 2018.

Theorell, T. (1998). *Job characteristics in a theoretical and practical health context: Theories of organizational stress*. New York, US: Oxford University Press.

Tims, M., Bakker, A. B., & Derks, D. (2015). Job crafting and job performance: A longitudinal study. *European Journal of Work & Organisational Psychology, 24,* 914–928.

Van der Doef, M., & Maes, S. (1999). The job demand-control (-support) model and psychological well-being: A review of 20 years of empirical research. *Work and Stress, 13,* 87–114.

Vos, T., Barber, R. M., Bell, B., Bertozzi-Villa, A., Biryukov, S., Bolliger, I., & Murray, C. J. (2013). Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990–2013: A systematic analysis for the Global Burden of Disease study. *The Lancet, 386*, 743–800. Retrieved from file:///C:/Users/dollarmf/Downloads/fundamental-facts-about-mental-health-2016.pdf.

Wege, N., Angerer, P., & Li, J. (2017). Effects of lifetime unemployment experience and job insecurity on two-year risk of physician-diagnosed incident depression in the German working population. *International Journal of Environmental Research and Public Health, 14,* 904–913.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66,* 297–333.

Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., ... & Burstein, R. (2013). Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. *The Lancet*, *382*, 1575–1586.

WHO. (2010). *Healthy workplaces: A WHO global model for action*. http://www.who.int/occupational_health/healthy_workplaces/en/. Accessed August 28, 2018.

WHO. (2014). *Preventing suicide: A global imperative*. World Health Organization. http://www.who.int/mental_health/suicide-prevention/world_report_2014/en/. Accessed August 28, 2018.

WHO. (2016). *Depression*. Retrieved from http://www.who.int/mediacentre/factsheets/fs369/en/.

WHO Europe. (2015). *Mental health; data and resources*. Retrieved from http://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/data-and-resources. August 28, 2018.

Wittchen, H. U., & Jacobi, F. (2005). Size and burden of mental disorders in Europe—A critical review and appraisal of 27 studies. *European Neuropsychopharmacology, 15,* 357–376.

Zadow, A. J., Dollard, M. F., McLinton, S. S., Lawrence, P., & Tuckey, M. R. (2017). Psychosocial safety climate, emotional exhaustion, and work injuries in healthcare workplaces. *Stress and Health, 33,* 558–569.

Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident Analysis and Prevention, 42,* 1517–1522.

Zohar, D., & Luria, G. (2005). A multilevel model of safety climate: Cross-level relationships between organization and group-level climates. *Journal of Applied Psychology, 90,* 616–628.

Zyphur, M. J., Zammuto, R. F., & Zhang, Z. (2016). Multilevel latent polynomial regression for modeling (in) congruence across organizational groups: The case of organizational culture research. *Organizational Research Methods, 19,* 53–79.

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