

Maureen F. Dollard · Akihito Shimazu
Rusli Bin Nordin · Paula Brough
Michelle R. Tuckey *Editors*

Psychosocial Factors at Work in the Asia Pacific

 Springer

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职业应激 **work stress** 工作压力

psychosocial factors 职业紧张

仕事のプレッシャー **work pressure**

職業性ストレス 仕事のストレス

心理社会的要因 **occupational stress**

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Part I
Psychosocial Factors at Work
in the Asia Pacific

Chapter 1

The Context of Psychosocial Factors at Work in the Asia Pacific

Maureen F. Dollard, Akihito Shimazu, Rusli Bin Nordin,
Paula Brough, and Michelle R. Tuckey

1.1 Introduction

Worldwide, there is an endeavor to provide safe and healthy workplaces for all working populations as a basic human right. In the document, *Worker's health: global plan of action 2008–2017*, the World Health Organisation (WHO) promulgates the goal of protecting and promoting health in the workplace through prevention and control of psychosocial risks at work. Worker health is also good for the economy, as worker self-reported health, relates to life expectancy and GDP at a national level (Dollard and Nesar 2013). Yet the WHO notes large gaps, both between and within countries, in relation to worker health status and exposures to

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workplace risk factors. Work-related stress represents a ‘huge cost’ for worker health and productivity (European Agency for Safety and Health at Work 2009). Scholars predict that by 2020, stress-related illnesses such as depression and cardiovascular disease will be the leading causes of the global disease burden (Murray and Lopez 1996).

Psychosocial risk factors at work refer to those aspects of work organisations that are of human design and construction, that have the potential to cause psychological or physical harm. Often, these factors also involve human relations. They include the organisation and management of work, the social and relational aspects of work, and components of job design (Cox and Griffiths 2005). Psychosocial risk factors at work, including poor organisational climate, work pressure, job insecurity, bullying, violence, and work stress in general, are increasingly recognized as threats to workers’ psychological and physical health and safety, as well as to organisational performance and productivity (Commission on Social Determinants of Health 2008).

The purpose of this book is to address a gap in the global and local stock of knowledge about psychosocial factors at work, by presenting research from the Asia Pacific. The region is the world’s most populous and many workers experience very poor work conditions and insecure employment. Yet little global research attention is directed towards understanding the nature and influence of psychosocial factors at work in this region. Existing research estimates that, in the area of occupational health psychology, for example, only 10 % of the global knowledge published in English emerges from the Asia Pacific (Kang et al. 2008). A major challenge across a range of occupational and health-related disciplinary research approaches (e.g., occupational health psychology, occupational behavioral medicine, public health and occupational health and safety) is to produce knowledge that is relevant and practical, within and across national contexts. Knowledge production demands that attention be paid not only to shared commonalities, but also to areas of diversity, both within and across nations, such as in cultural beliefs and practices (e.g., individualism versus collectivism), religious faith and observance, and economic and political systems (Kang et al. 2008). Theories and constructs that have been developed in Western economies require critique from an Asian-Pacific perspective amid all of its diversity, and grounded approaches are required to determine if the underlying assumptions of Western theories hold in other contexts.

Scholars have stressed that a lack of awareness and understanding of worker psychosocial well-being has hampered the development of policy and occupational health services for work-related psychosocial health in non-industrialized countries (Houtman et al. 2007). In 2010, experts from the Asia Pacific region met in Darwin, Australia, and agreed that a much greater cooperative effort was needed to build a stronger evidence base to address the issues and contribute to global and local knowledge development, and policies and practice in the region. This book represents a major first step by scholars in the region to take stock of what is known, produce new knowledge, and publish material in a common language to increase awareness of psychosocial factors at work in the Asia Pacific.

1.2 Investigating Psychosocial Factors in the Asia Pacific

To begin this project we must first specify the Asia Pacific region. To do this we combined regions specified by the International Labour Organisation (ILO) (2014) and the World Health Organisation (WHO) (2014). We combined the ILO Asia and Pacific Region classification with the WHO Western Pacific Region, and the WHO South-East Asia Region. We refer to this combination as the Asia Pacific region. We have also added an area of significance, Taiwan (see Table 1.1). Figure 1.1 features the significant areas (Christensen 2007).

The Asia Pacific region is very diverse, culturally, ethnically, religiously and economically, and combines some of the richest countries as well as two-thirds of the world's poor (ILO 2014). The Asia Pacific combines advanced industrialized economies (e.g., Japan, Australia), with emerging or newly industrialized (e.g., India, China) and developing economies (e.g., Vietnam).

While work has positive benefits (see Chap. 16) work stress is a growing issue in the Asia Pacific. Psychosocial factors at work may be investigated in relation to both the psychological and physical health of the worker (shown later in Fig. 1.3). Psychological health problems that are linked to work stress include depression, anxiety, anger (see Chap. 10), and suicide. Physical health problems that are related to psychosocial factors include musculoskeletal disorders (see Chaps. 13 and 14) and cardiovascular disease. Workplace factors may interplay with health related behaviors such as lifestyle and workaholism (see Chap. 11) and impact on worker

Table 1.1 Areas of the Asia Pacific

| | |
|---------------------------------------|---|
| 1. Afghanistan (The Islamic State of) | 22. Philippines |
| 2. Australia | 23. Republic of Korea |
| 3. Brunei Darussalam | 24. Samoa |
| 4. Cambodia (The Kingdom of) | 25. Singapore (The Republic of) |
| 5. China (The People's Republic of) | 26. Solomon Islands |
| 6. Cook Islands | 27. Tonga |
| 7. Fiji | 28. Tuvalu |
| 8. Iran (Islamic Republic of) | 29. Vanuatu |
| 9. Japan | 30. Viet Nam (The Socialist Republic of) |
| 10. Kiribati | 31. Bangladesh (The People's Republic of) |
| 11. Lao People's Democratic Republic | 32. Bhutan |
| 12. Malaysia | 33. Korea (The Republic of) |
| 13. Marshall Islands | 34. India |
| 14. Micronesia (Federated States of) | 35. Indonesia |
| 15. Mongolia | 36. Maldives (The Republic of) |
| 16. Nauru | 37. Myanmar |
| 17. New Zealand | 38. Nepal |
| 18. Niue | 39. Sri Lanka |
| 19. Pakistan | 40. Taiwan |
| 20. Palau (The Republic of) | 41. Thailand (The Kingdom of) |
| 21. Papua New Guinea | 42. Timor-Leste |

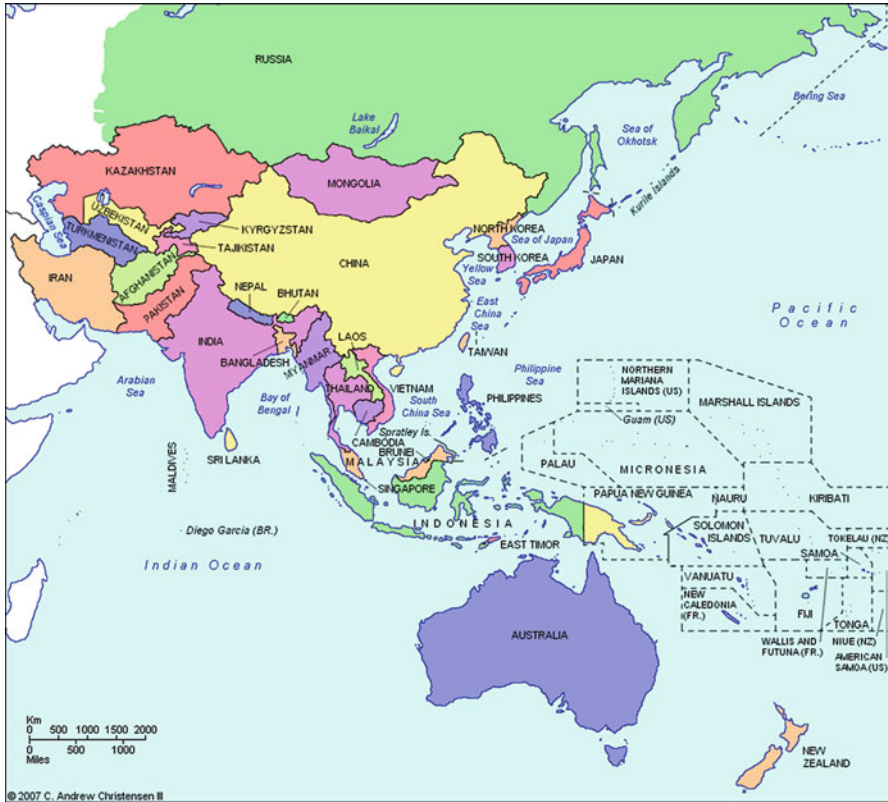


Fig. 1.1 Map depicting the Asia Pacific region (reproduced with permission C.A. Christensen III May 2014; the original is in colour)

health. Employment conditions and psychosocial work conditions are likely to vary by gender (See Chap. 16). Social and family networks, themselves influenced by prevailing culture, are also very important in determining the interrelation between work and home (see Chaps. 15 and 17).

According to the WHO, depression is one of the top three causes of disability worldwide. Psychological health problems can, in turn, lead to work disability, fatigue, and suicide. The World Health Organisation reports that suicide is among the top 20 leading causes of death globally for all ages. But for Asian countries, suicide is among the leading causes of death (Fleischmann and Bertolote 2008). Particularly of interest to the Asia Pacific is that, worldwide, the highest rate of suicide among females is found in this region (see Fig. 1.2), while for males the highest rates of suicide are in Eastern Europe (WHO 2012). While the causes of suicide are complex, there is ample evidence linking depression to working conditions such as bullying, high work pressure, and low job control (McTernan et al. 2013). Yet in the Asia Pacific, little research and policy attention has been given to suicide prevention (Fleischmann and Bertolote 2008), or to the possible

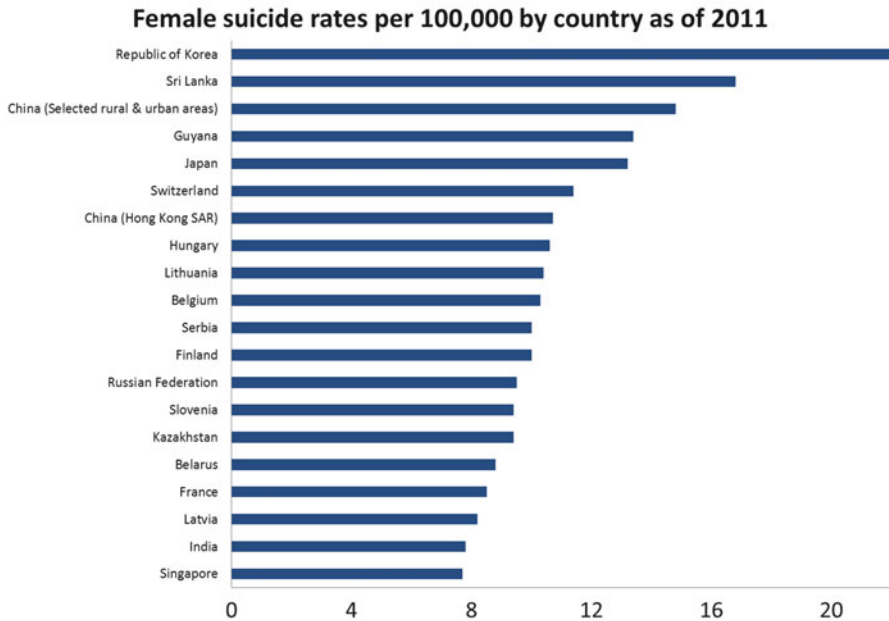


Fig. 1.2 Top twenty countries: female suicide rates by country (Source: WHO 2012)

links between suicide, poor job conditions, job insecurity, and unemployment (see Chap. 12). Given this emerging issue for the Asia Pacific, future research on psychosocial risks at work in the Asia Pacific should definitely consider the gendered effects of access to employment, work quality and exposure to risk factors, and access to supports (see Chap. 16).

A significant issue in Japan, Korea, and Taiwan and now emerging in China is sudden death and other occupational diseases associated with long working hours (Cheng et al. 2012).

1.3 Psychosocial Factors at Work in Context

1.3.1 External Influences

As we explore the issue of psychosocial factors at work in the Asia Pacific region, much new learning will emerge regarding how the regional context affects working conditions, and how work conditions affect worker health. We argue that in understanding work conditions and worker health it is important to consider influences at the international, national, state, and local levels. Here we consider several major external influences on enterprises that could ultimately affect work conditions and

worker health, internationally (i.e., globalization) and nationally (i.e., political power relations, national culture, corruption, labor market policies, welfare regimes and policies).

The kinds of issues facing Asia Pacific workplaces in developed economies (e.g. Japan, Australia), are common in some respects to other areas of the world. A powerful force shaping the nature of work in the Asia Pacific is globalization (Dollard 2007). For the past three decades neo-liberal policies have stimulated global trade, freed up markets, and increased competition. For developed economies in the Asia Pacific, this has led to changing labour markets (e.g., unstable labour markets, job insecurity, and precarious contracts), new forms of production (e.g. lean production), and in turn work intensification, long working hours, increased workload, work pressure, and poor work-life balance (Van den Bossche et al. 2006). Organisations have adapted by downsizing and restructuring to flatter structures to improve flexibility and competitiveness (Kawakami 2000; Cooper et al. 2001). As a result of increased competition and technological developments, new forms of employment have emerged, *overemployment*, where workers are working more intensely and for longer, *underemployment*, where work is being replaced by technologies leading to underutilisation, and *unemployment* (see Chap. 12), where workers have no work at all (Dollard and Winefield 2002). These employment states are less than ideal for the mental health and consequently stress levels have been trending upwards in developed economies.

Within many newly developed and developing economies in the Asia Pacific there have been rapid industrial transformation and socio-demographical changes (Cheng 2000). However there is evidence that attendant changes have been at the expense of mental health. For instance, over a 20-year period in Taiwan (1990–2010), mental disorders doubled and paralleled rises in national rates of unemployment and suicide (Fu et al. 2013). Across nations there has been an increase in service work within cities which has led to a mass movement of workers from rural to urban areas (see Chap. 2). In turn, work related mental health problems among these migrant workers (also international) are a significant issue, particularly in China.

Moreover there is widespread concern that globalization has profited industrialised or strong economies and disadvantaged those that are weak (Loewenson 2001). Despite the rhetoric of free trade many developed economies still heavily subsidise the agriculture industry, and aggressive commercial agreements (e.g. between farmers and chemical companies) and World Bank policies have caused a decline in the agriculture sector in developing economies (Houtman et al. 2007). Working conditions in developing economies remain poor with workers increasingly in insecure, poor quality jobs (Loewenson 2001). Dirty jobs have shifted from richer economies to locations with cheaper labour and less worker protection. Workers at times are faced with obsolete technology and chemicals (e.g. asbestos, and pesticides) that are banned in other countries (Loewenson 2001). In sum, the kinds of psychosocial factors experienced by workers in the Asia Pacific are linked to factors beyond the organisation, and national context, to international decision making (i.e. globalization).

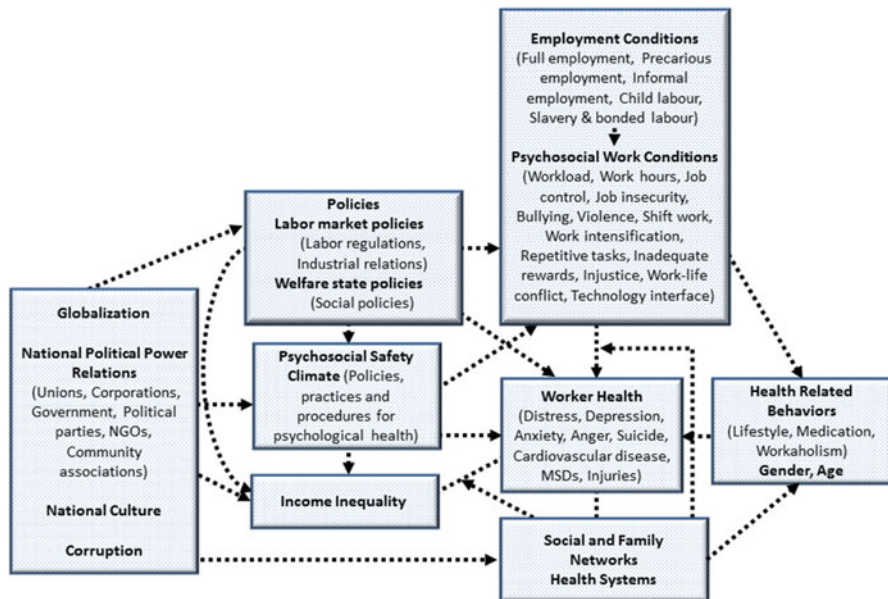


Fig. 1.3 Multi-level model of psychosocial factors at work (reproduced with permission C.A. Christensen III; the original is in color)

In concert with international influences are national influences that affect psychosocial work and worker health. Several macro-level models have been proposed that situate the origins of employment, working conditions, and worker health in national political, social, and economic contexts (Benach et al. 2007; Navarro et al. 2006). These macro-level models explain how power relations in the market (e.g., in unions, corporations, and institutions), prevailing political parties, and societal groups (e.g. non-government organisations, charities) all influence labour market and welfare policies. In turn, employment and social protection policies respectively, affect employment conditions, working conditions within organisations, income inequality, and individual health outcomes (Benach et al. 2007). Corruption is often not discussed as an issue in this field. But it is important as it relates to “abuse of entrusted power for private gain” and includes political and government corruption. Policies may be avoided or distorted to benefit leaders and the enactment of workplace legislation may be uneven depending on corporate interests (Transparency International 2014). Figure 1.3 applies these influences to the issue of worker health via psychosocial factors.

National contextual factors have been clustered by Esping-Andersen in ways that characterize nations in terms of welfare regimes (e.g., Esping-Andersen 1990, 1999). These regimes are intricately connected to labour market policies such as worker health and safety legislation, and worker protection such as workers compensation systems (Benach et al. 2007; Esping-Andersen 1990). In Europe three main regime categorisations have been elaborated (e.g., Esping-Andersen

1990, 1999). Social Democratic regimes such as Norway, Sweden, Denmark, and Finland, have a strong welfare system, such that workers are less reliant on the labor market (i.e., having a job) to maintain a reasonable standard of living (Coburn 2004). Liberal or neo-liberal regimes like Ireland, United Kingdom, United States, and Australia, have weak welfare regimes, workers are reliant on the labor market for survival, and there is means and income testing to access welfare (Coburn 2004). The Conservative regime includes countries such as Belgium, France, Germany, and the Netherlands. These countries have welfare that is more moderate, so there is more reliance on the family and on insurance based schemes for security (Arts and Gelissen 2002; Esping-Andersen 1990; Coburn 2004).

According to Holliday (2000), a fourth kind of welfare regime is located in East Asia (Japan, Hong Kong, Singapore, and Taiwan). This regime also relies on the family to provide social support, but differs from the others because it exemplifies a productivist world of welfare – where nations emphasize economic development over social policy and “‘productivist’ economic goals drive social policy” (Hudson and Kühner 2011, p. 37).

Supporting the notion of a different kind of welfare regime in East Asia, work and employment conditions in East Asia appear characterized by low levels of public social expenditure relative to other Western welfare regimes (Cheng 2013). The level of public expenditure (as a percentage of gross domestic product or GDP) to individuals and households is commonly used to indicate the level of government support for the most disadvantaged in society (Cheng 2013). Data provided by the Organisation for Economic Cooperation and Development (OECD 2013), for East Asia, show marked regional and regime differences in this regard. For example, in 2013 the Social Democratic countries (Denmark, Sweden, Norway and Finland) averaged 28.2 % of GDP on social expenditure; the Conservative countries (Germany, France, The Netherlands, Germany) averaged 28.6 %; and the Liberal countries (UK, US, Canada, Australia, New Zealand) averaged 20.3 %. The data for East Asia, although patchy, indicate an average figure of 10.3 %, although amounts vary considerably, with Japan at 22 % (in 2010), South Korea at 9.3 % (in 2012), China at 6.5 % (in 2008), and Taiwan at 3.1 % (in 2009) (Cheng 2013; OECD 2013). Labor participation rates for women are lower, and there is low collective bargaining power for employees in East Asia regimes (Cheng 2013).

Although welfare regime classifications may provide a guiding framework for interpreting employment and work conditions in context, scholars maintain that, in the face of globalization, there is a rise in productive as opposed to protective dimensions of welfare in social policy regimes (e.g., employment protection, income protection) across all OECD countries, not just in East Asia. They argue that welfare classifications oriented along broad geographical units may be too simplistic. Instead, they advocate exploring each country case by case, to develop a better understanding of how its welfare system operates and the influences upon it (Hudson and Kühner 2012). Research in the Asia Pacific will need to consider external factors and how they impinge on employment conditions, work conditions, and worker health and social policies when comparing and contrasting working conditions within nations in the region, as well as with counterparts in Western regions.

Another major national external influence on organisations is union density. Although union strength within enterprises is an important consideration for working conditions, union density at a national level may give some indication of the power of employees to influence national labor policy (work, health and safety legislation, workplace rights and conditions) and welfare policies in favour of employees (Eurofound 2011). At a national level, across 31 European countries, Dollard and Nesar (2013) found that union density was related to levels of psychosocial safety climate within enterprises (i.e., proactive management policies aimed at curbing work stress, violence, and bullying). Union density was also related to worker health, life expectancy, and GDP at the national level. In nations with high union density, income inequality was reduced. Across some prominent industrial economies of the Asia Pacific it is interesting to note that unionization rates vary. While union density rates are similar in Japan (18 %), Australia (18 %), Singapore (19 %), Malaysia (18 %) and Hong Kong (22 %), Korea only has a 10 % protection rate. All of these rates are, of course, much lower than those of the Social-Democratic countries: Sweden, Denmark and Finland, with their strong collective outlook and policies, have rates around 69 % (Australian Bureau of Statistics 2013; Hall-Jones 2007). In China unionization rates are difficult to quantify. The unionization rate is 100 % for all state-owned enterprises, companies or organisations, since unions are a part of the government. Union action often provides some service or financial support to workers' families when workers experience accidents or serious disease or death. The unionization rate among international enterprises, factories or agencies in China is about 50–70 %. This rate varies across areas or industries, even though the government requires an organized union system. The unionization rate in small to medium enterprises (SMEs) may be as low as 20–30 %. Most SMEs are privately owned, and unions in SMEs do not play a protective role for workers (personal communication, Junming Dai, November, 2013).

National cultural dimensions provide another perspective from which the external organisational context can be considered and compared between nations. The cultural dimensions identified by Hofstede, (e.g., high versus low power distance, collectivism versus individualism, femininity versus masculinity, uncertainty-avoidance levels (Hofstede and Hofstede 2005)) are commonly investigated influences on organisational climates and working conditions. Hofstede's system has some utility, as there is evidence to suggest that the way organisations are constructed and managed is affected by the national culture in which they are embedded. Therefore we expect to find links between a nation's culture – its values, norms and assumptions – and psychosocial risk factors at work. For example, in nations such as Malaysia, where a high power distance prevails, bullying might be employed as a social mechanism to maintain existing power differences between employers/managers and employees (see Chap. 9). In nations such as Australia, that place a high value on certain aspects of masculinity, bullying and harassment may be normative, a style of management that gets the job done, and where individuals with aggressive tendencies may attract promotion accordingly. Again, this classification system of national cultural dimensions has been criticised as being too

general to reflect cultural diversity within nations. Culture is hierarchical and multi-layered and exerts an influence at the macro- (e.g., country), meso- (e.g., community groups), and micro-levels (e.g., organisation) (Chap. 3). Although we expect that national cultural differences explain some differences between nations, and indeed within nations as multiculturalism increases, other levels of culture are crucial to understanding how work is constructed, how work is ascribed meaning, and how people perceive and react to work conditions (see Chaps. 15 and 17 for the example of work-life balance).

Finally, corruption is also related to employment and work conditions and health outcomes. According to Transparency International, corrupt practices flourish where “institutional checks on power are missing, where decision making remains obscure, where civil society is thin on the ground, where great inequalities in the distribution of wealth condemn people to live in poverty” (Transparency International 2014). In unpublished data Dollard and Nesar (2013) found that national levels of corruption as reported by Transparency International (2014) across 31 European countries was negatively co-related to union representation, psychosocial safety climate, and work quality. The mechanism via which corruption may be associated with these facets of working life might originate in the absence of work health and safety legislation, and/or in the absence of effective monitoring and checks in the enactment of legislation and social policies.

1.3.2 Internal Context

Currently much of the Western research on psychosocial factors at work focuses on internal organisational factors to understand worker health and wellbeing. In particular, job design theories focus on job demands and resources that may compromise or enhance health and work outcomes. The most prominent job design work stress models are the Job Demand-Control (JDC) model (Karasek 1979), the Effort Reward Imbalance model (Siegrist 1996), and the more recent Job Demands-Resources (JD-R) model (Demerouti et al. 2001). These models all highlight the job design features of job demands, job resources, and their combinations, as important for work stress (see Chaps. 7 and 8). How the psychosocial factors relate to strain in time is important as some factors may have an immediate, accumulative, or delayed effect on workers (Chap. 4).

Alongside job design, Western research increasingly investigates bullying and other interpersonal psychosocial risk factors like harassment. The macro-level approach to work stress, however, suggests that job design models and specific risk factors need to be contextualized. The heavy focus on job design in these models has neglected the question, “what influences job design?” (see Chap. 6) or “what triggers bullying?” (see Chap. 9). Within organisations there are influences on worker health at a higher level than job design that need to be uncovered. Researchers are being urged to explore the organisational context as the genesis of job design, and explore how elements of the organisational context, operate to shape work design characteristics (Morgeson et al. 2010).

Psychosocial safety climate (PSC) is an example of an organisational level construct that researchers hypothesize is a leading indicator of quality work conditions (see Fig. 1.3). At the enterprise level PSC reflects whether management is committed and supports stress prevention. It also reflects management values and philosophy about worker health and well-being. At the heart of PSC is the question of whether organisation economic policy supersedes social policy, whether the *modus operandi* is profit over welfare, or productivity over human needs. PSC is argued to be a 'cause of the causes' of lower level stressors, often found in the way jobs are designed, and interpersonal workplace stressors. There is empirical evidence for this, whereby PSC predicts emotional demands, work pressure, job control (Dollard and Bakker 2010; Dollard et al. 2012) and workplace bullying (Bond et al. 2010).

An important question is whether there are national factors that could influence levels of PSC within organisations. In the study by Dollard and Nesar (2013), PSC was assessed using data from the European Survey on New and Emerging Risks – Psychosocial Risks (ESENER 2009) of 28,000 occupational health and safety managers across the 31 European countries. The researchers found that 23 % of the variance in PSC was due to country level differences (Dollard and Nesar 2013). In particular, national levels of union density predicted PSC. The researchers ranked union density and PSC together at the national level and found links to welfare regime. Countries ranked among the highest for level of PSC and union representation were Social-Democratic in nature (Sweden, Finland, Norway, Denmark were all ranked among the top five). An important departure to this was that Ireland was ranked fourth and the UK was ranked seventh, mainly due to high levels of PSC and yet these nations are considered Liberal or neo-Liberal. One cannot rule out the historical influence of unions in the UK and Ireland. But these cases appear to be examples where productivist economic policy drives social policy. In other words management is responsive to the issue of building psychosocial safety climate if the return on investment is clearly outlined in terms of a dollar cost/or benefit to the organisation. In the ESENER data the main reasons that managers gave for dealing with psychosocial risks at work were legal requirements (63 %), requests from employees or their representatives (45 %), and because of high absence rates (18 %). This evidence suggests that national work health and safety legislation, union representation, and an internal focus on cost containment, respectively, help to shape the development of psychological health policy (PSC) within organisations. Management commitment and union representation have been proposed by Dollard and Karasek (2010) as basic requirements for PSC development. Further, national policy and strategies may have been influential in the UK and less prominently Ireland, because of concerted efforts in recent times to improve national dialogue and interventions regarding psychosocial factors at work in the UK, through the use of Management Standards – this could also lead to improved PSC within organisations (Health and Safety Executive 2012).

In summary as depicted in Fig. 1.3, there are international, national, organisational, employment, job design and other psychosocial risk factors, that all have an influence on worker health. Importantly each relationship provides an opportunity point for preventative intervention, at the international, national

(see Chap. 20), and organisational (see Chap. 19) levels. In the case where stress occurs, ameliorative intervention may occur at the individual level (see Chap. 18).

As this Asia Pacific project evolves, greater attention will need to be given to factors that may supersede job design factors to explain differences in worker health between and within nations and organisations. Already there is evidence of national differences in worker health. It is important then to consider national political power actors such as governments and unions, national culture, corruption, legal requirements, welfare regimes, and occupational health and safety policies and guidance, in order to improve work conditions and worker health in the Asia Pacific.

1.4 Coordination in the Asia Pacific

Coordinated efforts for dialogue on psychosocial factors at work in the Asia Pacific began in 2010 (8–9 July) when an expert meeting was convened in Darwin by Professor Maureen Dollard, and Dr Michelle Tuckey, from the University of South Australia, Centre for Applied Psychological Research, Work & Stress Research Group, Adelaide, Australia and Professor Paula Brough, from the Social & Organisational Psychology Research Unit (SOPRU), Griffith University, Brisbane, Australia.

Twenty-one experts from Australia, New Zealand, Malaysia, Japan and Germany, including industry regulators, policy makers, and academics from a range of disciplines met for 2 days to discuss psychosocial factors at work in the Asia Pacific. Several important outcomes were:

1. Agreement that a multidisciplinary effort was required to address the issues and in knowledge development, training, research, interventions, transfer of research to practice, policy development and employee representation.
2. Contribution to an Australian national policy statement on psychosocial factors to influence national policy and regulation as Australia progresses towards harmonisation in WHS legislation.
3. Two special issues on the topic; on Occupational Health Psychology in the Asia Pacific and a second one on Psychosocial Factors at Work in the Asia Pacific.
4. Plans for a book on psychosocial factors at work in the Asia Pacific.

The Second Asia Pacific Expert Workshop on Psychosocial Factors at Work was held in Johor Bahru on 7–8 July 2011, hosted by Professor Rusli Bin Nordin, Monash University, Jeffrey Cheah School of Medicine & Health Sciences, Clinical School Johor Bahru. Twenty-eight delegates from Australia, Japan, and different parts of Malaysia including Sabah and Sarawak attended the workshop.

Among the key outputs from the 2 day workshop were:

1. The development of a position statement which was intended to act as a signpost to suggest and advise that workplace counselling services be included as intervention in the Occupational Safety and Health (OSHA) Act 1994, thus promoting a work environment that fulfils the psychosocial needs of employees.

2. Collaborative research initiatives. Participants initiated and planned an application for a joint university-industry research (Linkage) grant from the Australian Research Council (ARC) for a project comparing psychosocial safety climate in Australian and Malaysian hospitals. This project will involve some small funds from the Malaysian government which the Australian government will match at a ratio of 1:5 respectively. This collaborative research plan would open up opportunities for sourcing international research grants and an increase in the number of graduate research students.
3. A plan to develop human capacity building through joint supervision of PhD students.
4. A plan to increase options for training. With an increase in the numbers of graduate research students more training would be needed in research methodology and innovation.

The Third Expert Workshop on Psychosocial Factors at Work in the Asia Pacific was held at the University of Tokyo. It was chaired by Associate Professor Akihito Shimazu, and was attended by 46 participants. A major outcome of the meeting was the official launch on Friday, 3 August, 2012, of the *Asia Pacific Academy for Psychosocial Factors at Work*.

The overarching aim of the Academy is to bring together academics, practitioners and policy makers from the Asia Pacific region and beyond, and contribute to better working arrangements in the region. The academy provides a forum to discuss psychosocial factors at work, to share and generate knowledge, to deliver education and training, to build greater networks, and to foster opportunities to prevent work injury. The academy is multidisciplinary in outlook.

The executive comprises:

- Foundation President-elect Professor Maureen Dollard and Area Representative Australia
- Vice-President, Professor Rusli Bin Nordin, and Area Representative Malaysia
- Vice President, Associate Professor Akihito Shimazu and Area Representative Japan
- Executive Officer, Tessa Bailey, Australia
- Chair Research and Practice, Dr Michelle Tuckey, Australia
- Chair Education and Training, Professor Rusli Bin Nordin, Malaysia
- Conference Chair, Assistant Professor Sara Arphorn, Area Representative Thailand
- Membership Officer, Professor Nor Hassim Ismail, Malaysia
- External Relations Officer, Annabelle Neall and Mikaela Owen, Australia
- Publications officer, Yasumasa Otsuka, Japan
- Finance Director, Professor Paula Brough, Australia
- Area Representative, Professor Jeong-Ho Chae, South Korea
- Area Representative, Associate Professor Junming Dai, China
- Area Representative, Dr Pham Minh Khuê, Vietnam
- Area Representative, Dr Yawen Cheng, Taiwan

There is also an International Advisory Committee comprising Professor Norito Kawakami, Japan; Professor Christian Dormann, Germany; and Dr Loic Lerouge, France.

The Fourth Expert Workshop was held in Thailand on 28–29 November 2013, convened by Assistant Professor Sara Arphorn, and the fifth meeting will take place in Adelaide, South Australia, as part of the Conference of the International Commission of Occupational Health: Work, Organisational and Psychosocial Factors (ICOH-WOPS), 17–19 September 2014, Adelaide Convention Centre.

The four international expert workshops have been highly successful in coordinating and organizing efforts to understand and address psychosocial factors at work in the Asia Pacific. Many of the plans formulated in the meetings have been implemented with great success. They include:

1. A Special Issue of the International Journal of Stress Management titled *Theory and Methods to Prevent and Manage Occupational Stress: Innovations From Around the Globe* published in the first journal's issue of 2014, and edited by Professor Paula Brough, Professor Maureen Dollard, and Dr Michelle Tuckey (Brough et al. 2014);
2. A successful Australian Research Council grant between the University of South Australia (Professor Dollard and Dr Tuckey) and the University of Malaya (Dr Awang Idris). Titled *The dynamic interplay of physical and psychosocial safety in frontline healthcare workplaces in Australia and Malaysia*, the grant has initiated international collaborative research arrangements on psychosocial factors at work.
3. The current book, *Psychosocial Factors at Work in the Asia Pacific*, published by Springer Science + Business Media.

As a direct outcome of the work of the Asia Pacific Academy for Psychosocial Factors at Work, this book provides for the first time a platform to discuss psychosocial factors at work, to share and generate knowledge, to build greater understanding, and more opportunities for prevention, of psychosocial work injury, and to contribute to better working arrangements in both developed and emerging economies in the Asia Pacific region and beyond. The book will review, compare, and contrast current occupational health and safety legislation and regulatory frameworks for the management of workplace psychosocial risks in Japan, Australia, Malaysia, China, Korea and Thailand. Science-driven evidence on work conditions in the Asia Pacific and their relationships to workplace health and productivity is presented. Examples of research and innovation on psychosocial factors at work in the Asia Pacific are highlighted. This enterprise is part of a continuing global effort to bring together academics, policy makers and regulators to deliberate on these issues so that innovations in psychosocial work theories, methodologies, policies, and interventions can be shared across disciplines, cultures and countries in the Asia Pacific region, and that more evidence-based and informed decision making processes are generated to improve work conditions, and psychological health. The book represents a multidisciplinary effort to address

the issues focusing on knowledge development, research, training, interventions, transfer of research to practice, policy development and employee representation.

The book is presented in seven parts:

- I. Introduction
- II. Innovations in method for workplace health and safety
- III. Psychosocial risks in the Asia Pacific
- IV. Physical health risks at work
- V. Work-life balance
- VI. Interventions in workplace health and safety
- VII. Conclusion

We are delighted that experts in the region have joined in this book project. We have provided an overview of the structure and the authors (see below). In particular we were interested in authors from the region working together to produce the chapters. Some authors joined together for the first time. An idea behind the book was to increase research capacity in the region so we brought authors together based on knowing about their joint interests. The book features inputs from 30 academics with 26 from the Asia Pacific (Japan (6), Australia (11), China (1), South Korea (1), Malaysia (6), and New Zealand (1)). There are additional international contributions from Germany (3) and Belgium (1).

1.5 Content

Each chapter introduces the issue, outlines why the issue is important, and provides an overview of the relevant theoretical perspectives of psychosocial factors at work, and their particular perspective in addressing health, safety and wellbeing. The issue is then placed in the context of the Asia Pacific. The book uses case studies to illuminate how the issues are applicable at work in the Asia Pacific. Each chapter discusses the overall findings and concludes with highlights and future directions in research, policy, and practice.

1.5.1 Part I: Psychosocial Factor at Work in the Asia Pacific

Part I Chap. 2, provides an overview of the status of psychosocial factors and how they are addressed at a national level in several Asia Pacific countries, namely Japan, Korea, Australia, and China. Kawakami, Park, Dollard and Dai summarise the state of the art in each country for national legislation frameworks for psychosocial risk and psychological health, the prevalence of psychological disorders at work, workers compensation for health problems due to psychosocial risk, national surveillance for psychosocial risk and mental health problems, and intervention programs. While rising work stress and workplace psychosocial risk are shared

among many countries, there are distinct differences between countries in national responses, in the extent of national WHS legislation, workers' compensation, and risk assessment approaches.

1.5.2 Part II: Innovations in Method and Concepts for Workplace Health and Safety

So far the book has focused on the work context of the Asia Pacific region and the challenges of developing new knowledge. It is important to turn to conceptual and methodological issues before going further because what we come to know depends very much on the quality, depth and breadth of our research methods.

Cultural distinctiveness in response bias in research on psychosocial factors at work is the topic of Chap. 3. Response biases are systematic measurement anomalies, and represent one of the most robust barriers to meaningful cross-cultural comparisons. In the chapter, Iwata identifies different types of response biases in cross-cultural research and how to detect them. Case studies comparing responses from Japanese and US employees reveal, for example, that the Japanese are more likely to inhibit the expression of positive affect as measured by positively-oriented items, while response patterns to negatively-oriented items are generally comparable with US workers. This chapter therefore raises some very important considerations for research especially in such a culturally diverse region as the Asia Pacific.

In Chap. 4, Dormann and van den Ven explore the issue of time lags for repeated measurements in research on psychosocial factors at work. Their central premise is that to advance understanding of the inner dynamics of the occupational stress process, time has to be explicitly considered. Accordingly, they review different theoretical models for how stressors create strains, propose a new taxonomy for describing and comparing time lags in research on psychosocial factors at work, and overview different reasons for selecting time lags in research. Ultimately, they make a convincing case that shorter time lags are most appropriate for detecting the effect of stressors on strains, under any of the theoretical models of the stressor-strain process. Given the typical timeframes used in panel studies of 6–12 months, this chapter has potential to shape future research design in the Asia Pacific and beyond.

Yoshiuchi discusses the momentary measurement of psychosocial risks and health-related outcomes in Chap. 5. Traditionally, such factors are assessed through surveys that require recall over a period of time and are therefore associated with a range of potential recall biases. The momentary assessment of these factors can overcome recall biases, improve measurement accuracy, and ultimately facilitate the exploration of dynamic phenomena as they unfold in the workplace. As shown in the case studies, while logistically challenging, momentary measurement can be achieved in this research field. The chapter provides a sound basis for selecting, designing, and implementing a momentary measurement research protocol. Overall, this represents a growing future direction in methods for research on psychosocial factors at work.

As discussed earlier in this chapter it is important to consider multilevel influences on work conditions and worker health, both psychological and physical. In Chap. 6, Yulita, Idris and Dollard, explore psychosocial safety climate (PSC) as a facet of organisational climate, and its effects on job design (see Fig. 1.3), and in turn employee emotional exhaustion and engagement, and ultimately physical health. In a cross-sectional study of over 900 Malaysian police officers nested in 58 departments, they find that nearly 10 % of the variance in PSC is due to random department effects. Departmental level PSC is associated with lower levels of hindrance demands among officers, that in turn is related to emotional exhaustion and physical health.

A major foundation of contemporary research into psychosocial factors at work is the idea that job characteristics drive the occupational stress process and function as the major determinants of employee health and well-being. In Chap. 7, Boyd and Tuckey examine job characteristics in terms of their latent (or formalized), perceived, and enacted (or experienced) components to offer new insights into the relationships between job characteristics and outcomes. In particular, they extend ideas regarding the processes through which job characteristics are enacted, as the pivotal link between job incumbents and the work environment, which are then illustrated in the case studies. The discussion underpins a number of avenues for future research that take into account features of the job and work context along with the active and reactive responses of the worker.

Brough and Biggs also consider a finer-grained differentiation of job characteristics in Chap. 8. Specifically, they demonstrate the value of assessing occupation-specific job characteristics in addition to the measurement of generic job characteristics, common to many jobs. They argue that the assessment of psychosocial factors at work should incorporate *both* occupation-specific and generic measures to provide a comprehensive perspective of occupational health that balances the advantages and limitations of each approach. While there are good examples that integrate job-specific and general factors from Asia Pacific research and beyond, the challenge remains to extend this dual assessment approach into organisational training and intervention programs.

1.5.3 Part III: Psychosocial Risks in the Asia Pacific

In Part III, we turn to specific psychosocial risks in the Asia Pacific, discussed by four contributors from Australia, Malaysia, and Japan.

In Chap. 9, Kwan and her colleagues focus on workplace bullying. Previous research, and the scientific definition of workplace bullying, are mainly based on Western perspectives and supported by theories, models, and research studies conducted in Western cultures. However, workplace bullying may not be understood in the same way across different cultural groups. Hence, on the basis of qualitative interviews, a general definition of workplace bullying from Malaysian

employees' perspectives is presented. The chapter concludes with implications for understanding bullying as an important psychosocial hazard at work.

In Chap. 10, McLinton and his colleagues discuss interpersonal anger. They focus on how an individual's potential to anger toward others may be influenced by the characteristics of those people targeted, including the relative relationship to the target. On the basis of data derived from a random stratified community sample from Japan and Australia, the importance of understanding cross-cultural differences in anger in the Asia-Pacific region is discussed.

In Chap. 11, Matsuoka and Shimazu focus on workaholism, the tendency to work excessively hard with irresistible inner drive. After presenting a definition of workaholism in the context of Japanese economic and working conditions, they discuss the effects of workaholism on important aspects of their own and their partners' well-being, for example, health, job and family satisfaction, work-family balance and job performance.

Finally, in Chap. 12, Takahashi and Winefield discuss the unemployment issue in Japan. After putting the current situation of Japanese unemployment in its historical context, they introduce the results of their own surveys: unemployed Japanese people experience shame and guilt, which originate in their personal, familial and social historical contexts.

1.5.4 Part IV: Physical Health Risks at Work

While this book focuses mainly on psychosocial risks at work, the fourth part of the book concerns physical health risks at work. In Chap. 13 Oakman emphasizes the fact that work-related musculoskeletal disorders (WMSDs) are a major work health and safety (WHS) issue in the Asia Pacific. She advocates an analysis of WMSDs in terms not just of physical hazards, but also of the ways in which psychosocial and physical hazards interact in the development of WMSDs. Likewise it is crucial to focus on risk mitigation strategies that include psychosocial and physical aspects of work.

In Chap. 14, O'Keeffe reiterates the importance of understanding the synergy of psychosocial and physical hazards in contributing to work-related physical harm, particularly musculoskeletal disorders. She notes that in Australia there is increasing recognition of the contribution of psychosocial factors to physical health, although psychosocial factors are often not explicitly considered in risk assessment processes related to physical safety. In Malaysia, she points out, although legislation is emerging that addresses psychosocial risks at work, legislative approaches are less well developed with regard to physical hazards such as manual handling. O'Keeffe notes the absence in general of psychosocial factors in assessment processes in occupational health and safety communication and decision making. She presents case studies of nurses as they make decisions about performance of patient handling tasks, and of the crucial role of communication for migrant aged care workers as they undertake manual handling of residents. These case studies

highlight the need to fully incorporate psychosocial factors into work health and safety practice. She concludes that future health and safety practice must be more fully integrated into the way in which work is designed and organized, creating alignment between business and health and safety goals.

1.5.5 Part V: Work-Life Balance

The fifth part of the book comprises three chapters describing research conducted within the Asia Pacific region assessing work-life balance. Work-life balance has been directly associated with the recruitment, retention, health and performance of employees and is an issue of increasing concern for employers around the globe (Brough et al. 2009; Brough and O’Driscoll 2010). Work-life balance can have both negative (conflict) and positive (enhancement) consequences for employees (Brough et al. 2007; Siu et al. 2013). The three chapters in this section describe pertinent investigations of these positive and negative impacts of work-life balance specifically based upon Asia Pacific employees.

The first chapter in this section (Chap. 15) describes work-life balance research conducted in Malaysia by Hassan, Dollard and Winefield. This chapter provides a rare assessment of how well work-life balance theoretical models largely derived and tested with Western samples, can be applied to workers from a non-Western cultural background. Hassan et al. specifically assessed how resources and demands from the work, family and community domains were associated with both work-family enrichment and work-family conflict. Hassan et al. noted that specific cultural dimensions of polychronic time orientation, traditional gender role ideology, and religion (Islam) influenced the findings for this Malaysian sample of workers. The chapter, therefore, makes the important observation that the role of community and religion, which are commonly neglected contexts within Western work-life balance research, should be included in assessments of work-life balance for workers within Malaysia and countries with similar cultural orientations.

Chapter 16 by Li and Angerer presents similar arguments to those in Chap. 14 and describes research assessing levels of work-family conflict and worker wellbeing for a sample of Chinese workers. Li and Angerer provide a historical overview of work-family conflict within China and describe how it is influenced by China’s long history of collectivism. From their research, Li and Angerer note how, in contemporary China, gender-based work-family conflict is apparent, contrary to recent findings from Western research. Thus, in China, the breadwinner role is a central role expectation for men, and extra work which interferes with family life is accepted by family members for the sake of future benefits from men’s career success. In contrast, Chinese women are expected to take primary responsibilities for housework and child-rearing demands, regardless of their paid employment responsibilities. As a result, Chinese women are exposed to a double burden from work and family which negatively impacts on their well-being.

The final chapter (Chap. 17) in this section, by Brough, Hassan and O'Driscoll, focuses specifically on the positive aspects of work-life balance for employees, namely work-life enrichment. This involves the recognition that work can benefit (enrich) employees' non-work lives, and, conversely, that an involvement in family and other activities can positively influence an employee's health and performance levels. Brough et al. discuss the antecedents of work-life enrichment, including social support, a supportive workplace culture, and family-friendly human resource policies. The chapter also discusses the consequences of work-life enrichment, including increased job satisfaction, commitment, work engagement, work performance, individual health, and family satisfaction. Brough et al. also review the key moderators and mediators of work-life enrichment, including gender, dependents, personality characteristics, and work schedule fit. Finally, the authors provide a timely discussion of the future research directions of work-life enrichment, including the necessity to better assess the impact of both organisational policies and individual coping mechanisms upon levels of work-life enrichment.

1.5.6 Part VI: Interventions in Workplace Health and Safety

Interventions for workplace health and safety can be directed towards the individual, the organisation, or towards external factors at a macro-level approach. In Chap. 18 Biding and Nordin, present a case-control individual approach to stress management in Malaysian hotel settings. In this quasi-experimental study, they evaluated the effects of a stress management intervention program SMIP among employees in an experimental ($n = 68$) and control group ($n = 58$). The SMIP consisted of three sessions: (a) deep breathing and progressive muscular relaxation exercises; (b) cognitive behavioral training (CBT) covering communication and interpersonal skills; and (c) emotional intelligence at work, goal setting and changing dysfunctional thought patterns. They found that SMIP was effective in reducing the anxiety levels, but not the stress or depression levels, of hotel employees.

In Chap. 19 Biggs, Noblet, and Allisey tackle the complex, yet necessary, task of reducing work stress via organisational level interventions. They note a disproportionate focus on individual intervention approaches in developed economies, despite their limited long-term value. Moreover, most published organisational intervention studies have been conducted in Europe and the US, where labour conditions differ markedly from those within the Asia Pacific region. Biggs and her colleagues provide a timely overview of organisational intervention research, with a specific focus on issues relating to the development, implementation, and evaluation of organisational interventions within the Asia Pacific region. Their case studies of successful organisational intervention programs in Japan and Australia raise challenges associated with implementing organisational interventions and potential solutions are posed for implementing these in the Asia-Pacific region.

In Chap. 20, Bailey and Dollard search for evidence about macro-level approaches to work-related psychosocial risk and hazard assessment and management

world-wide. They focus on a particular macro-level initiative, that of national surveillance and the development of national standards. They find that while many countries particularly across Europe, North America, and the United Kingdom, have implemented national surveillance systems, and some have developed national standards (e.g., the UK, Canada) to assess the prevalence, and calibrate levels, of psychosocial risk factors, there are few examples throughout the Asia Pacific (e.g., Japan, Korea). They present a case study, the Australian Workplace Barometer, as an example of a national population-based interview survey that assesses both risks (e.g. psychosocial safety climate, work pressure, bullying,) and outcomes (e.g., psychological health, engagement, productivity loss). The data gathered by the AWB may be used as an evidence base for training, education, and resource development. The authors recommend that countries across the Asia Pacific establish a national surveillance system for psychosocial risk factors at work to draw attention to the issue, enable comparisons across regions, for purposes of benchmarking and evidence-based best practice.

1.5.7 Conclusion

Finally in the conclusion, information and perspectives are synthesized to advance knowledge development, policy and application in the region. In addition future directions on health, safety and well-being in the Asia Pacific are highlighted.

The Book Is For You! The book should ignite a desire in the reader to know more about the Asia Pacific and its workers. It is intended as a reference text for a diverse readership, including corporations, unions, political parties, NGOs, community groups, researchers, practitioners, managers, trainees, students and policy makers. It will be of interest to professionals in occupational health and safety, human resource management, occupational health psychology, organisational psychology, and employment counseling, who wish to be informed of psychosocial risks and their management in this region. The book also covers materials relevant to undergraduate and postgraduate education, drawing upon concepts and topics from multiple disciplines in the area. It is suitable as a reference for graduate study at masters or doctoral level.

Focussing on the Asia Pacific, each chapter defines a specific topic, describes current research and theories, and presents both the positions adopted and any contested aspects, so as to inform the reader of the key issues and point them to further reading if greater detail is required. Each chapter is intended to provide additional reading as well as references, and contains an evaluative dimension that indicates the status of the topic under scrutiny.

Importantly, this book will be a valuable and unique reference source for academics and practitioners in the Asia Pacific. This will provide practitioners with a resource for efficient revision and rapid updating of material. It offers students and trainees an introduction to the concept in question with leads to further

sources. It is anticipated that the text will be of direct benefit for post-graduate students conducting research in the fields of occupational health psychology, occupational behavioral medicine, public health, and occupational health and safety and related areas.

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Chapter 2

National Status of Psychosocial Factors at Work in Japan, Korea, Australia, and China

Norito Kawakami, Jungsun Park, Maureen F. Dollard,
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2.1 Introduction

This chapter aims to briefly describe the current status of mental health at work, and mental health activities in the workplace in Japan, Korea, Australia, and China to summarize recent relevant research and good practice, and discuss future challenges in this field.

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2.2 Psychosocial Factors at Work in Japan: State-of-the-Art

2.2.1 The Magnitude of Work Stress Related Problems in Japan

The Japanese Ministry of Health, Labour, and Welfare has conducted a representative survey of companies and employees in Japan every 5 years since 1982 (National Surveys of Health Status of Workers, 1982, 1987, 2002, 2007, and 2012). Sixty-one percent of employees in Japan reported strong worry, anxiety, or stress at work or in their working life in 2012, slightly increased from the proportion (58 %) in 2007 (Japan Ministry of Health, Labour, and Welfare 2013). The number of suicides among employees increased from about 6,000 per year in 1997 to about 9,000 per year in 1998 and remained stable in 2007. However, there has been a declining trend in recent years: 8,207 in 2011, and 7,421 in 2012. Among Japan's six million employees, 0.79 % were estimated to be on sick leave due to mental disorders (Shima and Kyrabayashi 2005). The estimated loss-of-labor cost from sick leave due to mental disorders was 950 billion yen (7.2 billion GBP).

In 2012, a total of 1,257 claims were submitted requesting worker compensation for work-related mental disorders, and among these, 169 were suicide-related. Thirty-eight percent of claims for mental disorders (55 % of claims for suicide) were approved for compensation in 2012. The number of claims for mental disorders increased fourfold during the last 10 years.

There is also an increasing trend of civil suits requesting compensation directly from companies by the families of suicide employees. The first case, which was resolved in 2001, claimed that the Dentsu advertising company was negligent in its care of their son's health and life; the Supreme Court decided that the claim was reasonable. The company paid 168 million yen (1.3 million GBP) to the family. There are no exact statistics on the number of this type of civil suit, called "Karo-jisatsu" (suicide from overwork); however, a dozen similar law suits have been identified since the first case. In many cases, companies have paid between 50 and 100 million yen to the family.

In Japan, workers' compensation and civil suits due to work-related mental disorders and suicide have motivated employers to take action for workplace mental health during the past 15 years. Also, increasing concerns about decreased productivity and mounting labor costs due to mental health problems have led to employers taking a greater interest in promoting mental health care activities in the workplace. Under the current economic crisis and recession, employers may tentatively withdraw from actively commissioning mental health care activities for employees. However, since the labor force will decrease to half during the next 50 years, workplace mental health will continue to need attention from employers. On the other hand, protecting mental health among those who have lost their jobs and those working under unstable employment contracts (such as contingency workers) will become a new public health challenge.

2.2.2 Levels of Protection

2.2.2.1 Legislation and Protection for Worker Mental Health in Japan

The Japanese Industrial Health and Safety Law states that employers are responsible for protecting the health and safety of employees. The government may release guidelines to help employers to achieve this goal. One such guideline is for the mental health of workers. The guideline first released in 2000, was revised and renamed in 2006 as “The Guideline for Promotion and Maintenance of Mental Health of Workers” (The new Guideline). It is not mandatory to follow the Guideline; however, a recent court decision on a “Karo-jisatu” suit used the Guideline as a standard practice in mental health care at the workplace, which now motivates large-scale companies to use the Guideline.

The Guideline requires an employer to establish a system and a plan for the mental health of workers in a particular workplace (or company), based on a discussion between the employer, employee representatives, and occupational health professionals at the safety and health committee of the workplace. The plan encourages inclusion of evaluation and improvement as part of the Plan-Do-Check-Act cycle. The system and plan should be developed to include “four types of care”, i.e., actions to be taken by each of four groups of personnel (employees, managers/supervisors, occupational health professionals, and service providers external to the workplace), according to the roles and responsibilities described in the Guideline.

The new Guideline particularly focuses on four activities which could be effective: (1) education, training, and information dissemination, (2) work environment improvement, (3) early consultation for employees, and (4) support for return-to-work of the mentally ill. These activities will be described in detail below. The new Guideline also emphasizes the importance of protecting the health information and privacy of employees in activities related to workplace mental health.

The 2006 amendments of the Industrial Health and Safety Law introduced a new requirement for the prevention of job stress-related diseases, particularly cardiovascular diseases and depressive disorders, namely the *Doctor’s Interview of Workers with Long Work Hours*. It is mandatory that every employer provide a chance to employees who work 100 or longer overtime hours, and have fatigue, to have an interview and health checkup with a physician if they request it. However, implementation is still low.

The National Survey of Health Status of Workers reported that the proportion of workplaces in Japan with any mental health care activities was 47.2 % in 2012, an increase from 33.6 % in 2007 (Japan Ministry of Health, Labour, and Welfare 2013). However, compared to a high proportion (98–99 %) of larger-scale workplaces (with 1,000 employees or more) conducting mental health activities, smaller workplaces reported lower proportions: for instance, 56 % for workplaces with 30–49 employees; 39 % for those with 10–29 employees (Japan Ministry of Health, Labour, and Welfare 2013).

2.2.2.2 Work Environment Improvement

A work environment or work organisation-oriented approach to reduce job stressors and improve mental health among workers has been shown to be effective in reducing depression and sick leave among workers in Japan (Kawakami et al. 1997). The Mental Health Action Checklist (MHACL), a list of 30 action items which could be useful in improving psychosocial work environment, was developed (Yoshikawa et al. 2007) and has been extensively used in workplaces in Japan. A recent intervention study demonstrated that a worker participatory approach using the MHACL was effective in reducing job stressors and depression among white-collar workers (Kobayashi et al. 2008; Tsutsumi et al. 2009). Many good practices using this approach have been reported, including one in which the MHACL was included and used as a tool in the occupational safety and health management system (OSHMS) in the workplace of Sony Corporation.

2.2.2.3 Individual-Oriented Stress Management

The National Survey of Health Status of Workers reported that 22 % of workplaces in Japan provided education and training for employees to employees and 15 % provided health advice/counseling to promote worker mental health in 2012 (Japan Ministry of Health, Labour, and Welfare 2013).

Several studies have addressed the effectiveness of different types of individual-oriented stress management, mostly on psychological, but sometimes on physiological, outcome variables. Effectiveness has been reported for relaxation techniques, cognitive-behavioral stress management programs, and communication training with a small group discussion or workshop.

A recent trend includes the use of information technology (such as web-based training) in individual-oriented stress management programs. Controlled trials have revealed that web-based training stress management programs are effective in improving psychological resources (self-efficacy) and job satisfaction (Shimazu et al. 2005, 2006).

Many large companies have developed or introduced “stress check” services, some of which are web-based, to provide a chance for their employees to monitor their own stress profile (i.e., levels of job stressors and stress reactions), then expecting employees to cope better with stress. The effectiveness of this approach has not been scientifically evaluated.

2.2.2.4 Education/Training of Managers and Supervisors

Education/training of managers and supervisors, providing them knowledge, skills, and support for their pursuit of better worker mental health, are considered an essential part of mental health care activities at the workplace.

One quasi-experimental study (Tsutsumi et al. 2005) and three randomized controlled trials (Kawakami et al. 2005, 2006; Takao et al. 2006), showed positive effects of providing education/training for managers and supervisors on job stressors, supervisor support, and psychological distress of subordinate workers. Two studies used a 3–4 h class including a lecture and workshop; two used web-based training. A meta-analysis of these studies showed that education/training of managers and supervisors had significant but moderate effects on decreased psychological distress and improved job control among subordinate workers. No significant effect on on-the-job performance or sick leave days was detected.

2.2.2.5 Early Identification of Risks and Workers with Mental Health Problems

Identifying workers with mental health problems earlier and referring them to appropriate professionals/facilities are conducted primarily in large-scale companies. This type of program includes education/training of managers and supervisors and provision of information on services within/outside a workplace from which workers could seek help for their mental health problems. A key factor is a promise to keep the privacy of workers who visit the consultation service. This is quite a popular approach in Japan. While it has never been proved to be effective in a scientific manner, many anecdotal reports support this approach.

It is reported that there are about 100 Employee Assistance Program (EAP) providers in Japan, with a wide variety of services and quality. One study reported decreased levels of depression and suicide ideation in a company which introduced an EAP program compared with a company without an EAP program (Nakao et al. 2007).

Good practice was reported from a large-scale multi-site company: the company provided education/training for all managers and supervisors on knowledge and skills related to mental health, training of on-site occupational health staff on identification and referral of workers with mental health problems, and selection of high quality medical care facilities for referral of employees. In this company, the suicide rate dramatically decreased.

Some reported that the screening of depressive disorders at workplace using a standardized scale was effective, but none reported the effectiveness of screened workers compared with non-screened workers.

2.2.2.6 Cost Effectiveness of a Comprehensive Mental Health Program at Workplace

Only a few reports have described the cost effectiveness of a comprehensive workplace mental health program. Nagata et al. (in preparation) compared the cost of labor lost due to sick leave among 5,965 employees in six companies before and after implementation of such a program. Costs due to sick leave decreased at follow-up compared to baseline in five companies, yielding a gain

of 4,000 yen per employees on average. However, in one company, there was a huge increase in sick leave at follow-up. After subtracting the program cost, two companies still had a gain (8,800 yen per employee on average); in four other companies, the program cost exceeded recovered labor costs.

A recent study analyzed the cost-effectiveness of three types of primary prevention programs for workplace mental health (Yoshimura et al. 2013). For a participatory work environment improvement program, the cost was estimated at 7,660 yen per employee, and the benefit was 15,200–22,800 yen per employee. For an individual-oriented stress management program, the cost was 9,708 yen per employee, and the benefit was 15,200–22,920 yen per employee. For supervisor education programs, the costs and benefits were respectively 5,209 and 4,400–6,600 yen per employee, in one study 2,949, and in the other study, zero yen per employee. The study suggests that the participatory work environment improvement program and the individual-oriented stress management program show better cost-benefits.

2.2.3 Future Challenges

Future challenges may include:

1. To develop national strategies and approaches to facilitate more actions for mental health at work in small- and medium-sized workplaces.
2. To develop a powerful intervention for the primary prevention of mental disorders, such as depressive disorders, focusing on organisational factors (such as organisational justice), as well.
3. To assess the mental health needs of, and provide mental health services to, those with unstable employment (such as contingent workers) and those who have lost their jobs.
4. To develop an approach to emerging mental health problems at work, such as atypical depressive disorders.
5. To develop a training course in mental health at work for professionals in higher education academies such as universities.

2.3 Psychosocial Factors at Work in Korea: State-of-the-Art

2.3.1 The Magnitude of Work Stress Related Problems in Korea

The Korea Occupational Safety and Health Agency (KOSHA), a government-affiliated organisation, conducted Korean Working Conditions Surveys (KWCS)

in 2006, 2010 and 2011. In 2006 and 2010, 10,000 workers each were targeted for home interviews, while, in 2011, 50,000 targeted workers were interviewed. The content and method of the KWCS were similar to those of Working Conditions Survey of the European Union. The results of the KOSHA surveys are considered representative of working conditions throughout Korea (Park and Lee 2009; Kim et al. 2013).

According to the first KWCS in 2006, 17.9 % of respondents, including 18.7 % of males and 16.8 % of females, reported that their work had influenced their health during the previous 12 months (Park and Lee 2009; Park 2007). The survey also found that 3.4 % of respondents complained of depression, including 3.0 % of males and 3.9 % of females (Park and Lee 2009; Park 2007). Work-related depression or anxiety was reported by 1.2 % of respondents to the 2010 KWCS, including 1.0 % of males and 1.7 % of females (Hyundai Research Institute 2010) and by 1.1 % of respondents to the 2011 KWCS, including 0.9 % of males and 1.3 % of females (Hyundai Research Institute 2011).

Korea is one of the few countries in the world to classify cerebrovascular and cardiovascular diseases (CVDs) as an occupational disease. When CVDs were first classified as work-related in 1982 at the exemplary rule of the Ministry of Labor, only accidental CVDs, such as intracranial hemorrhage and sudden cardiac death which are clearly work-related, were recognized as occupational diseases, and only a few such patients were compensated annually. In December 1994, the criteria for work-related CVDs (WR-CVDs) were revised as the enforcement ordinances of Industrial Accident Compensation Insurance Act, a higher level of regulation. These criteria were subsequently modified several times, with the Ministry of Labor formulating an article that cerebrovascular hemorrhagic attacks should be considered an occupational disease, if the hemorrhagic attacks occur at workplaces. For example, cerebrovascular hemorrhage attacks, such as intracerebral and subarachnoid hemorrhages, were regarded as WR-CVDs automatically if they occurred at work.

Since then, the number of WR-CVDs has increased dramatically, from 252 cases in 1996 to 1,214 in 1999, reaching a peak of 2,358 in 2003. The number of WR-CVDs decreased to 1,493 in 2007 and to 579 in 2012 when the criteria for WR-CVDs were amended to delete the article that cerebrovascular hemorrhagic attacks should be considered an occupational disease if the hemorrhagic attacks occurred in the workplace. The latter criterion had been often misunderstood, increasing the proportion of CVD attacks regarded as work-related (Park et al. 1999).

Recently, the Korean government has recognized that post-traumatic stress disorder due to any work-related event that can lead to mental trauma is an occupational mental disease.

2.3.2 Psychosocial Risks in Korean Workplaces

The KWCS 2010 survey found that 31.3 % of respondents, answered “Yes” to the question, “Do you have stress at work?”, including 32.6 % of males and 29.4 % of

females, In 2011, 26.1 % of respondents answered “Yes” to this question, including 26.5 % of males and 24.5 % of females. The 2006, 2010, and 2011 KWCS reported that 44.4 %, 25.4 %, and 27.1 % of respondents, respectively, hide emotionally hurt feelings while at work.

The 1,010 KWCS found that 3.7 % of respondents, including 4.1 % of males and 3.2 % of females, reported being verbally abused during the month before the survey. The overall percentage increased to 4.4 % in 2011, including 4.8 % of males and 3.8 % of females. The 2010 KWCS reported that 0.3 % of respondents, 0.4 % of males and 0.2 % of females, answered “Yes” to the question, “Were you physically abused during the past month?” This percentage increased to 0.6 % in the 2011 survey, including 0.7 % of males and 0.5 % of females.

The 2006, 2010, and 2011 KWCS found that 19.4 %, 47.0 % and 45.8 % of the respondents, respectively, said that they were supported by their co-workers and 20.7 %, 48.8 %, and 49.8 %, respectively, were supported by their bosses.

2.3.3 Levels of Protection

2.3.3.1 Regulations and Guidelines on Work-Related Stress

In its December 2002 amendment to the Occupational Safety and Health Act, the Ministry of Labor stipulated that employers should prevent employee health problems due to physical fatigue and mental stress (Article 5). Immediately afterward, the ministry completely revised the regulations on occupational health standards (Ordinance of the Ministry of Labor No. 195) and, in July 2003, established a new rule [Countermeasures on health problems due to work-related stress] in Article 259.

This rule, however, focused more on preventing WR-CVDs rather than preventing work-related stress by managing work-related factors. In July 2011, when the rules on occupational safety and occupational health standards were combined and revised, this rule became Article 669 of the new Regulations.

Article 669 [Countermeasures to deal with health problems caused by work-related stress]

An employer shall take any of the following countermeasures to prevent health problems due to work-related stress pursuant to Item 1, Article 5 of the Act when any of his/her employees is involved with work that causes physical fatigue and mental stress, such as shift work including night work and working long hours, driving a taxi or bus, or monitoring work in the control room:

- (a) assessing possible stress factors such as work environment, content of the work, and working hours, and planning and implementing countermeasures such as reducing working hours and rotating tasks;

(continued)

(continued)

- (b) reflecting the employees' opinion when formulating working plans based on work load and work schedule;
- (c) improving working conditions by allocating work hours and break times properly;
- (d) doing his/her best to secure the welfare of employees related to work activities;
- (e) placing employees in positions based on the results of medical check-ups and counseling, and providing enough explanation to the employee concerned about factors associated with work-related stress, the possibility of health problems and countermeasures; and
- (f) implementing health promotion programs to encourage employees to quit smoking and manage hypertension after assessing their CVD risks.

The first KOSHA Guide dealing with prevention of work-related stress was 'Guidelines on the Occupational Stressor Scale for Korean Workers (KOSS) (2006)'. This guideline, which describes KOSS and how to use it, was developed by the Korean Society of Occupational Stress and was supported by KOSHA. The KOSS was developed due to increased demand for tools that can be used to assess stressors unique to Korean workers, in addition to the widely used tools, such as JCQ and ERI, developed in Western countries.

In 2008, KOSHA developed health management guidelines for shift workers. In addition, during 2011–2012, KOSHA developed stress management guidelines for various high stress working groups, including taxi and bus drivers, building cleaners, food service workers, sales-women, call center operators, nurses, nursing home workers, emotional laborers, PTSD patients, workers with depression, workers working long hours, construction workers, bank tellers, hotel employees, cabin crews, train engineers, and caddies.

2.3.3.2 Organisations Involved in Stress Prevention Activities: MOEL, KOSHA and Private Organisations

In Korea, the Industrial Accident Prevention and Compensation Bureau of the Ministry of Employment and Labor (MOEL), and KOSHA, a government affiliated organisation that includes a research institute (OSHRI) and a training institute (OSHTI), are in charge of protecting and promoting workers' health. Private organisations are also involved, including the Korea Industrial Health Association and the Korean Association of Occupational Health Nurses, both of which have nationwide service networks.

The Industrial Accident Prevention and Compensation Bureau of MOEL is responsible for enacting, amending, and enforcing acts and policies related to

the prevention of work-related stress. In contrast, the Occupational Health Department of KOSHA is responsible for developing support programs and prevention manuals and provides technical and financial assistance to workplaces based on the prevention policies of MOEL. OSHRI of KOSHA conducts research on preventing work-related stress, and OSHTI of KOSHA trains health managers and line supervisors at workplaces.

In addition, private organisations such as the Korea Industrial Health Association and the Korean Association of Occupational Health Nurses run training sessions for health managers and line supervisors on work-related stress prevention in the workplace.

2.4 Psychosocial Factors at Work in Australia: State-of-the-Art

2.4.1 The Magnitude of Work Stress Related Problems in Australia

The most recent evidence in Australia regarding the mental health status of workers derives from the Australian Workplace Barometer (AWB) national surveillance project. Levels of depression in Australian employees ($N = 3,597$) between 2009 to 2011 were determined via data derived from computer-assisted telephone interviews (CATI) in six Australian states and territories (New South Wales, Western Australia, South Australia, Tasmania, Northern Territory, and Australian Capital Territory; see Dollard et al. 2012). AWB data show that 7.8 % of Australian workers are depressed (moderately severe or severe categories of the Patient Health Questionnaire (PHQ-9), which is based on the diagnostic criteria of the DSM-IV-TR; American Psychiatric Association 2000; Spitzer et al. 1999). This figure is similar to previous estimates of clinical depression in 7 % of the Australian workforce (Whiteford et al. 2005). The industry of greatest concern is the Accommodation, Cafes and Restaurants industry with the highest percentage of workers in the AWB data experiencing symptoms of clinical depression (see Fig. 2.1).

Using the AWB data, the burden of poor psychological health (psychological distress, emotional exhaustion, depression) on workplace productivity, because of time lost to due to sickness absence and presenteeism, is estimated to cost Australian employers \$32.2 billion per annum (McTernan et al. 2014). In this model, depression alone is estimated to cost \$8 billion or 0.5 % of GDP. Considering only the most prominent workplace causes of depression (i.e., job strain and bullying), nearly 9 % of the variance in depression can be attributed to these risks; this translates to AUD \$693 million of preventable lost productivity costs per annum due to job strain and bullying via depression (McTernan et al. 2013). A prominent finding in the AWB project is that workers with only *mild* symptoms

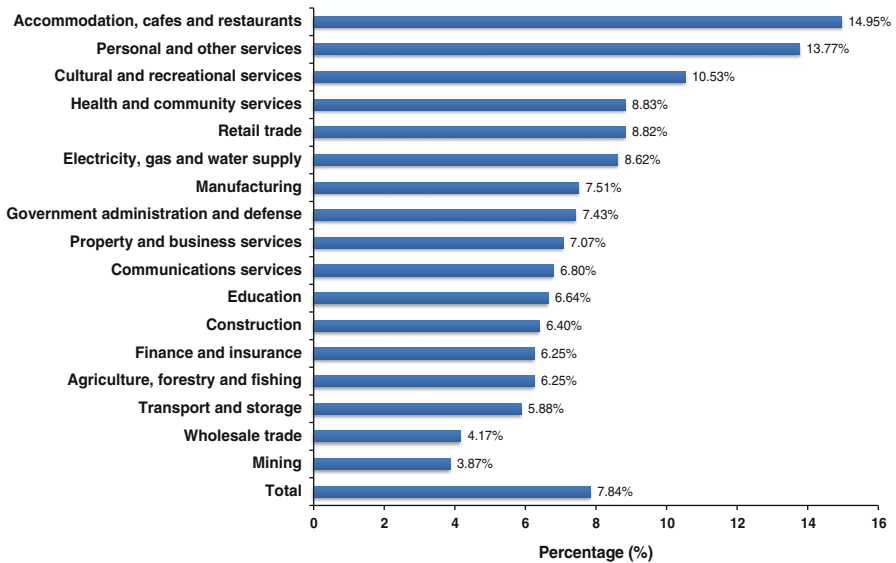


Fig. 2.1 The percentage of Australian workers, excluding self-employed, with symptoms of depression within seventeen industries with sample sizes ranging from 48 to 728

of depression take twice as many sick days as those who show no symptoms of depression at all (McTernan et al. 2013).

On average there are 10,000 mental stress workers' compensation claims accepted per annum at a cost of AUD \$200 million per annum. Compared to other kinds of compensation claims, such as those from physical injury, stress claims have the highest average costs (AUD \$10,300 per claim) (Australian Safety and Compensation Council (ASCC) 2006).

2.4.2 Psychosocial Risks in Australian Workplaces

Among Australian workers, 19 % of men, and 28 % of women report being in high strain (combining high demands and low control) jobs. Women are 1.5 times more likely to be in high strain jobs compared to males. Many females in the same occupation as males experience higher levels of work pressure. Women report less job control at work compared with men (Owen et al. 2013).

Australian workplaces are characterized by a culture of long working hours. Australia is placed fifth highest among OECD countries for average working hours (42.6 h per week; Organisation for Economic Co-operation and Development 2011). The Australian *Fair Work Act 2009* sets national standards for work hours in Australia and provides that employees work a maximum of 38 h per work unless a request by employers to work longer hours is reasonable (Dollard et al. 2012).

Long work hours in Australia are linked to increased levels of emotional exhaustion, lowered opportunity for recovery, and high levels of work-family conflict (Richards and Dollard 2014).

Bullying is another prominent psychosocial risk factor in Australian workplaces (see Chap. 9, this book). Australia ranks sixth internationally for bullying levels against 31 European countries, according to comparisons between AWB data and data obtained from the 5th European Working Conditions Survey 2010 (see Bailey and Dollard 2014).

2.4.3 Levels of Protection

2.4.3.1 Legislation and Protection for Worker Mental Health in Australia

Australia, like the UK, Ireland, and the US, is a neo-liberal economy. As such organisations focus on profits and productivity, with less universal concern for worker welfare compared with social democratic countries like Sweden and Denmark (Dollard and Nesar 2013). Over the past 20 years, in response to increasing global competition, Australian workplaces have become characterized by work intensification and work pressure, greater conflict between work and home, and increased job insecurity. Labor markets have become more flexible, and, although this benefits employers in terms of productivity, the implications for workers are varied (Dixon et al. 2013). Skilled workers have greater control and flexibility over work time, but the new employment policies have generated precarious work, poor pay, lack of predictable work times, and few social benefits for others (Pocock 2003; Dixon et al. 2013).

Increasingly psychosocial hazards are being recognised within the Australian work health and safety national legislation and policy framework, and by enterprises and worker representative groups (e.g., unions), as factors that need to be eliminated and managed (Johnstone et al. 2011). Workers in Australian workplaces are protected against risk factors at work by general duty of care provisions in work health and safety laws that have been in place for several decades. However, as far as psychosocial risks go, much less attention is given by workforce health and safety (WHS) legislation and workplace inspectors to work stress and psychosocial hazards compared with physical injury and physical hazards (Australian Government Productivity Commission 2010).

A new Model Work Health Safety (WHS) Act is being enacted across Australian states and territories (except Victoria and Western Australia), to harmonise work health and safety law nationally. Within the Act the definition of ‘health’ means physical and psychological health. A primary focus of the Act is to ensure that workplaces are free from psychosocial and physical hazards, safe systems of work are provided, and worker health and work conditions are monitored (Safe Work Australia 2011a).

The model WHS Act (Division 2, 19, Safe Work Australia 2011a), states that a person conducting a business has the primary duty of care to ensure, so far as is reasonably practicable, that the health and safety of workers and other persons are not exposed to health and safety risks arising from the business. This duty includes a requirement to ensure, so far as is reasonably practicable:

- (a) the provision and maintenance of a work environment without risks to health and safety; and
- (b) the provision and maintenance of safe plant and structures; and
- (c) the provision and maintenance of safe systems of work; and
- (d) the safe use, handling and storage of plant, structures and substances; and
- (e) the provision of adequate facilities for the welfare at work of workers
- (f) the provision of any information, training, instruction or supervision
- (g) the health of workers and the conditions at the workplace are monitored for the purpose of preventing illness or injury of workers (Safe Work Australia 2011a).

Importantly the WHS Act allows for consultation with workers and for worker representation through health and safety representatives and committees (Safe Work Australia 2011b). The WHS Act is supported by WHS regulations, national compliance and enforcement policy, codes of practice, guidance materials, and fact sheets (Safe Work Australia 2011b). A code of practice may be approved under the WHS act, and is a practical guide to enable those with a duty of care in the area to achieve compliance with their legal duties (Safe Work Australia 2011b). Courts may rely on the codes as ‘evidence of what is known’ to determine what is reasonably practical in legal terms (Dollard et al. 2014). The WHS Act and regulations require persons who have a duty of care to ensure health and safety, to ‘manage risks’ by eliminating health and safety risks. There is a relevant code of practice “How to manage work health and safety risks” that gives specific examples of psychosocial hazards (i.e., stress, bullying violence, and work related-fatigue) (Safe Work Australia 2011c) and another specific code recently downgraded to a softer guideline “Preventing and responding to bullying” (Dollard et al. 2014).

In Australia bullying and harassment are examples of psychosocial risk, and claims may be pursued under civil laws and damages claimed against an employer. Within one Australian state, Victoria, specific bullying legislation was introduced in 2011 under the Crimes Act 1958, with serious bullies now facing jail terms of up to 10 years. This followed a high profile case where Brody Panlock, a young café worker, was relentlessly bullied by other workers. In other Australian states bullying may be in breach of criminal legislation or anti-discrimination acts. A new course of action for workers from 2014, is to apply to the Fair Work Commission for a ‘stop-bullying order’.

Employers and workers in Australia are more commonly afforded protections through a statutory workers compensation system employees are injured at work or suffer from an illness arising from work. Jurisdictions provide employers with workplace injury insurance, so that if they are entitled to monetary (e.g., wage replacement) and other compensation such as health care expenditure. Psychological injuries or mental disorders arising from stress in the workplace are compensable and are commonly referred to as work stress claims. Over the 10 year period from 2000/01 to 2009/10, there was a 13 % increase in the number of serious mental stress claims, whereas most other kinds of serious claims reduced (Safe Work Australia 2013).

Stress claims gain attention because they are the most expensive form of workers' compensation claim. This is largely due to the lengthy period of time lost for stress claims. The highest median payment per mental stress claim was \$20,800 in 2009/10, more than twice the median of AUD \$8,200 for all serious serious claims.

Despite the WHS legislative and compensation framework to manage work-related stress, there are a number of complications that retard systematic efforts to reduce the problem at its source. A great deal of stigma still surrounds mental health, and this inhibits communication pathways within organisations that might lead to early support for an employee (Dollard et al. 1999). Further, a lack of understanding about psychosocial risk factors has led to failure to develop risk assessment tools and systematically assess the risk associated with psychosocial factors, but this is now increasing.

Over the past two decades in Australia, there has been a significant drop in trade union membership from around 40 to 18 % (Australian Bureau of Statistics 2011; Peter Hall-Jones 2007). Union density is a reflection of employee representative political power in the market and relates to the consequent level of active employment policies and social protection for workers (Dollard and Nesar 2013) (see also Chap. 1). Recent research of 31 EU countries shows a positive correlation at the national level between union density and organisational implementation of policies for stress, bullying and violence; in turn, policy implementation (i.e. psychosocial safety climate) is positively related to worker health and GDP at a national level (Dollard and Nesar 2013). Preliminary analysis suggests that Australian workplaces have quite high levels of psychosocial safety climate on average. So although unions and legislative frameworks play a role, it is plausible that neo-liberal influences may drive organisational attention to reduce psychosocial factors, via the motivation to reduce costs associated with poor work conditions (e.g., compensation, civil litigation, reduced productivity).

2.4.3.2 Work Environment Improvement

A review of Australian work stress interventions in the decade prior to 2003 revealed only six published studies and all but one focused on the individual (Caulfield et al. 2004). A decade later there is still only a handful of published

intervention studies, but there is an increasing emphasis on organisation- and system-level factors. Most of these studies have been publicly funded and conducted in the public sector.

Dollard and Gordon (2014) evaluated the effects of a participatory risk management intervention in an Australian public sector organisation. In this quasi-experimental cohort study, five intervention workgroups attended capacity building workshops and developed and implemented action plans to reduce work and organisational stress risk factors and stress outcomes; 17 workgroups served as controls. During a 6-month intervention implementation stage, actions were implemented in the intervention workgroups. Using pre- and post-intervention measures, Group x Time interaction effects were significant. Relative to the control group the intervention group showed significant improvements for job design, training and development, job quality, positive performance management and morale, and marginal effects for quality. Organisational sickness absence duration data also changed, consistent with an intervention effect. A socially coordinated process, top management commitment and support, local management support, and action plan implementation, along with adequate workgroup preparation were important for positive change.

A study of 247 Australian university personnel (Pignata and Winefield 2013) found in a post measures study (no control) that awareness of stress-reduction interventions was related to higher, job satisfaction, affective organisational commitment, perceived procedural justice, and trust in senior management.

A study by Griffin et al. (2000) in a public hospital using a before and after repeated employee opinion survey, found that there were significant improvements among 550 staff (no control) in a range of organisational (leadership, goal congruence, increased participation in decision making, increased recognition and appraisal) and work design (reduced excessive workload) factors, along with increased individual morale, but not individual distress, over 12 months. Changes correlated with expert ratings of initiatives. Initiatives included a coordinated approach involving team based and organisational level interventions.

Dollard and Karasek (2010) used a before and after repeated measures design with intervention ($n = 9$) and control ($n = 9$) groups (non-randomisation) in public sector education workers (2004/05). Participants at Time 1 were: intervention ($n = 116$); control ($n = 172$); and at Time 2 were: intervention ($n = 83$) and control ($n = 129$). Instead of focusing on increasing or decreasing levels of psychosocial risk they found that the intervention effects worked by moderating the job characteristics—stress outcome relationship. The intervention did not increase levels of job control, but facilitated its utilization.

Researchers have also begun to investigate the context of the intervention. Dollard (2012) found that organisational climate affected the implementation of an organisational intervention. Two public sector departments participated: 18 intervention groups ($N = 181$) attended training and development workshops (stage 1, first 8 weeks) and implemented action plans (stage 2, next 10 months). High levels of initial psychosocial safety climate (PSC) gave rise to better intervention implementation (more group attendance at workshops, more change due to the actions implemented, greater extent of action implementation, higher extent of

being listened to, and improved trust). Further, organisational PSC best predicted reduced psychological distress and emotional exhaustion, increased engagement and job satisfaction, reduced intention to leave and sickness absence (obtained from department records) above other intervention metrics. Continuous building of the intervention context particularly PSC, e.g. via participation and consultation with key groups (i.e. unions, OHS), will improve subsequent intervention quality and progress, not to mention stress outcomes.

Another study evaluated the impact of a system level/organisational intervention in hospital nurses (Richard et al. 2012). The intervention included the development and implementation of a nursing workload tool to assess nurse 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. The evaluation used a pre- and post-intervention design (no control) and 484 nurses from the two Northern Territory hospitals. Psychological distress and emotional exhaustion significantly reduced and job satisfaction significantly improved across both hospitals; turnover reduced in Hospital 2. System capacity (adaptability, communication) improved, job demands reduced, and an increase in resources (supervisor and coworker support, and job control) was reported particularly in one hospital.

These studies show that changes can be made at the organisational and job design level that parallel improvements in stress outcomes.

2.4.3.3 Individual-Oriented Stress Management

Employee Assistance Programs are offered in many large Australian organisations, and provide confidential short term counseling and external referral if necessary, as well as internal consultancy (e.g., training, conflict resolution).

Mental health first aid training is nationally recognized and is a 2-day training program that assists employees how to identify and support other workers developing mental health problems (see <http://monash.edu/counselling/mental-health-first-aid.html>). The national initiative, *beyondblue*, aims to reduce the impact of anxiety and depression. Available to all Australians, it seeks to empower people with knowledge about these conditions and supports them to seek help. Importantly, it provides information to workers about the role of workplaces in managing mental health (see <http://www.beyondblue.org.au/>).

Additional resources are *headspace* for younger workers, and AtEase-mental health for veterans' mental health (see <http://www.headspace.org.au/>).

2.4.3.4 Early Identification of Risks and Workers with Mental Health Problems

The People at Work Project, <http://www.peopleatworkproject.com.au/>, is a psychosocial risk assessment process. It measures how different workplace

characteristics influence worker health and well-being, focusing particularly on risks to psychological health and proposes management commitment, worker participation, and organisational communication and consultation regarding the intervention.

The Australian Workplace Barometer (AWB) is a national surveillance project that identifies psychosocial risk from numerous perspectives, for example, state, industry, occupation, gender (see Chap. 20). It is an early identification system, and is population based, and can therefore yield national benchmarks. The AWB tool can also be used at the enterprise level to assess psychosocial risk, and in the implementation and evaluation of interventions, using similar principles to the People at Work Project.

2.4.3.5 Future Challenges

Future challenges in Australia may include:

- Ongoing national surveillance initiatives like the Australian Workplace Barometer
- Development of national standards for example of Psychosocial Safety Climate at a national level (see also Chap. 20)
- Development of guidance materials for bullying prevention and intervention
- Adequate return to work for psychologically injured workers
- Mechanisms to resist insecure employment
- Mechanisms to restore a social policy agenda within Australian enterprises and WHS framework
- Restoring collective approaches (i.e., union respect and visibility)

2.5 Psychosocial Factors at Work in China: State-of-the-Art

2.5.1 The Magnitude of Work-Related Stress in China

With reform and open policy taking effect, the Chinese economy has experienced a boom. A series of social and employee relationship policies changed. Enterprises gained more power for employment policy and management. But most workers feel that their job demands have increased and their rewards are not in tune with the demands. With economic globalization, more and more migrant workers have moved from the rural areas to the city, and the labor market has become tougher, with less opportunity for young workers and professionals to participate. Chinese workers and professionals have suffered from much job stress and other psychosocial factors. But there has been less interest from the public for psychosocial risks compared with physical risks at work.

Table 2.1 Number of work stress article from VIP core journal database

| Years | Number of articles from core scholarly journals |
|-----------|---|
| 1989–1995 | 9 |
| 1996–2000 | 23 |
| 2001–2005 | 168 |
| 2006–2010 | 340 |
| 2011–2013 | 138 |

There are three reasons given for this lack of emphasis on prevention for psychosocial risks. The first one is that such risks are considered “soft”, lacking scientific measurement and evidence on exposure and consequences. The second one claims that there is still much to do to control physical occupational hazards that there is a lack of energy to spend on psychosocial factors. The third reason is that psychosocial risk is still not included as an occupational hazard in legal frameworks regarding occupational disease. And finally psychosocial risks from outside of work are thought to contribute to the ill-health and mental health of workers.

At the same time, some scholars have paid increasing attention to psychosocial risk among workers. Research about work organisation and psychosocial factors has developed from 1989 (Xiao et al. 1989). Job stress is seen as the primary risk factor of all psychosocial factors that workers are exposed to. Occupational stress as a focus of scholarship first emerged in a Chinese occupational health and disease journal in 1989 as a review paper. From then, occupational stress has become a hot point for study by occupational health professionals. Occupational stress, or job stress, has been given increasing attention since the late 1990s. The number of papers published in core Chinese scholarly journals shows this situation according to the result from digest for work stress with three Chinese characteristics using the most frequently used Chinese full-text scientific journal database VIP (en.cqvip.com) from 1989 to August 2013 (see Table 2.1). Occupational stress has become a new important occupational hazard for white-collar workers, particularly in service industries which have become the largest of all occupational groups in many cities. Job stress or strain is a concern of many international companies or factories.

Many different occupational surveys have been developed in China. Workers from the traditional manufacturing industries to new service industries all experience high levels of job stress. Middle- and high-school teachers, and health care workers, are frequent groups for survey risk assessment. At the same time, the results of surveys show that workers from service industries often have high levels of job stress. Police and train drivers rank at the highest level for high strain jobs (high demands and low control) as described in the job demand-control model.

The main reason for high job stress is likely from the rapid economic development during the past 20 years. Job demands have increased continually, and the competition for employment is stiff, with more and more young workers coming to the labor market. The chance of the worker being selected for a better position has decreased. Moreover, some positions have been reduced or replaced by robots or

machines, and some are filled by cheaper migrant workers. Migrant workers are often more exposed to high levels of job stress and they need more social support to relieve their work strain and reduce monotonous tasks. For example, a large number of workers, mostly migrant workers, from electrical factories complete their job tasks day and night, repeating the same action over, again and again, especially in south-eastern China, for example, Guangdong, or Fujian province.

The health effects of job stress have been studied, including job satisfaction, depression, well-being, and health-related productivity loss (presenteeism and absenteeism). Moreover, some biomarkers have been introduced to evaluate job stress effects, such as cortisol, IL-2, IL-6, C reactive protein, and heart rate variability. But most of the research is still at an experimental stage and there is a lack of commonly agreed-upon sensitive biomarkers to identify high job stress.

Job burnout among workers is also of concern in China. Job burnout as a psychological condition has been considered by psychological professionals and management science. Job burnout has become an important focus in occupational health efforts to protect workers' mental health. Chinese translations of the 22-item Maslach Burnout Inventory (MBI) and 16-item Maslach Burnout Inventory General Survey (MBI-GS) have been introduced and used for population surveys. The results show that job burnout is high in occupational populations. About 60–70 % of workers suffer from job burnout, with burnout score of 1.5 as the cut-off point, and burnout scores ranging from 0 to 6 (Dai 2008). And some studies show that high effort-reward imbalance plays an important role for job burnout (Dai 2008; Dai et al. 2008).

Depression has been studied as an outcome of work conditions in stress surveys. Depression is assessed with the 20-item Center for Epidemiological Survey Depression Scale (CES-D) translated in Chinese. The results show that about 30–40 % workers suffer from depressed affect according to the CES-D criterion for depression of a score of 16 or over. Job stress related to working conditions can explain about 30 % of the total variance for depressive affect (Dai et al. 2010).

2.5.2 Psychosocial Risks in Chinese Workplaces

As mentioned, occupational stress has been assessed since the 1990s, and this is largely via surveys. The Occupational Stress Inventory Revised (OSI-R) survey has been introduced mainly in western China (Li et al. 2001). It has become the most popular survey tool although, with 140 items, it is time-consuming to complete. OSI-R is free from patent protection and this is why it has become so popular though this tool is only used in several countries in the world. The Job Demand-Control model and Effort-reward Imbalance model and their associated measurement tools (e.g., Job Content Questionnaire-JCQ) were only introduced in 2004 even though they are dominant theories in job stress globally, partly because the tools were protected by patent. Following are some data collected in Shanghai during 2005 with the JCQ and ERI questionnaires. All dimensions of the two

Table 2.2 Seven occupations work stress factors by JCQ and ERI in Shanghai, 2005

| Occupation | Job demand | Control | Social support | D/C |
|--------------------|-------------------|-------------------|------------------------|-------------|
| School teacher | 6.79 ± 1.54 | 5.86 ± 1.19 | 6.63 ± 1.64 | 1.14 ± 0.23 |
| Factory worker | 6.39 ± 1.51 | 5.04 ± 1.59 | 6.81 ± 1.69 | 1.23 ± 0.38 |
| Manager R&D | 6.41 ± 1.52 | 6.26 ± 1.42 | 7.16 ± 1.76 | 1.05 ± 0.22 |
| Company clerk | 6.02 ± 1.76 | 5.11 ± 1.94 | 6.76 ± 2.15 | 1.19 ± 0.40 |
| Traffic police | 7.18 ± 1.68 | 4.85 ± 1.75 | 6.13 ± 2.22 | 1.38 ± 0.39 |
| health care worker | 6.38 ± 1.50 | 4.82 ± 1.55 | 6.26 ± 1.87 | 1.26 ± 0.33 |
| Estate service | 4.93 ± 1.43 | 5.23 ± 1.72 | 7.47 ± 1.89 | 1.01 ± 0.26 |
| | Effort (E) | Reward (R) | Over-commitment | E/R |
| School teacher | 4.02 ± 2.07 | 7.06 ± 1.59 | 4.98 ± 1.93 | 0.74 ± 0.38 |
| Factory worker | 3.94 ± 1.89 | 6.90 ± 1.55 | 4.42 ± 1.82 | 0.73 ± 0.35 |
| Manager R&D | 2.72 ± 1.70 | 7.67 ± 1.24 | 3.96 ± 1.97 | 0.53 ± 0.25 |
| Company clerk | 3.07 ± 1.89 | 7.27 ± 1.35 | 4.04 ± 1.83 | 0.62 ± 0.49 |
| Traffic police | 4.26 ± 2.32 | 6.85 ± 2.44 | 4.90 ± 2.07 | 0.91 ± 0.83 |
| Health care worker | 3.45 ± 2.09 | 7.50 ± 2.10 | 4.12 ± 1.69 | 0.70 ± 0.62 |
| Estate service | 2.87 ± 1.89 | 6.94 ± 1.72 | 3.67 ± 1.86 | 0.67 ± 0.68 |

models, such as job demand, control and effort, reward and so on, were changed into standard scales ranging from zero to ten for ease of understanding (Dai et al. 2007). The ratios of demand-control and effort-reward are shown in Table 2.2.

Most workers in Shanghai often suffer from more job strain compared with other countries or areas. Over 70 % of workers showed job strain based on the Job Content Questionnaire with the job demand-control ratio over 1.0 as cut-off point. And about 20–30 % workers reported they felt effort-reward imbalance for their work (Dai 2008).

2.5.3 Levels of Protection

Although the Chinese Occupational Disease Prevention and Control Act was issued in 2001 and was recently revised to take effect in 2012, psychosocial factors at work are still not covered by the Act. Most occupational hazards, such as toxic chemicals, dust, physical environment, and biological factors, are specified as needing to be controlled and reduced to less than a limit dose or level. At the same time, both the public and occupational health experts have appealed for more attention to be paid to psychosocial factors at work and more control of work stress to protect employees' mental health.

Several small-scale job stress intervention projects are being developed but their scope is often limited. Most projects for job stress intervention focus on individual coping skills and are less concerned with changes to management policy and building a supportive environment. It is a challenge to control and reduce the prevalence of job stress among workers.

With recent social developments, job stress has become a major complaint for service industry workers. It appears that both government and enterprise stakeholders will need to be consulted regarding how to resolve work stress. Some international companies have begun to develop special projects to control job stress in China factories. These projects may provide a role model in job stress control. Moreover, some core scales for job stress self-assessment will be developed to capture the situation of Chinese workers. Work environment legislation and monitoring of job stress will hopefully come to fruition over time with pressure from scholars and the media. So we believe the dire situation for high job stress in China may ease in the future.

2.6 Summary and Conclusion

This chapter examined several Asia Pacific countries, Japan, Korea Australia, and China in terms of the status of psychosocial factors and how they are addressed at a national level. Table 2.3 provides a summary of features in each country that characterize how psychosocial factors are managed at the national and enterprise level. The chapter considered national legislation, frameworks, and prevalence of psychological disorders at work. As noted, while work stress and workplace psychosocial risk are considered a serious and growing risk, there are distinct differences in national responses and the extent of national WHS legislation, workers compensation, and risk assessment approaches between countries. A feature of Japan, and Korea (and Taiwan) is that they are the only countries in the world that compensate for CVD due to overwork (Cheng et al. 2012). Reports suggest some parallels in the national circumstances of Japan and Australia; workers in both countries report long working hours, both countries recognize psychosocial risk, and the need for monitoring in national legislation, and both have workers' compensation protection for "work stress". Moreover in both countries civil court claims can be made in the case of long work hours and fatigue in Japan, and bullying and harassment in Australia. Korea has WHS legislation that covers psychosocial risk. However, in Korea, traditionally the focus has been on managing psychosocial risks to prevent CVD, and more recently post-traumatic stress, rather than work related stress. This focus is reflected in workers' compensation data claims where there are official statistics for CVDs due to long work hours but not for mental health problems. Major recent reforms in China have led to increased work-related stress for employees. As in other industrial economies, service industries have become prominent in many large Chinese cities, and work stress is a new important hazard in those industries. Despite the growth of Chinese scholarly literature and research on work stress, the resulting insights have not yet translated into national policy. Psychosocial factors are not recognized or covered in Chinese WHS legislation.

Table 2.3 Comparison of Japan, Korea, Australia and China: national and organisational approaches to work stress prevention and management

| | Worker | Worker compensation for work related physical health problems due to psychosocial risk | Worker compensation for work related mental health problems | Worker compensation for psychosocial risk | Employee Assistance Programs for mental health |
|-------|---|---|---|---|--|
| Japan | WHS/OHS ^a legislation covers psychosocial risk | WHS/OHS legislation covers psychological health | Workers compensation for work related mental health problems | National surveillance for psychosocial risk | National surveillance for mental health of workers |
| | Yes, described as “working environment” as general duty clause of the Industrial Health and Safety Law ^b | Yes, as general duty clause of the Industrial Health and Safety Law -the clause 66.8 Article 66-8 specifically mentions mental and physical condition of workers. | Yes, since 1999. In 2012, 1,257 claims and 475 compensated due to mental health problems incl. 169 claims and 93 compensated due to suicide | The Survey on State of Employees’ Health (every 5 years since 1982) | The Survey on State of Employees’ Health (every 5 years since 1982) |
| Korea | Yes, - as general duty clause of OSH Act - the Rules on OHS and Health Standards | Yes, as general duty clause of OSH Act - the Rules on Occupational Safety and Health Standards | Yes, but no official statistics | Korean Working Conditions Survey 2006, 2010, 2011 | Korean Working Conditions Survey 2006, 2010, 2011 |
| | | | Yes, 579 CVDs due to overwork (long working hours) in 2012 | | Yes, in 23 regional offices of Employment Support Center, Ministry of Employment and Labor |

| Australia | Yes, indirectly in duty of care clause of the WHS legislation—any risk is mentioned | Yes WHS legislation | Yes, 10,300 ^c claims for mental disorders accepted on average per year due to psychosocial risks ^d (3 % of all accepted workers' compensation claims) | Yes, 285 claims for physical injuries/diseases ^e as a result of mental stress on average per year (.1 % of all accepted claims) | Australian Barometer 2009, 2010, 2011 (limited states) | Australian Barometer 2009, 2010, 2011 (limited states) | Usually in medium to large organizations only |
|-----------|---|---|---|--|--|--|--|
| China | No, still focus on traditional occupational hazards | No, still focus on traditional occupational disease | No, still not include in the compensation diseases list | No, still not include by the regulation for worker injury insurance | No, start to consult to develop survey; a series of projects developed locally | Partly, requirement by the mental health act in 2013 | Partly, usually in large organizational company only |

^aWHS, Work, health and safety; OHS, Occupational health and safety

^bhttp://www.jniosh.go.jp/icpro/jicosh-old/japanese/country/japan/laws/01_occ/07a.html

^cData from SafeWork Australia 22 Jan 2014 (includes Comcare data)

^d10 year average

^eIncludes diseases of the circulatory, digestive, musculoskeletal, nervous, respiratory systems

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Part II
Innovations in Method for Workplace
Health and Safety

Chapter 3

Cultural Distinctiveness in Response Bias

Noboru Iwata

3.1 The Importance of Cross-Cultural Aspect in the Era of Globalization at Work

Given the worldwide progress of globalization in business, foreign workers have been increasing in many countries (e.g. Table 3.1). Different cultural groups may think, feel and act differently on various issues at work such as work-life balance/integration, organisational commitment, organisational fairness and work stress. Therefore it is important to recognize the diversity of cross- and multi-cultural perspectives. There has not been definition of “culture” that every researcher on cross-cultural study could agree, and “nation” has mostly been used as a “generic” variable of culture. However, culture does not necessarily correspond to a nation or country; cross-cultural differences can exist even within the same country. Cross- and multi-cultural perspectives are therefore important for understanding effective and appropriate work policies, procedures, and practices for multi-national/ethnocultural workplaces.

The increasing diversity of multi-cultural workforces imposes a new challenge upon the occupational health professionals. The way and the extent of one’s perception about stress exposure and stressful working condition would vary across workers with diverse cultural backgrounds. Similarly, the stress outcomes might be differently exhibited, while the appropriate assessment for these variables is obviously fundamental task for such professionals. For assessing psychosocial stressors and stress outcomes such as mental health, many self-administered psychological measurements have been constructed. In most cases, these standard psychological assessment tools have been developed and validated in the U.S. and/or some European countries. These measurement instruments are widely-used in academic research as well as

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Table 3.1 Stock of foreign labour force

| Country/year | 2000 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| (Stock of foreign labour force/thousands) | | | | | | | | | | |
| Japan | 516 | 655 | 695 | 723 | 753 | 339 | 486 | 563 | 650 | 686 |
| Germany | 3,546 | 3,703 | 3,701 | 3,823 | 3,852 | 3,874 | 3,893 | 3,289 | — | — |
| France | 1,578 | 1,527 | 1,467 | 1,392 | 1,407 | 1,485 | 1,561 | 1,540 | — | — |
| Great Britain | 1,107 | 1,322 | 1,445 | 1,504 | 1,773 | 2,035 | 2,278 | 2,280 | 2,378 | — |
| United States | 18,029 | 21,564 | 21,985 | 22,422 | 23,343 | 24,778 | 25,086 | 24,815 | — | — |
| South Korea | 86 | 252 | 245 | 207 | 315 | 425 | 497 | 505 | 509 | 542 |
| (Incl. illegal) | (235) | (815) | (324) | (302) | (404) | (512) | (569) | (566) | (563) | (599) |
| Singapore | 686 | 606 | 609 | — | 713 | 832 | 1,012 | 1,044 | 1,089 | 1,157 |
| (Percentage of total labour force/%) | | | | | | | | | | |
| Japan | 0.8 | 1.0 | 1.0 | 1.1 | 1.1 | 0.5 | 0.8 | 0.9 | 1.0 | 1.1 |
| Germany | 8.8 | 9.4 | 9.1 | 9.3 | 9.3 | 9.4 | 9.4 | 9.4 | — | — |
| France | 6.0 | 5.7 | 5.5 | 5.2 | 5.2 | 5.4 | 5.6 | 5.8 | — | — |
| Great Britain | 3.9 | 4.5 | 4.9 | 5.1 | 5.9 | 6.8 | 7.3 | 7.3 | 7.6 | — |
| United States | 12.9 | 14.8 | 15.1 | 15.2 | 15.6 | 16.3 | 16.4 | 16.2 | — | — |
| South Korea | 0.4 | 1.1 | 1.0 | 0.9 | 1.3 | 1.8 | 2.0 | 2.1 | 2.1 | 2.2 |
| (Incl. illegal) | (1.1) | (3.5) | (1.4) | (1.3) | (1.7) | (2.1) | (2.3) | (2.3) | (2.3) | (2.4) |
| Singapore | 29.4 | 26.2 | 26.0 | — | 27.5 | 30.7 | 34.4 | 34.5 | 34.7 | 35.7 |

Estimated by OECD

occupational health and safety practice, not only in domestic research and practice, but also in cross-cultural and cross-national comparisons. Here, researchers might encounter the so-called “emic-etic” dilemma.

Emic and **Etic** are technical terms Pike (1967) originally derived from the suffixes of the words “phonemic” and “phonetic;” the former refers to any unit of significant sound in a particular language and the latter refers to the system of cross-culturally useful notations that represent these vocal sounds. Thus, emic views phenomenon as constituent of a particular (culture-specific or indigenous) system, while etic views phenomenon as universal (culture-general) possibility. If the researchers focus on the detailed description of phenomena such as organisational stressors for workers in a certain cultural circumstance, “emic” (culture-specific) instruments should be used, while findings obtained by such instruments cannot be compared with other cultural groups. That is, “etic” (universal) instruments developed in western countries may not necessarily be appropriate to assess the characteristics in non-western countries. However, “emic” (indigenous) instruments cannot be used for cross-cultural comparison. These contradictions will always exist in research and practice in non-western areas such as the Asia Pacific region.

3.2 What is Culture?

Culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, which encompasses art, literature, lifestyles, ways of living together, value systems, traditions, and beliefs (UNESCO 2002). Culture is a complex, hierarchical system that comprises an extremely wide range of practices and behavior patterns such as people’s everyday life practices to social structures, for example public entertainment, morals, religion, politics and economics (Iwata 2009). A geographical area sharing the same cultural style is called a ‘cultural area.’ A person who is born in a certain cultural area acquires the local culture in the process of socialization during his/her development. When a person adapts to the culture in the community, education will provide knowledge on the particular culture. Language system is one of the most important factors of culture and also plays a critical role in the process of culture acquisition.

3.2.1 *Hierarchical Understanding of Culture*

Culture can be recognized as a hierarchical (multi-level) structure, comprised of macro-, meso- and micro-levels (Iwata 2009; Fig. 3.1). The **macro-level** refers to cultural differences between countries or larger units. Factors at the macro-level include concept of values, mental characteristics, beliefs and language. Values are beliefs commonly shared by members of the community, or group norms

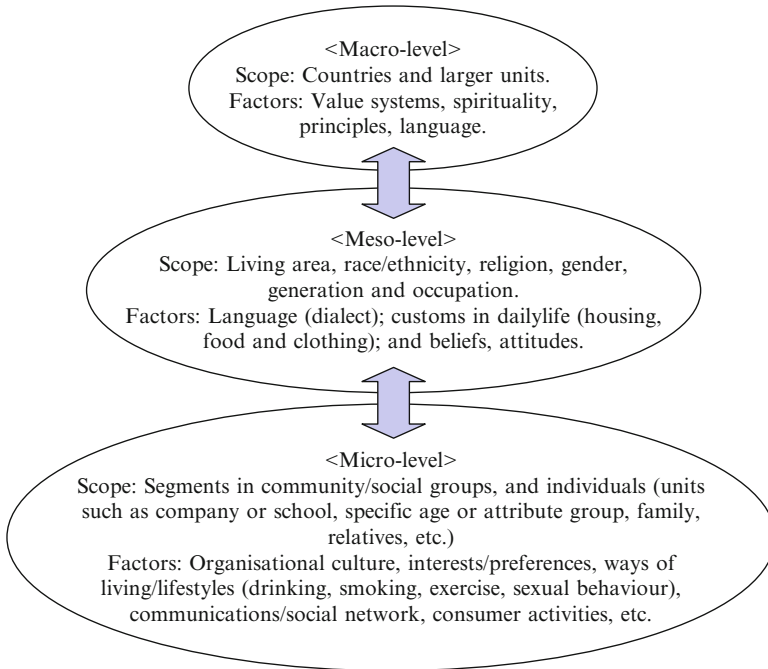


Fig. 3.1 Hierarchical understanding of culture (Iwata 2009)

internalized by an individual. By learning these values, a member of the community comes to understand and maintain the behavioral rules of the broad community. In this sense, the value system seems to constitute the core components of a culture. The most widely known of such components is the individualism-collectivism which shows the degree to which a person behaves, thinks and exists as an individual or as a member of a community (Hofstede 1980, 1991).

The **meso-level** refers to cultural differences among communities or social groups that exist within the same cultural area at the macro-level (country in most of case). In this context, ‘communities’ or ‘social groups’ refer to units of living areas determined by geographical distribution; ethnic or religious groups; groups based on gender, generation or occupation; and other units which are independent of geographical distribution. These constitute cultures at the meso-level, as subsets within a country (i.e., within a macro-level cultural area). Typical examples include language (dialect), knowledge and customs related to everyday life as well as beliefs and attitudes toward the knowledge and customs. In a multilingual, multiracial country, language and other meso-level cultural factors are two sides of the same coin.

The **micro-level** refers to cultural factors that vary within different segments or subdivisions of the communities and social groups constituting the meso-level culture. Examples of micro-level cultural factors include organisational cultures seen in companies and schools, customs existing in families or extended family units, and interests, preferences and behavior patterns seen within similar age or attribute groups.

A linguistic system reflects the mental processes of people living in the particular cultural area. It covers all the basic elements of local lifestyles such as personal relations, concept of values, norms, beliefs and attitudes. In this sense, language is not just a component of culture but plays a major role as a medium for maintaining the culture. This understands is reflected in an attempt to assess the adaptation among immigrants and their descendants by their level of understanding and frequency on the language used at the new homeland (Salant and Lauderdale 2003).

3.2.2 Necessity of Cross-Cultural Equivalence in Assessment

Using the General Self-Efficacy scale (Schwarzer and Jerusalem 1995), Scholz et al. (2002) reported that among 25 countries included in the research, the average scores were extremely lower among individuals in Japan and Hong Kong, while slightly lower scores were also found in some countries such as Poland, Korea and others. These scores are shown in Fig. 3.2 below.

Could we believe that this picture reflects reality; that people in Japan and Hong Kong truly have vastly lower self-efficacy than people in other countries? Even if the scores tended to be lower in these countries, the extent of the differences in comparison with other countries appears to be too great. Thinking about this question, it is apparent that greater concerns emerge; can the data obtained from Japan and Hong Kong be compared meaningfully and precisely with those of other countries?

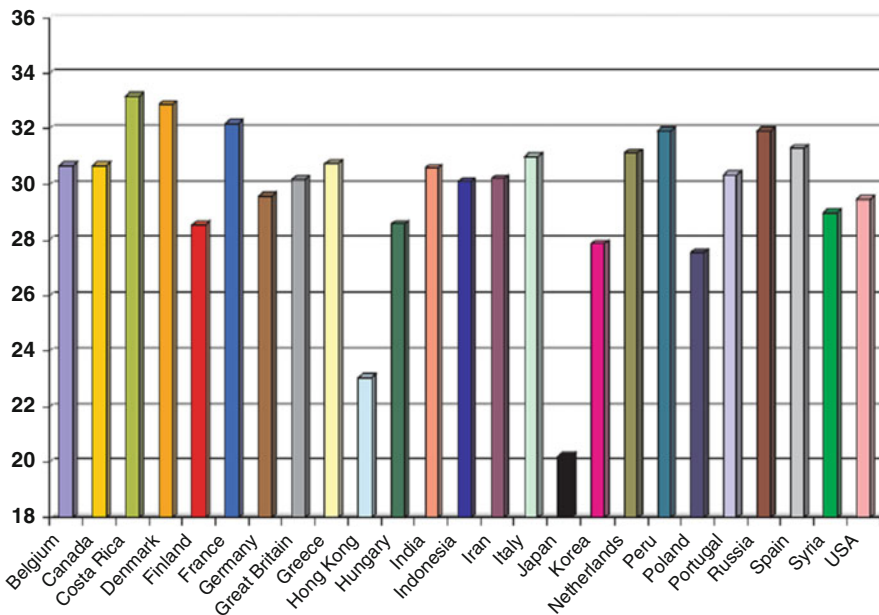


Fig. 3.2 General self-efficacy scores by country (Source: Scholz et al. 2002)

Ideally, standard or widely accepted measurements should be equivalent across race/ethnicity, cultures, and regions (Flaherty et al. 1988). That is, the items that comprise such scales should be free from item- and scale-level bias by exogenous variables such as gender, race/ethnicity, and culture. However, a number of individual- and group-level factors influence survey responses. For example, negative affectivity levels, one of the individual predisposition factors, exaggerate stressor perception (e.g. Spector et al. 2000); and some Asian populations, such as Chinese, are more likely to endorse somatic symptoms at a diagnostic interview on depression while some others, like Australian, are more likely to endorse affective symptoms (Parker et al. 2001). Difference in response among different cultures (cultural bias) is one of the most robust hindrances against making appropriate cross-cultural comparisons (cf. Iwata et al. 1989; Iwata and Buka 2002). Therefore, this chapter will focus on the ethno-cultural distinctiveness seen in the response biases when investigating psychological factors at work.

3.3 Types of Bias in Cross-Cultural Study

Many of the dominant frameworks for studying psychosocial factors at work have been developed in western countries, mainly English-speaking countries, along with the commonly-used measurement instruments. When applying these models, concepts, and measurement tools, and measuring instruments are adopted or adapted from the original instrument in most cases. **Adoption** means a close translation of an instrument in a new target language. This option is the most frequently chosen in empirical research because it is relatively simple to implement, cheap, has a high face validity, and retains the opportunity to compare scores obtained with the instrument across all translations. **Adaptation** means a combination of a close translation of some stimuli and a change of other stimuli when a close translation would be inadequate for linguistic, cultural, or psychometric reasons (He and Van de Vijver 2012). Even if the adaptation seems to be well executed, there still exist some possibilities that the response data obtained from different ethnocultural population would be biased.

Bias in general refers to systematic measurement anomalies. Bias occurs when score differences on the indicators of a particular construct do not correspond to differences in the underlying trait or ability (Van de Vijver and Tanzer 2004). In practice this incomplete correspondence means that whereas a response in one culture represents a target construct, responses in another culture are influenced by other constructs or additional constructs. There are three types of bias, depending on whether the invalidity comes from the theoretical construct (construct bias), measurement instrument (method bias), or specific items (item bias) (Van de Vijver and Tanzer 2004). The descriptions in this section mainly follow those of He and Van de Vijver (2012).

3.3.1 *Construct Bias*

Construct bias indicates that the construct measured is not identical across cultures. It can occur when there is only a partial overlap in definition of the construct across cultures, or when not all relevant behaviors associated with the construct are present and properly sampled in each culture (Van de Vijver and Poortinga 1997). For example, North Americans tend to derive happiness from personal achievements through maximizing positive affect experiences, whereas East Asians tend to define happiness as interpersonal connectedness with balanced experiences of positive and negative affect (Uchida et al. 2004). This indicates that happiness is actually a different construct in western and non-western countries.

3.3.2 *Method Bias*

Method bias is a generic term for nuisance factors that derive from the sampling procedure, structural features of the instrument, or administration processes. In general, method bias tends to have a global influence on cross-cultural score differences (e.g. mean scores of measures vulnerable to social desirability tend to be shifted upwards or downwards across cultural groups). If not appropriately taken into account in the analysis of data, method bias can be misinterpreted as cross-cultural differences.

3.3.2.1 *Sample Bias*

Sample bias results from incomparability of samples due to cross-cultural variation in sample characteristics that have a bearing on target measures, such as confounding cross-cultural differences in education levels when testing intelligence, variations in urban or rural residency, or in affiliation to religious groups. When participants are recruited using convenience sampling, the generalization of findings to their population can be problematic; the distribution of the target variable is to guide optimal sampling. The ideal situation is to randomly sample culturally representative respondents; yet, due to resources and accessibility restraints, it is rarely accomplished.

3.3.2.2 *Instrument Bias*

Instrument bias involves problems deriving from instrument characteristics, such as stimulus familiarity (in cognitive and educational tests) and response styles (in personality and attitude inventories). Cultures tend to have different levels of familiarity with stimulus materials (e.g. pictures taken in one culture may be not easily identified by members of other cultures), response modes (e.g. differences

in familiarity with computers in computer-assisted assessment), or response procedures (e.g. multiple choice formats). Such cross-cultural differences in background characteristics tend to influence scores on target measures.

3.3.2.3 Response Styles

Response styles refer to a systematic tendency to use certain categories of the answering scale on some basis other than the target construct (Cronbach 1950). Three major types of response styles have been known; acquiescence, extreme response style and social desirability. **Acquiescence**, the tendency to agree rather than disagree to propositions in general, is one of the most prevalent response styles. Studies have shown that acquiescence is more frequently endorsed by people with low socioeconomic status from collectivistic cultures (Harzing 2006; Smith and Fischer 2008). The number of Likert points in rating scales may induce different levels of response styles. For example, Weijters et al. (2010) found that acquiescence increases when adding a midpoint in the response anchors. **Extreme response style** is the tendency to use either (only) moderate or extreme categories of rating scales. Irrespective of item content, individuals either agree or disagree with item content strongly or they tend to use only the middle categories (modesty style).

Social desirability responding (Crowne and Marlowe 1960) is the tendency to respond in a socially desirable way, which amounts to responding in a way that is expected to get approval by significant others of the respondent. This derives from two different dimensions: i.e. impression management and self-deception. **Impression management** is a conscious strategy to appear or present oneself in a positive light, whereas **self-deception** is an unconscious tendency to see and portray oneself in a socially acceptable way (Paulhus 1991). These styles may reflect important personality features that cannot be simply dismissed as measurement disturbances that should be eliminated. Social desirability responding is by definition directly linked to the item content (Paulhus 1984), while acquiescence is the tendency to use certain response categories independent of item content (Cheung and Rensvold 2000).

3.3.2.4 Administration Bias

Administration bias can come from administration conditions (e.g. data collection modes, class size), ambiguous instructions, interaction between administrator and respondents (e.g. halo effects), and communication problems (e.g. language difference, taboo topic). Depending on the constructs of interest, the data collection mode (e.g. paper-and-pencil mode, online survey, interview survey) may show differential levels of social desirability.

3.3.3 *Item Bias*

An item is biased when it has a different psychological meaning across cultures. More precisely, an item of a scale (e.g. measuring anxiety) is said to be biased if persons with the same trait, but coming from different cultures, are not equally likely to endorse the item (Holland and Wainer 1993). Item bias can arise from poor translation, inapplicability of item content in different cultures, or from items that trigger additional traits or have words with ambiguous connotations. For instance, certain words (e.g. the English word “distress”) or expressions in one language (e.g. “I feel blue”) may not have equivalents in a second language, which challenges the accurate translation of an instrument. Adaptation is the scientifically-sound way to deal with such cases.

3.4 Methods to Detect the Response Bias

There exist some recommended methodologies for detecting various types of bias and for ensuring equivalence as well. Presently, almost all instruments in the broad occupational health and safety field have been used following adoption processes, while psychiatric assessment tools have come to be developed in accordance with the WHO translation guidelines (WHO Process of translation and adaptation of instruments Retrieved from http://www.who.int/substance_abuse/research_tools/translation/en/). Accordingly, questions often arise regarding whether existing response data are biased or not. To determine the answers, statistical procedures can be employed, such as exploratory factor analysis for detecting bias due to theoretical construct (construct bias), confirmatory factor analysis for detecting bias due to theoretical construct (construct bias) and measurement instrument (method bias), and some differential item functioning analyses for detecting bias due to specific items (item bias).

3.4.1 *Exploratory Factor Analysis*

Exploratory factor analysis (EFA) is a useful tool to check and compare factor structure, especially when the underlying dimensions of a construct are unclear (He and Van de Vijver 2012). Researchers can apply dimensionality reduction techniques and take the similarity of underlying dimensions as a criterion for the similarity of meaning. Comparisons of multiple groups can be conducted either in a pairwise or a one-to-all (each cultural group versus the pooled solution) fashion. Target rotations are employed to compare the structure across countries and to evaluate factor congruence, often by means of the computation of Tucker’s phi coefficient (Van de Vijver and Poortinga 2002). This coefficient tests to what extent factors are identical across cultures. Values of Tucker’s phi above .90 are usually considered to be adequate and values above .95 to be excellent.

Table 3.2 Equivalence test by nested models in multi-group confirmatory factor analysis

| Hierarchical models | Operationalization | Interpretation of level of equivalence |
|--------------------------|--|--|
| 1. Configural invariance | Same pattern of observed and latent constructs | Same latent constructs are measured, using the same indicators (no metric equivalence) |
| 2. Measurement weights | Factor loadings in the measurement part in each cultural group are identical | Same latent factor(s) is are measure across groups, indicating construct and metric equivalence |
| 3. Intercept invariance | Items have the same intercept (latent mean) across cultures | All items represent the same between-group difference, indicating free of item bias and full score equivalence |
| 4. Structural residual | The error variance of the latent factor is identical | The range of scores on the latent factor does not vary across cultures, indicating full score equivalence |
| 5. Measurement residuals | Error variances of the observed items are identical | Group use the same range of the construct continuum, indicating full score equivalence |

Source: He and Van de Vijver (2012)

3.4.2 *Confirmatory Factor Analysis*

A more refined and theory-driven way of examining equivalence is through confirmatory factor analysis (CFA). If a CFA model shows an acceptable fit, it means that the factor structure assumed cannot be rejected, thus different levels of equivalence may be established (He and Van de Vijver 2012). More sophisticated than EFA, CFA uses covariance matrix information to test hierarchical models. It can be carried out with software such as AMOS and Mplus (Byrne 2001, 2010). The model fit is evaluated by Chi-square tests and indices, such as the Tucker Lewis Index (acceptable above .90 and excellent above .95), Root Mean Square Error of Approximation (acceptable below .06 and excellent below .04), and Comparative Fit Index (acceptable above .90 and excellent above .95).

If we want to test whether the same one-factor model holds in each culture, a series of nested models are usually tested for identity (invariance in CFA). There are five testing models that give important indications of equivalence (Table 3.2). The **configural invariance model**, a base for testing a series of equivalence, examines the extent to which the same latent construct is measured by the same indicators. Next, in the **measurement weights model**, factor loadings on the latent variable are constrained to be equal across cultures. If the multi-group CFA yields a satisfactory fit, the construct can be regarded as equivalence with the same connotation across groups.

In the **intercept invariance model**, items are constrained to have the same intercept (latent mean) across cultures. The testing assumption is that individuals who have the same score on the latent construct would obtain the same score on the observed variable regardless of cultural membership. If this model shows a satisfactory fit, it can be assumed that there is no item bias. A poor fit alerts researchers to check anomalous items that relate to the latent scores in different manners.

The acceptance of the **structural residual model**, in which the error of the latent variable is fixed equal across cultures, indicates that measurement unit equivalence is guaranteed. The **measurement residuals model**, the most restricted model, specifies the same error variance for each and every item. A satisfactory fit of this model represents full score equivalence and it lays a solid foundation for cross-cultural comparison.

3.4.3 Differential Item Functioning Analysis

When the intercept invariance model CFA suggests lack of equivalence among cultural groups, it may be useful to investigate, to what extent anomalous items could be responsible. Differential item functioning (DIF) analysis can identify such anomalous items. DIF refers to any circumstance in which respondents, differing from one another on a certain exogenous variable (e.g. race/ethnicity), but who resemble one another on a certain latent continuum of interest (e.g. depressive symptoms), show different probabilities of endorsing an item intended to measure that latent continuum (Clauser and Mazor 1998).

Here, it is important to clarify the difference between DIF and item impact. Item impact is the crude difference in response to an item across categories of the exogenous variable. It may vary because respondents differ on the latent variable at issue. In contrast, DIF is expected to be the same across levels of the exogenous variable once conditioned on the latent variable (Cole et al. 2000). There are several DIF detection techniques, such as Mantel-Haenszel tests, logistic regression model, proportional odds regression model, partial correlation index method, and item response theory (IRT). As recognized by its definition, the essential strategy for DIF detection appears to resemble one another; i.e. testing the difference in endorsement of item response between groups after controlling for any matching variable, while IRT is more sophisticated and scientifically sound method since all the other procedures rely on classical test theory (CTT). Shortcomings of CTT in DIF detection will be discussed later (see Sect. 3.4.2).

The **Mantel-Haenszel (MH) procedure** (Holland and Thayer 1988) had been one of the most popular procedure but presently old fashioned. In this procedure, respondents in the groups of interest are matched to a latent continuum (simply using strata of total score) and conditional group differences are assessed by means of MH statistics (Mantel and Haenszel 1959). The MH procedure makes meaningful comparisons of item performance for different groups by comparing examinees of similar proficiency levels, instead of comparing overall group performance on an item (Michaelides 2008).

The MH procedure can be expressed using a **logistic regression model** (Swaminathan and Rogers 1990). The logistic regression procedure has greater advantage compared to the Mantel-Haenszel procedure because of the flexibility in a model specification and its applicability to both uniform and non-uniform DIF investigation (Narayanan and Swaminathan 1996; Clauser and Mazor 1998).

An independent association between an item and an exogenous variable (i.e. odds ratio $\neq 1.00$) while conditioning the difference in respondent's score on a latent continuum indicates the DIF. If the group difference in probability of endorsement is consistent across the range of the latent continuum, it is called as item threshold bias or uniform DIF. If the group difference in probability of endorsement changes across the range of the latent continuum, it is called as item discrimination bias or non-uniform DIF. To assess the latter, an interaction term between an exogenous variable and a respondent's score on the latent continuum is included into the model.

The **proportional odds method** extends the logistic regression method from a binary dependent variable to an ordered categorical dependent variable (Scott et al. 1997). This model assumes that the regression functions for different response categories are parallel on the logit scale. However, it should be understood that if transition intensities differ across levels of the dependent variable, this assumption is untenable and the beta estimate (log odds ratio) may not appropriately represent the combined threshold effect. The **partial correlation method** originally utilizes Pearson's product-moment correlation coefficients between individual items and an exogenous variable for group membership, while ruling out a matching variable (Darlington 1971; Stricker 1982). Because of traditional statistics, this method does not require any strict assumption on the nature of variables unless they go beyond ordered nature, e.g. nominal variables. Thus, this method is applicable to almost all DIF analyses (Stricker 1982).

3.5 Response Bias in the Asia Pacific Region

Etic instruments are required for cross-cultural or cross-national comparisons. However, unrealistic findings are likely to be obtained from people in some Asian countries, particularly Japan, as per the above example related to self-efficacy (Fig. 3.2). In order to avoid and adjust such distorted results, the reasons behind these response biases should be investigated.

3.5.1 *Japanese Response Bias Detected by Classical Test Theory*

Figure 3.3 shows the example of cultural-specific response bias among Japanese using the Center of Epidemiologic Studies scale (CES-D: Radloff 1977). The CES-D is a 20-item self-administered questionnaire that assesses the frequency of depressive symptoms during the past week. The CES-D includes 16 negatively-oriented (NEG) items, such as "I felt depressed," and four positively-oriented (POS) items, such as "I was happy." Participants select one of four response

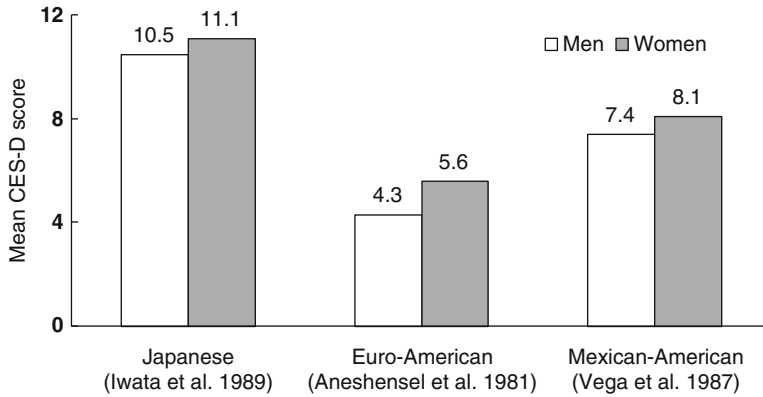


Fig. 3.3 Japan-U.S. comparison of mean CES-D score (Source: Vega et al. 1987)

alternatives: “Rarely or none of the time,” “Some or a little of the time,” “Occasionally or a moderate amount of the time,” and “Most or all of the time.” These are typically scored as 0, 1, 2, and 3, respectively. The four POS items are reverse-scored so that higher scores indicate greater lack of positive affect. The validity and reliability in Japanese version have been established (Shima et al. 1985). Iwata et al. (1989) found that the CES-D scores obtained from Japanese workers were more than twice to those of Euro-Americans (Fig. 3.3), which led to the suspected the existence of culture-specific response differences between Japanese and U.S. population.

Iwata et al. (1994, 1995) calculated the average response frequencies of negatively-oriented (NEG) and positively-oriented (POS) items using response data from gender-age matched samples of Japanese and US workers, and reported that the Japanese workers were more likely inhibit the expression of positive affect as measured by POS items compared the US workers, while response patterns to NEG items were generally comparable (Fig. 3.4). Similar results were also found among anxiety items (Iwata and Higuchi 2000). However, these studies relied on rather simple statistics such as average frequency distributions and t-tests. Research using IRT-based IDF analysis will be required for further investigation.

3.5.2 Response Bias Detected by IRT

Most psychological assessment instruments have been developed using what is known as CTT. Many researchers may not be aware, however, that CTT carries with it certain disadvantages (Table 3.3). One disadvantage is that characteristics of the items (and the scale as a whole) depend upon the particular sample on which they are calculated. Therefore, assessment instruments developed by CTT are most

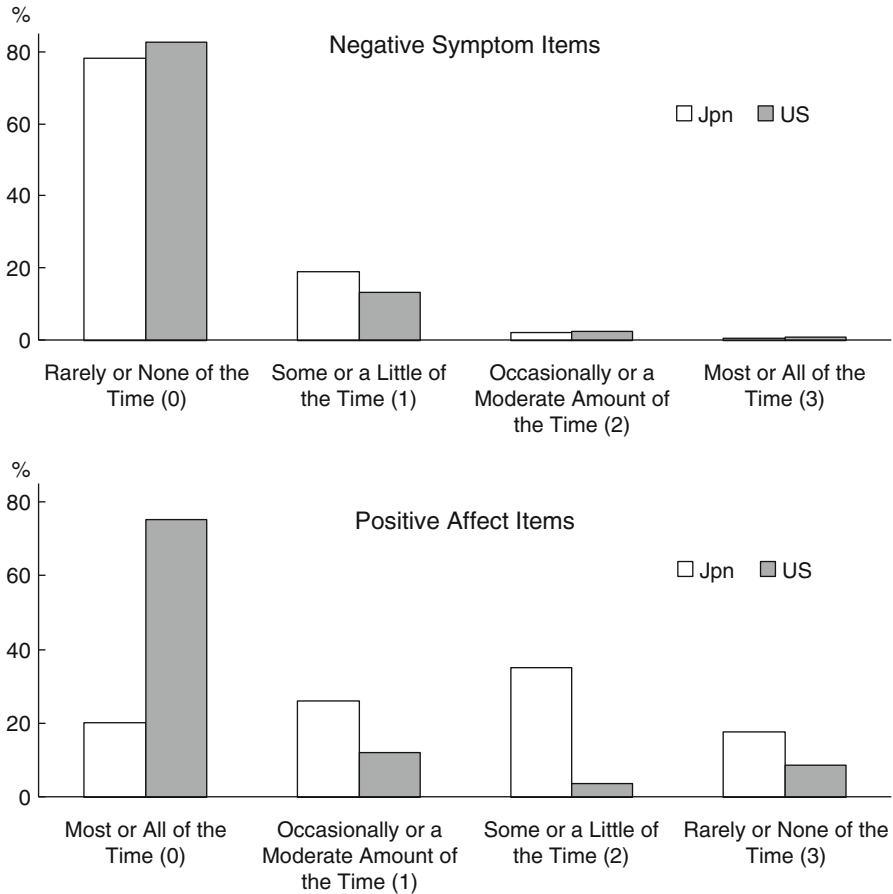


Fig. 3.4 Japan-U.S. differences in response frequencies on Negative and Positive items

useful when the examinee sample is similar to the population the test was developed from. If the sample differs in some unknown way from the population the test is based on, which could easily happen in a field test, the utility of the item statistics may be reduced. In addition, a person's score on a measure of a particular trait or construct (e.g. depression) depends upon the specific items selected. Therefore, everyone must be administered the exact same item set if they are to be placed on the same dimension or metric.

Measurements based on IRT do not carry these disadvantages. IRT is a model-based version of test theory that uses a mathematical function to describe the relation between where a person is located in the latent trait and his/her item responses. In IRT, item characteristics are not sample-dependent and scores calculated on IRT-based information are not linked to a specific item set. Thus the likelihood that a person will respond to an item in the keyed direction is a function of the person's standing on the underlying construct, the item's threshold

Table 3.3 Comparisons of psychometric properties between the Classical Test Theory (CTT) and Item Response Theory (IRT)

| Psychometric properties | Classical Test Theory (CTT) | Item Response Theory (IRT) |
|---------------------------------|---|---|
| Sample-statistics relationships | Sample dependent | Sample independent |
| Unit of analysis/ Model | Test/scale level/Linear model | Individual item level/Non-linear model |
| Distribution of score/ θ | Frequency, Mean & STD | Item Characteristic Curve (ICC) |
| Ability of respondent | Observed test score | θ on a latent trait continuum |
| Item difficulty (threshold) | Proportion/mean score | Inflexion point on the ICC (parameter b) |
| Item discrimination | r_p (point serial correlation) | Slope at the inflexion point on ICC (a) |
| Reliability | Test-retest, internal consistency = "Parallel Form" of testing | Item and Test Information Curve = determinable at each θ point |
| Measurement error | Standard error of test score | Standard error of measurement at each θ point |
| Validity | Same for CTT and IRT; content/construct, criterion-related validity, etc. | |
| Comparability of results | Limited for only the same item/scale | Unlimited if a few items were common |

and discrimination. All of these parameters are estimated through maximum likelihood methods and graphically represented in an item characteristic curve (ICC). Figure 3.5 shows ICCs using the two-parameter logistic (2-PL) model IRT which contains item discrimination and item threshold parameters.

In IRT practice, every item is administered to a large sample and calibrated as such that the ICC and its parameters are known. Item threshold (denoted by b) refers to the trait level at which an individual has a 50 % chance of endorsing the item; typically it is the point at which the curve steepens most dramatically. Item discrimination (a) refers to how well the item differentiates between individuals of different latent trait levels and is reflected in the slope of the curve at different regions along the horizontal axis which represents latent trait (θ). The θ is estimated as reflecting standardized normal distribution. The ICC examples portray three items differing both in discrimination and threshold parameters. For example, the right ICC (a: 1.5, b: 1.5) represents the item functioning being poor at discriminating between individuals with low and moderate levels of the latent trait (the flat slope between -4 and 0 on the horizontal axis) but good at discriminating between individuals with moderate and high trait levels (the steeper slope at θ values ranging from 1 to 2). In contrast, the left ICC (a: 0.5, b: -1.5) represents the item functioning being poor at discriminating individuals with any levels of the latent trait.

Here, if these ICCs are obtained from populations differing in a certain exogenous variable, this item is assessed as DIF; on this item a group representing the left ICC is spuriously more likely to endorse (or over-endorse), compared to the group

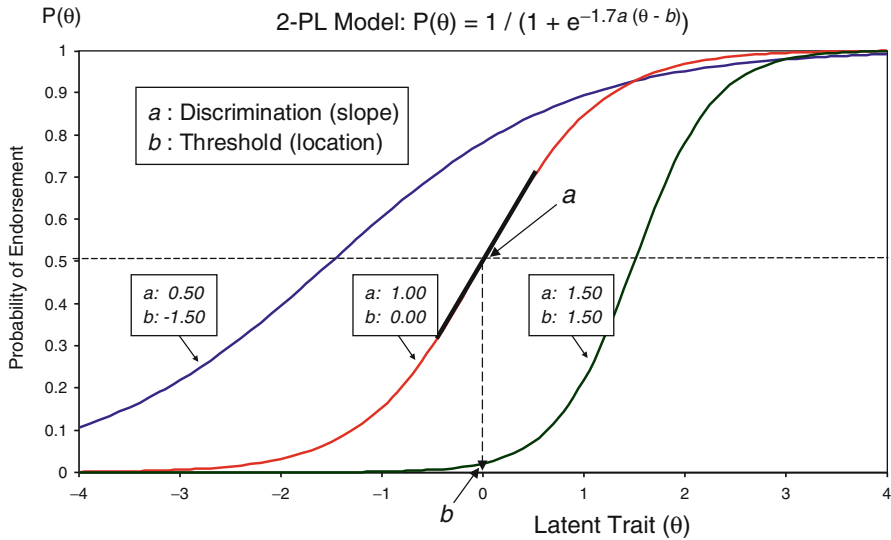


Fig. 3.5 Item Characteristic Curves according to various Discrimination (a) and Threshold (b) parameters – 2 parameter logistic model

in the right ICC. Thus, this item functions differently between the groups (DIF): This section will exemplify the basic strategy of IRT likelihood ratio DIF detection method using response data from Iwata (2002), which can be expanded to items with polytomous response.

3.5.2.1 Analysis Procedure

Before starting the analysis procedure, the 0-1-2-3 scores of the CES-D were dichotomized into 0/1 data according to 0-1-1-1 scoring for the IRT analyses using BILOG, a software specialized to analyze binary items. Dichotomized responses were subjected to the 2-parameter logistic model analysis of the IRT (2PL-IRT). The IRT likelihood ratio DIF detection method consisted of two parts. Firstly, the purified subset with non-DIF items was constructed as displayed in Fig. 3.6: (1) Screen for the item candidates using M-H method; (2) Select several items, and subject them to the 2PL-IRT; (3) Obtain the $-2\log$ -likelihood ratio (G^2_{free}) of that subset using MULTILOG; (4) Constrain slope (denoted by a) and threshold (b) parameters to be the same across groups, and obtain the $G^2_{\text{constrained}}$; and (5) If the difference in G^2 between the constraint model and the free model is not significant, the purified subset is confirmed.

Second, using the purified subset mentioned above, the IRT likelihood ratio DIF detection procedure was conducted. Figure 3.7 shows its detailed process: (1) Construct dataset involving purified items and one studied item for DIF investigation; (2) Test the difference in G^2 between parameter a (slope or discrimination)

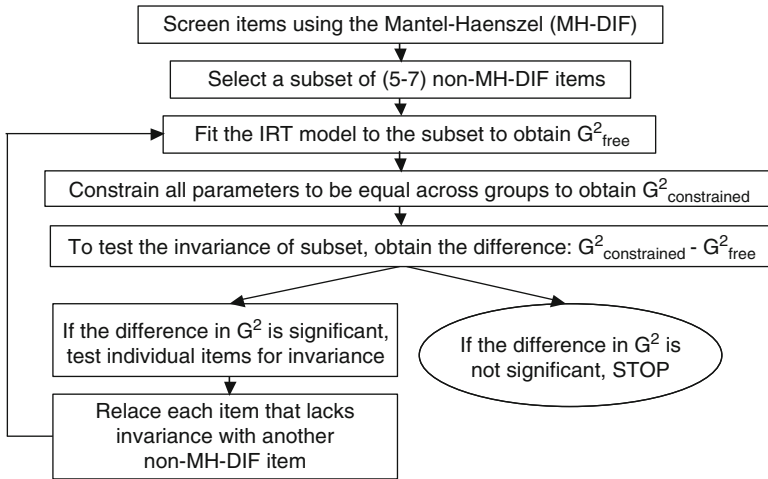


Fig. 3.6 Flow chart explaining the construction process of the purified (anchor) subset

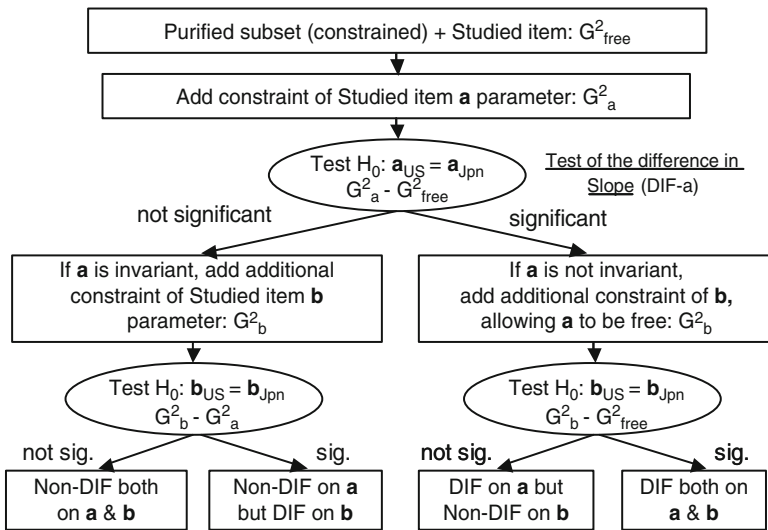


Fig. 3.7 Flow chart explaining the IRT likelihood ratio DIF detection method

(in?) constraint model and free model. At this execution, both parameters of purified items were constrained to be the same between the groups; (3) At the next step, parameter **b** (threshold) of studied item was constrained; and (4) Test the difference in G^2 . Through these steps, the DIF on slope parameter and the DIF on threshold parameter of studied item were examined. If parameter **b** differs significantly between the groups but parameter **a** does not, then this indicates uniform DIF. If parameter **a** differs significantly, then this indicates Non-uniform DIF.

Table 3.4 Parameter estimates of the CES-D items for Japanese and U.S. workers

| Scale/items | Japanese workers | | | | U.S. workers | | | | DIF | |
|--|------------------|--------|--------------|--------|--------------|--------|-------------|--------|----------|-----------|
| | Slope | | Threshold | | Slope | | Threshold | | Slope | Threshold |
| | a | se | b | se | a | se | b | se | | |
| <i>Depressed Affect (DEP)</i> | | | | | | | | | | |
| 3 Blue | 2.04 | (0.35) | 1.22 | (0.14) | 2.45 | (0.50) | 1.44 | (0.17) | ns | ns |
| 6 Depressed | 4.62 | (1.09) | <u>0.52</u> | (0.05) | 1.84 | (0.32) | 0.92 | (0.15) | * | *** |
| 9 Failure | 1.88 | (0.27) | <u>0.07</u> | (0.10) | 2.43 | (0.56) | 1.61 | (0.20) | ns | *** |
| 10 Fearful | 3.94 | (1.32) | 1.85 | (0.17) | 1.54 | (0.29) | 1.44 | (0.24) | * | ns |
| 14 Lonely | 1.65 | (0.31) | 1.58 | (0.21) | 1.56 | (0.29) | 1.43 | (0.24) | ns | ns |
| 17 Crying spells | 1.33 | (0.53) | 3.84 | (1.13) | 2.72 | (1.22) | 2.01 | (0.48) | Purified | |
| 18 Sad | 2.16 | (0.40) | 1.46 | (0.16) | 3.61 | (0.75) | <u>0.74</u> | (0.09) | ns | *** |
| <i>Somatic & Retarded Activities (SOM)</i> | | | | | | | | | | |
| 1 Bothered | 2.05 | (0.31) | <u>0.57</u> | (0.10) | 1.48 | (0.25) | 1.13 | (0.20) | ns | *** |
| 2 Appetite | 0.89 | (0.20) | <u>1.59</u> | (0.34) | 0.49 | (0.24) | 4.57 | (2.37) | ns | *** |
| 5 Trouble concentrating | 2.64 | (0.38) | 0.32 | (0.08) | 2.14 | (0.34) | 0.51 | (0.10) | ns | ns |
| 7 Effort | 1.71 | (0.27) | 0.66 | (0.12) | 1.47 | (0.24) | 0.13 | (0.14) | Purified | |
| 11 Sleep | 1.37 | (0.27) | 1.37 | (0.22) | 1.43 | (0.21) | <u>0.25</u> | (0.13) | ns | *** |
| 13 Talked | 2.02 | (0.31) | 0.56 | (0.09) | 1.34 | (0.24) | 0.23 | (0.16) | Purified | |
| 20 Get going | 2.57 | (0.46) | 1.29 | (0.12) | 2.11 | (0.33) | <u>0.47</u> | (0.10) | ns | *** |
| <i>Interpersonal Relations (INT)</i> | | | | | | | | | | |
| 15 Unfriendly | 3.25 | (0.58) | 1.41 | (0.10) | 1.62 | (0.33) | 1.27 | (0.27) | Purified | |
| 19 Dislike | 2.12 | (0.41) | 1.52 | (0.18) | 2.27 | (0.50) | 1.63 | (0.22) | ns | ns |
| <i>(Lack of) Positive Affect (POS)</i> | | | | | | | | | | |
| 4 (Not) Good | 0.22 | (0.06) | <u>-2.70</u> | (0.76) | 0.43 | (0.10) | 1.79 | (0.41) | ns | *** |
| 8 (Not) Hopeful | 0.63 | (0.21) | <u>-2.77</u> | (0.83) | 0.75 | (0.17) | 0.90 | (0.31) | ns | *** |
| 12 (Not) Happy | 0.63 | (0.19) | <u>-2.19</u> | (0.61) | 1.21 | (0.22) | 0.86 | (0.20) | * | *** |
| 16 (Not) Enjoyed | 1.00 | (0.25) | <u>-2.00</u> | (0.40) | 1.20 | (0.24) | 1.39 | (0.28) | ns | *** |

Purified: items used for purified subset

ns not significant between the groups

*, ***, significant different between the groups at $p < .05$, $p < .001$, respectively

3.5.2.2 DIF of Individual Items

Through an iterative process, a purified (or non-DIF items) subset was constructed; it consisted of four items. Table 3.4 shows slope and threshold parameters of individual CES-D items for each group. The IRT-DIF results are also displayed. The items are listed along with the traditional subscales. The underlined numbers indicate significantly lower threshold compared to another group's counterpart, which means that the former group is spuriously more likely to endorse the symptoms than the latter group even the same θ level (see Fig. 3.5 for the difference in threshold between ICCs).

Of the 16 negatively-oriented items (depressed affect, somatic & retarded activities, interpersonal relations), eight items showed DIF between Japanese and U.S. workers, whereas all four positive affect items showed DIF. The ICCs of these

DIF items revealed that the Japanese workers over-endorsed #6 “Depressed,” #9 “Failure,” but under-endorsed #18 “Sad” as compared to U.S. workers (data not shown). Similarly, of the somatic and retarded activity items, the Japanese over-endorsed #1 “Bothered” and #2 “Appetite,” but U.S. workers over-endorsed #11 “Sleep” and #20 “Get going.” In contrast, the Japanese consistently and remarkably over-endorsed all positively-oriented items (lack of positive affect).

3.5.2.3 Averaged ICCs for Subscales

To make clear the overall feature of ICCs according to the subscales, slope and threshold parameters of items derived by 2PL-IRT in a same subscale were averaged for each group. Then, an ICC per subscale was drawn for visual inspection (Fig. 3.8). The X-axis represents the latent continuum (denoted by θ) of depressive symptoms, and the Y-axis represents the probability of endorsement. In IRT models, the probability of endorsement is estimated at each θ level, so that the difference in base rate does not have an influence on ICC.

Although some NEG items yielded DIF, it was cancelled out at a scale-level, resulting in the comparable somatic and depressive subscales in averaged ICCs (top and middle of Fig. 3.8). In contrast, averaged ICCs of positive affect items differed remarkably between the groups (bottom of Fig. 3.8); the Japanese were more likely than U.S. workers to endorse (thus lack of) positive affect at any given level of θ . For the Japanese, endorsement began at lower depressive level, and at the point where the U.S. endorsement starts, almost all Japanese workers have already endorsed. These results are generally similar to those obtained from the CTT findings but can be considered as more evident or robust due to sample independent nature of the IRT.

3.5.3 Response Bias at a Scale Level

Existence of DIF items does not necessarily mean different function on a scale level, as shown in Fig. 3.8. In a practical sense, differential scale functioning (DSF) appears more important than DIF. Some procedures for DIF are also available to detect DSF. Here, I briefly sketch an example of DSF study across North and South Americans (Anglo- and Native Americans and Argentineans) and Japanese utilizing the **partial correlation method** (see Sect. 3.4.3), the easiest DSF detection procedure (Iwata and Buka 2002).

3.5.3.1 Analysis Procedure

As in traditional DIF analyses, it is assumed that the scale total score reflects a score on the latent continuum, and thus it has been widely used as the matching criterion. However, as mentioned above, POS items may be culturally influenced.

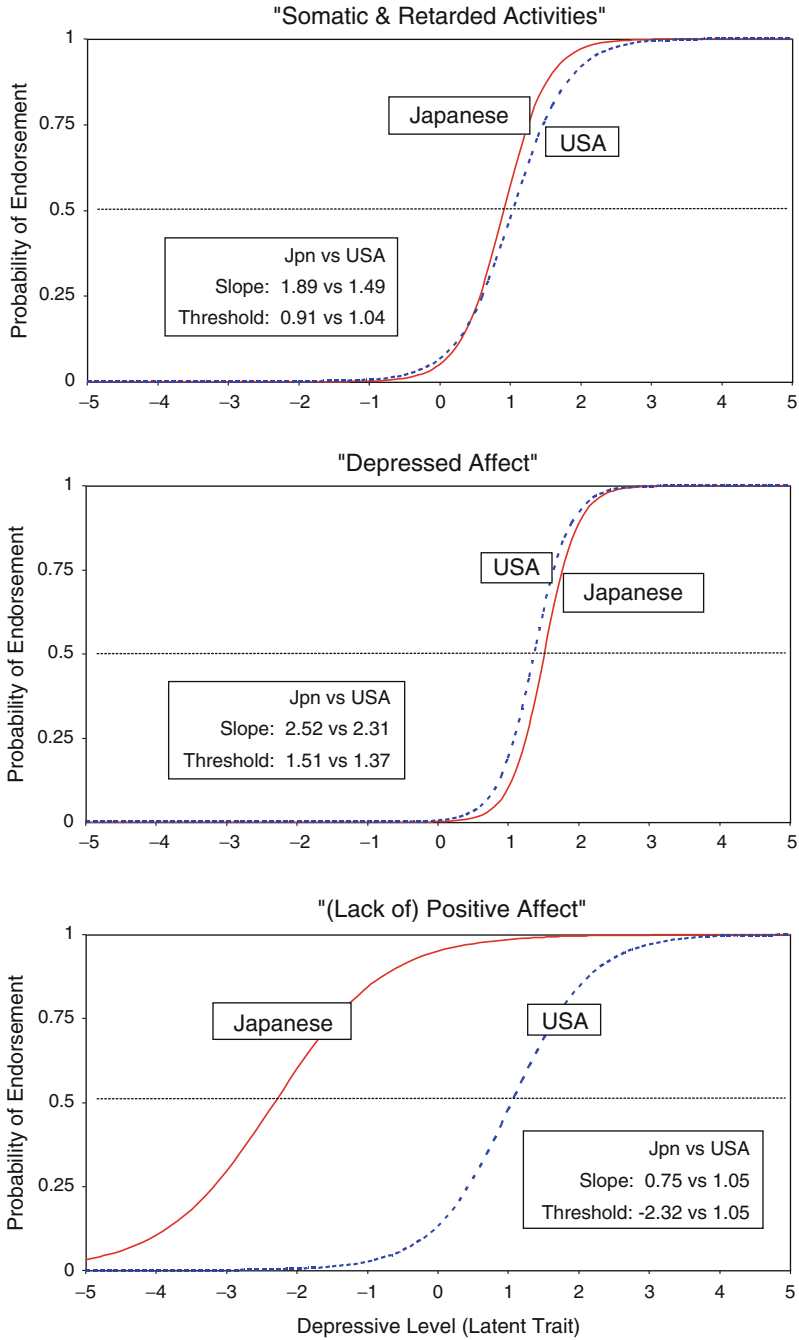


Fig. 3.8 Averaged item characteristic curves (ICCs) of the CES-D subscales

Accordingly, a total score of 16 negative symptom (NEG) items was used as the matching criterion. A 1-2-3-4 scoring, instead of the standard 0-1-2-3 scoring, was used in the calculation of total NEG items score and then scores were log-transformed to make the distribution closer to normal. This scoring change was employed to avoid NEG score from becoming zero.

This procedure enables the confounding variable to be controlled. Because of this, gender and age was included in the analysis to be partialled out. We conducted three separate DSF analyses of each subscale and the entire CES-D scale, each of which included Anglo-Americans (reference group) and one of the focal groups. To avoid Type I errors, two significant levels are employed here; $p < 0.017$ (0.05/3) due to repeated comparisons of three racial/ethnic groups to Anglo-Americans, and $p < 0.0020$ (0.05/25) due to repeated comparisons across 20 items, four subscales, and an entire CES-D scale.

3.5.3.2 Scale Scores and Differential Scale Functioning (DSF)

The left four columns of Table 3.5 show the gender- and age-adjusted mean scores of subscales, and total scale for the four racial/ethnic groups. Mean scores that are significantly higher or lower than those of Anglo-Americans are boldfaced or underlined, respectively. DEP scale scores of Native Americans and Japanese were significantly higher than those of the others. SOM and INT scale scores of Native Americans were significantly higher than those of Anglo-Americans and Japanese. The total NEG items scores did not differ among Anglo-Americans, Argentineans, and Japanese. The “Lack of POS” scale score was markedly higher for Japanese, but comparable between Native Americans and Argentineans. The total CES-D score was comparable between Anglo-Americans and Argentineans and between Native Americans and Japanese, but scores of the former two groups were significantly lower than those of the latter two groups.

The right three columns of Table 3.5 show the partial correlation coefficients between individual items/subscales and variables for group membership, while partialling out the total NEG items score for Native Americans, Argentineans, and Japanese, respectively. Since the variable for group membership is coded as 0 for the reference group and 1 for the focal group, a significant positive partial correlation (boldfaced) indicates that responses of the focal group for an item/subscale are biased toward a higher score direction (over-endorsed) as compared to the reference group (Anglo-Americans). In contrast, a significant negative partial correlation (underlined) indicates that responses of the focal group on an item/subscale are biased toward a lower score direction (under-endorsed/inhibited).

Of the 15 partial correlations on four subscales and the CES-D scale, eight were significant (7 over-endorsement, 1 under-endorsement/inhibition). The INT scale did not show DSF for any racial/ethnic group. Among Native Americans the DEP scale was under-endorsed, and the SOM scale was over-endorsed. On the other hand, the DEP scale was over-endorsed by Japanese. The “Lack of POS” scale

Table 3.5 Gender-and age-adjusted mean scores of the CES-D and DSF analyses

| Ethnicity | Anglo-Americans | Native Americans | Argentines | Japanese |
|--------------------|---|----------------------|-----------------------------------|----------------------|
| Country | USA | USA | Argentina | Japan |
| City/Area | Boston | Western states | La Plata | Tokyo & Fukuoka |
| N | 377 | 353 | 110 | 310 |
| Males, % | 37.1 | 37.7 | 47.3 | 39.4 |
| Mean age, y (s.d.) | 18.6 (0.5) | 20.8 (1.8) | 21.1 (1.7) | 20.5 (0.9) |
| Age range, y | 18-19 | 18-24 | 18-24 | 19-24 |
| | Gender-and Age-Adjusted Mean Score (Standard Error) | | | |
| DEP | 4.15 (.25) | 5.14 (.23)* | 3.88 (.40) | 5.10 (.24)* |
| SOM | 5.86 (.22) | 7.08 (.20)** | 5.47 (.34) | 6.05 (.20) |
| INT | 0.73 (.07) | 1.03 (.06)* | 0.91 (.11) | 0.67 (.07) |
| (Lack of) POS | 2.64 (.16) | 3.57 (.15)** | 3.56 (.26)* | 5.40 (.15)** |
| Total NEG | 10.75 (.46) | 13.25 (.42)** | 10.24 (.73) | 11.83(.43) |
| Total CES-D | 13.39 (.56) | 16.82 (.51)** | 13.83 (.89) | 17.22 (.53)** |
| | Values indicating significantly higher than Anglo-Americans after conditioning on total NEG score have been boldfaced, and the opposite values have been underlined | | | |
| | | | Partial correlations ^a | Japanese |
| | | | Native Americans | Argentines |
| | | | -.111* | .017 |
| | | | .104* | -.047 |
| | | | .036 | .070 |
| | | | .046 | .157** |
| | | | - | - |
| | | | .091* | .187** |
| | | | | .265** |

Values indicating significantly higher than Anglo-Americans after conditioning on total NEG score have been boldfaced, and the opposite values have been underlined

^aGender, age, and log-transformed total negative symptoms score have been partialled out

* and **: significant levels at p < .017 (= .05/3) and p < .002 (= .05/25)

Table 3.6 Gender- and age-adjusted percentages of high scorers

| Scales (cut-off) | Anglo-Americans | Native Americans | Argentineans | Japanese |
|----------------------------|-----------------|------------------|--------------|-------------|
| CES-D | | | | |
| (15/16) % high-scorers | 33.0 | 54.2** | 31.1 | 52.2** |
| (95 % CI) | (27.7–38.9) | (48.7–59.6) | (22.9–40.6) | (46.5–57.8) |
| Negative items only | | | | |
| (12/13) % high-scorers | 33.8 | 49.1** | 28.3 | 39.3 |
| (95 % CI) | (28.4–39.7) | (43.7–54.6) | (20.5–37.7) | (33.3–45.0) |

95 % CI: 95 % confidence intervals of the adjusted

** : significant different at $p < .001$ in comparison with Anglo-Americans

was over-endorsed by Japanese and Argentineans. The total CES-D scale was over-endorsed by all three racial/ethnic groups. The partial correlations of Japanese on the “Lack of POS” scale and the CES-D scale were particularly high.

3.5.3.3 Influence of DSF on Percentages of High-Scorers

As can be expected by their total scores in Table 3.5, the gender- and age-adjusted percentages (with 95 % confidence intervals) of high-scorers according to the standard cut-off point of 15/16 (Radloff 1977) on the CES-D scale were extremely high among Native Americans and Japanese (top line of Table 3.6). In order to investigate the difference in percentages of high-scorers due to the inclusion of POS items, the adjusted percentages according to a cut-off point of 12/13 using only the NEG items were also calculated (bottom line of Table 3.6). This value (12/13) was selected as it yielded a comparable proportion of high-scorers among Anglo-Americans as the traditional cut-off point. When only NEG items were taken into consideration, the percentages were reduced in all three groups. The change was most pronounced for the Japanese sample, resulting in a non-significant difference compared to Anglo-Americans.

Furthermore, “positive-negative ratio” (POS/NEG) adjusted for the number of items was calculated as a balance index. For each respondent, we calculated a ratio of the mean response to the four positively worded items divided by the mean response to the 16 negatively worded items. To avoid a value of zero in the denominator of this ratio, we adopted a 1-2-3-4 scoring, instead of the usual 0-1-2-3 scoring. Since responses to positive items have been reverse scored, these scores indicate lack of positive affect. Thus, values above 1.0 for the POS/NEG ratio correspond to individuals with relatively greater *lack of* positive affect than presence of negative symptoms, i.e. suppression of positive affect. Conversely, values below 1.0 correspond to individuals with relatively greater expression of positive affect as compared to negative symptoms. In other words, the POS/NEG ratio less than 1.0 indicates that the expression of POS was greater than the expression of NEG, and vice versa.

Figure 3.9 provides good visual inspection for the difference in expression style across groups. As demonstrated earlier, the Japanese considerably suppress

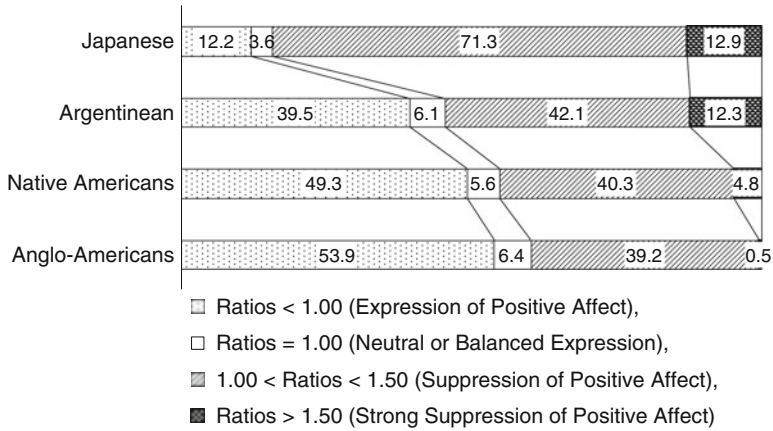


Fig. 3.9 Distributions of the “Positive/Negative Ratios” of CES-D scores across four ethnic groups

the expression of POS affect, while North Americans including Native Americans tended to express more POS affect as compared to South Americans. That is, responses observed from people in the U.S. appeared to be rather biased toward the opposite direction compared to Japanese tendency, though the U.S. data have been commonly used as reference or criterion group for cross-cultural comparison.

On the dimensionality of the State-Trait Anxiety Inventory (STAI; Spielberger 1983), characterized as state/trait distinction of anxiety, variance explained by the “anxiety-presence/absence” component was greater than that of the “state/trait anxiety” component among 1,862 Japanese workers, and three factors labeled as “(lack of) anxiety-absence,” “state anxiety-presence” and “trait anxiety-presence” were extracted as shown in Fig. 3.10 (Iwata et al. 1998a). Items were grouped according to the types of item-wording (i.e. positive vs. negative), while items were grouped by state and trait component in the U.S. This indicated that the effects of positive or negative questions on responses overwhelmed the state-trait measuring concept in the Japanese people, whereas the state/trait distinction was more effective for people in the U.S. and other western countries. The two higher-order factors reflecting the types of item-wording appeared to be independent (inter-factor correlation was approximately 0).

The inter-scale correlations revealed that anxiety-absent (positive) feelings of the Japanese population were relatively stable, as compared to anxiety-present (negative) feelings (Iwata et al. 1998a, b). At least based on the psychometric point of view, the state-trait concept may not necessarily be adapted to anxiety-absent (positive) feelings of the Japanese population, and it would be suggested that responses on positive feelings/affairs of the Japanese mostly reflect their trait or personality regardless to their “state” conditions. Negative affect may be easily fluctuated by external situations, but not for positive affect in the Japanese (Iwata et al. 1998a; Iwata and Higuchi 2000).

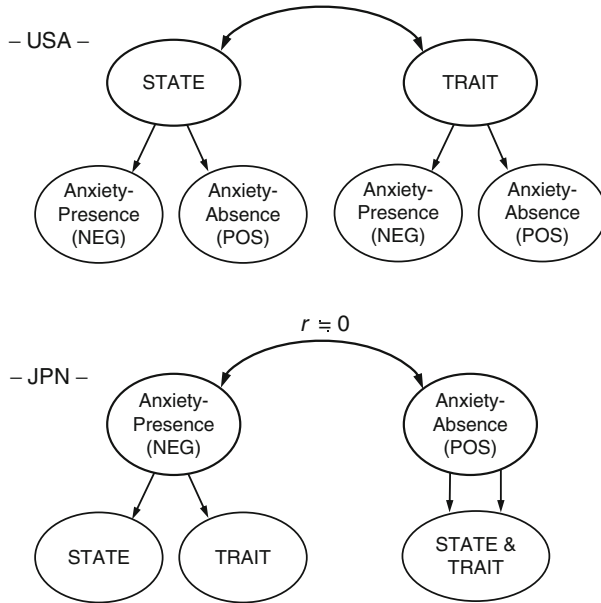


Fig. 3.10 Japan-U.S. difference in dimensionality of STAI

3.5.3.4 Effects of Response Bias in Determining Correlates

This leads to the question which is practically the most important issue in an empirical stress research; what impact does the scale-level response bias have? To answer this question, a correlational analysis was conducted using data on some job stressor scales of the NIOSH Generic Job Stress Questionnaire and the 12-item version General Health Questionnaire (GHQ-12) collected from 765 Japanese workers (Iwata et al. 1999). Some stressor scales consisted of negative items, but others such as job control consisted of positive items (reverse scored for the assessment). The GHQ-12 consisted of six positive items and six negative items (GHQ-POS, GHQ-NEG). The focus was on how positively- and negatively-worded stressor scales correlated with psychological distress. It was found that the GHQ-POS was significantly correlated only with positively-worded job stressors, but not with negatively-worded ones. Conversely, the GHQ-NEG was significantly correlated only with negatively-worded stressors, but not with positively-worded ones (Table 3.7). Event-type stressors, which could be regarded as more objective measure even by self-reported assessment, showed significant correlations with both.

Due to the deviated correlation pattern, the correlations with job stressors (psychological measures) were statistically different between positive and negative components of mental health, i.e. GHQ-POS and GHQ-NEG (right column in Table 3.7). These results suggest the possibility that significant predictors to psychological distress were merely products of spurious associations reflecting “measurement similarity” due to item-wording. The scale-level response bias

Table 3.7 Correlations of GHQ positive and negative subscales with job stressors

| Stressors | Type of wording | GHQ-Positive | GHQ-Negative | Difference in r 's (p) |
|--|-----------------|--------------|--------------|------------------------------|
| <i>Job stressors (psychological scale)</i> | | | | |
| Quantitative workload | (Neg) | .00 | .19* | *** |
| Variance in workload | (Neg) | -.05 | .15* | *** |
| Cognitive demand | (Neg) | -.03 | .13* | ** |
| Job control | (Pos) | -.12* | -.04 | ns |
| Skill underutilization | (Pos) | .13* | .02 | * |
| <i>Event-type stressors</i> | | | | |
| Overall life events | | .21* | .27* | ns |
| Work-related events | | .19* | .26* | ns |
| Other events | | .10* | .12* | ns |

ns the corresponding correlations did not differ significantly

*, **, ***: significant at $p < .05$, $p < .01$, $p < .001$, respectively

using positively-phrased questioning might be attributable to these suspicious results. Accordingly, even the authenticity of previous empirical research would appear to be skeptical.

3.5.4 Strategy to Reduce Culturally-Specific Response Bias

As shown above, the Japanese tend to suppress the expression of positive affect. This tendency obviously causes greater hindrance in cross-cultural comparison. Additional research questions are whether this tendency causes any problems in a domestic study or not, and if it were the case, how can we avoid this response bias. To address these issues, Iwata et al. (1998c) compared response data on the Japanese version CES-D between Japanese 85 clinical outpatients complained of dysphoric-mood-related symptoms and 528 demographically matched controls who were workers affiliated with a production company or public offices in Japan. The four additional negatively revised versions of the original positive affect items were also administered in this study.

Comparisons of response profile between the groups revealed both similar and different responses for the type of item-wording (Fig. 3.11). For negative items, the response profile differed remarkably between the patients and the controls, but the profiles on positive items were mostly the same. Although the responses to negatively revised items were comparable to those for negative symptom items, the responses to positive items were quite different from the others.

To further examine the ability of individual item to discriminate between clinical patients and controls, two symptom duration levels were used. For negative items, predominant symptoms was rated as “occasionally (scored 2)” and “most (scored 3),” and persistence of symptoms was equated as “most.” Positive items were reverse-scored.

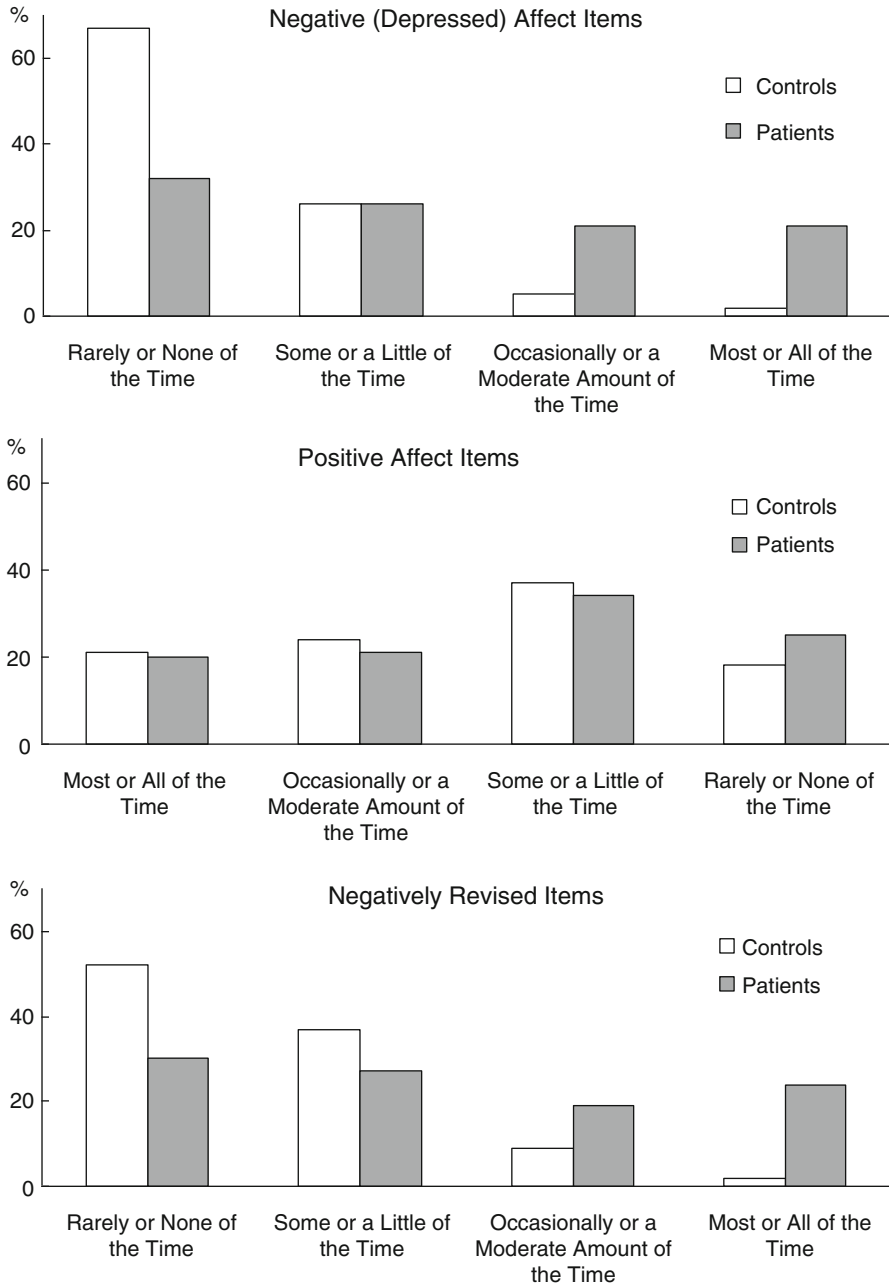


Fig. 3.11 Patient-Control differences in response frequencies according to the types of items

Table 3.8 Endorsement percentages on positive affect items by depressed outpatients and controls

| Scale/items | Controls (n = 528) | | Depressed (n = 85) | |
|-----------------------------------|-----------------------------|--------------------------|-----------------------------|--------------------------|
| | Predominant (scored 2–3) | Persistent (scored 3) | Predominant (scored 2–3) | Persistent (scored 3) |
| <i>Positive affect (reversed)</i> | | | | |
| 4 Good as others | 58 | 22 | 58 ns | 23 ns |
| 8 Felt hopeful | 53 | 14 | 51 ns | 24* |
| 12 Happy | 51 | 22 | 64 ns | 21 ns |
| 16 Enjoyed life | 51 | 15 | 62 ns | 31** |
| <i>Negatively-reworded items</i> | | | | |
| 4 Inferior | 9 | 2 | 43*** | 29*** |
| 8 Not felt hopeful | 10 | 3 | 44*** | 21*** |
| 12 Unhappy | 13 | 3 | 38*** | 17*** |
| 16 Not enjoyed life | 10 | 2 | 46*** | 28*** |

ns not significant between the groups

*, **, ***: significant different between the groups at $p < .05$, $p < .01$, $p < .001$, respectively

Positive affect items with positive wording could not discriminate depressed outpatients from normal controls (upper four lines in Table 3.8), indicating that the Japanese response tendency toward positive items were robust enough not to differentiate clinical cases from normal controls. In contrast, the groups could be clearly differentiated by their negatively reworded items (bottom four lines in Table 3.8). There seem two possibilities to explain this result. That is, positively worded questioning is inappropriate for Japanese subjects, or (lack of) positive affect is not included in the depressive symptomatology of Japanese subjects. However, our results for negatively revised items of positive affect refute the latter possibility. Although a lack of positive affect might be included in or associated with depressive symptomatology among Japanese subjects, it cannot be adequately assessed by its original positively worded questioning.

All the findings exemplified in this chapter show that the robust and inevitable response bias would emerge when the positively-phrased items are used for the Japanese population, and thus the item with positively-worded questioning should not be used for the Japanese. As to the psychopathological distinction between depression and anxiety, Watson et al. (1988) revealed that both high negative affect and low positive affect were related to depression, whereas only high negative affect was related to anxiety, and concluded that positive affect in depression measures might enhance their sensitivity. However, the above results (cf. Fig. 3.11 and Table 3.8) indicate that this concept for differentiation of depression and anxiety is not applicable to the Japanese population, at least by means of the original positively-worded measurement; i.e. positive affect is hardly related to depression among the Japanese if it is assessed by positively-worded questioning.

To reduce or avoid the critical bias in measuring positive affect, we should revise/rephrase the item from positively worded to negatively worded items. This strategy would be also preferable from the viewpoint of psychometric properties because the internal consistency improved when positive items were replaced

by negatively revised counterparts. Unfortunately we cannot measure positive feelings/affairs between Japanese population and other countries by directly using the standard style of questioning, though this is the principal concept in positive psychology that would be one of the major research topics during the twenty-first century.

3.6 Challenges and Future Directions

Why do the Japanese individuals tend to suppress the expression of positive affect/affairs? The explanation to this question seems beyond the scope of this chapter. Rather, it should be noted that the similar response bias in comparison with non-Hispanic whites or Caucasians have been subsequently obtained from other Asian population (e.g. Cho and Kim 1998; Lee et al. 2011), Asian immigrants in Canada (Noh et al. 1998), and Hispanics in the U.S. (MacIntosh and Strickland 2010) as well. Thus, not only the Japanese but also other Asians and South Americans might have a tendency to suppress the expression of positive affect as compared to the western population such as Caucasians, whereas they conversely appear to have a tendency of over-expression of their positive affect.

Positive feelings are quite salient in mainstream American culture (Ying 1989), so that the American respondents may be encouraged to get such feelings in daily life and to express them without hesitation (Iwata et al. 1994; Kitayama et al. 1997). However, in traditional Japanese society, a typical collectivistic society with Confucian ethics, individual psychological well-being is subordinated to the well-being of the group (Iwata et al. 1994). Maintenance of social harmony is one of the most important values in Japanese society, and thus, the Japanese have been taught since childhood to understate their own superiorities and not to behave assertively. Growing up in such a collectivistic society might lead the person to pay close attention to group situation and interpersonal relations (Iwata et al. 1995). This tendency is presumably reflected in the Japanese mentality and cognitive style, as exemplified by the relativistic or external standard in life philosophy.

We speculate that the Japanese may judge positive affect and affairs through a comparison with other (i.e. relativistic judgment), and thus, the Japanese are more likely to have a moderate but not strong level of positive affect, resulting in the predominance of intermediate responses to positive items (Iwata et al. 1995). Indeed, our preliminary study using a computer-based testing system revealed that the Japanese spent approx. 2 s longer as compared to negative symptom items of the CES-D when responding to positive affect items.

Positive psychology was launched with Martin Seligman's APA presidential address in 1998. The first American Psychologist of the new millennium was dedicated to positive psychology (e.g., Seligman and Csikszentmihalyi 2000). The momentum of that auspicious start has grown ever since. As Seligman (2003) noted, positive psychology is about 'happiness.' Happiness and well-being

are the desired outcomes of positive psychology. Because the ways of enhancing them differ, the positive emotions have been divided into three kinds: those directed toward the past (e.g. satisfaction, contentment, pride, serenity), the future (e.g. optimism, hope, confidence, trust, faith) or the present. Furthermore, according to Veenhoven (2003), “happiness is a conscious state of mind; hence it can be measured by simply asking people about it. It is an overall judgment; so it can be measured by single questions. Thus happiness can be assessed in large-scale surveys. Several standard questions have shown to be quite valid and reasonably reliable (Diener 1999).”

This advocated the positive turn of psychology since Seligman’s address is also relevant for the research/practice of occupational health psychology. Work engagement, one of the newly introduced concepts in line with positive psychology, is defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli et al. 2002). According to Bakker et al. (2008), empirical studies have revealed that engagement is a unique concept that is best predicted by job resources (e.g. autonomy, supervisory coaching, and performance feedback) and personal resources (e.g. optimism, self-efficacy, self-esteem).

Now, we notice that that’s a story in the western world. As I exemplified, happiness, mainly consisting of positive emotions, of people in Japan and/or probably some non-western countries could not be so simply measured, or at least not be merely compared with those simply measured in the western people. Also, prior to the comparisons, three kinds of positive emotions noted by Seligman (2003) could not be separately assessed in the Japanese individuals, whose state and trait positive affects have been mixed. Furthermore, various positive concepts of job and personal resources would be obviously biased at a measurement level, as shown in Fig. 3.2 for self-efficacy across countries. At least presently, I should note that there is no established way to measure the positive concepts such as positive emotions precisely in the Japanese and probably some other non-western people. No “etic” instruments make sense.

On the other hand, many countries today are experiencing an increasing diversity in their societies. Television, movies, and other outlets of the mass media bring people together like never before. Improvements in communication technologies such as the cell phone, internet and email all bring us closer more quickly. Due to the globalization and widespread information networks, the lifestyle including ways of communication style, of contemporary Japanese has been changing dramatically toward the western style. This is more so among younger generation. Seeing that younger generations are more likely to be influenced by contemporary North American culture, I wonder if the tendency to suppress the expression of positive affect robustly observed in the traditional Japanese could be fading out.

This seems to be the case according to my investigation (see Fig. 3.9). As Native Americans traditionally seem more socio-centric in attitude compared to other ethnocultural groups in the U.S. (Manson 1995), they tend to inhibit the expression

of positive affect to sustain group harmony, as do the Japanese. However, a younger generation of Native Americans and Anglo-Americans express positive affect in a comparable fashion. Although this cannot be generalized in every case, generational difference in the expression/manifestation of depressive symptoms, i.e. somatization in older generation to psychologization in younger generation, has also been demonstrated for the Japanese population (Iwata and Roberts 1996). These results suggest that sociocultural factors influences emotional expression style differently among different generation within the same racial/ethnic group. Accordingly, there exists a possibility that the expression style of Japanese may change and begin to resemble that of the western/American style in the future.

It is easy to administer questionnaires in different cultures to get data. However, because we know that self-report really only accounts for a small proportion of variance in actual behaviors, researchers with cross-cultural aspects will need to incorporate methods of studying real lives in real contexts and not solely rely on questionnaires administered in different countries. Everywhere we look people from different countries and/or cultural backgrounds, are being thrust together like never before. Understanding, managing, and taking advantage of the increased diversity remains our challenge in the future. The cross-cultural research should be able to help create a better world by understanding the difference and looking for the appropriate systems for people with various cultures to live together.

3.7 Conclusion

In the era of globalization, a cross-cultural approach should become more important, particularly in the multi-national workforce. To protect the workers from work stress and improve health and well-being, appropriate assessment would be required. For such purpose, various self-administered instruments constructed and standardized in the western countries have been commonly employed. This chapter overviewed the types of response bias and exemplified a series of investigations of response bias observed in the Japanese population. Responses to positively-worded questions have been heavily biased for the Japanese; i.e. the Japanese suppress the expression of positive affect. However, empirical data would suggest that not only the Japanese but other ethnocultural populations have such as tendency to some extent, and also people in North America show an opposite tendency. It should be noted that although positive psychology is now the mainstream of psychological research, positive questions, usually used for measuring positive emotions/affairs of workers and work-related factors, should be dealt with very carefully in a cross-cultural study. While fully understanding the possibility that different cultural groups may endorse different responses to the same question, research that helps us coexist with other cultural groups should be sought.

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Chapter 4

Timing in Methods for Studying Psychosocial Factors at Work

Christian Dormann and Bart van de Ven

4.1 Introduction

It has become very common in the study of psychosocial factors at work to conduct repeated measurement designs. Repeated measurements are applied, for example, in diary studies where every participant responds to a questionnaire on several days or even several times a day. Diary studies are usually characterized by having quite a number of repeated measurement occasions (e.g., 5–10) among not too many participants (commonly <100). Repeated measurements are also applied in terms of panel studies, where quite a lot of participants (commonly >100) are required to answer a questionnaire on a few occasions only (commonly two). Whereas the spacing of repeated measurements in diary designs is not too much of an issue because it typically ranges from a few hours to a few days only, the time lag in panel studies varies considerably and may range from a couple of days to decades. However, it remains unclear what time intervals are appropriate in panel designs.

In this chapter, we will review possible reasons for choosing particular time lags. Based on extant suggestions, we develop a taxonomy of time lags. We also describe how panel studies in the literature on psychosocial factors are conducted worldwide. In particular, in discussing different reasons for the timing of methods, we derive recommendations that may serve as guidelines for future panel studies.

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4.2 Timing of Methods in Research from the Asia Pacific Region

Timing of methods and spacing in between measurements is, of course, an issue that is not only relevant to the Asia Pacific region; it is relevant across the globe. Differences might exist as to what time lags are chosen and how well they are theoretically underpinned in Asia Pacific studies of psychosocial factors compared to other regions in the world. Therefore, we will review extant panel studies from the Asia Pacific in detail and compare them with what is done elsewhere in the world. This review together with our theoretical reasoning on optimal timing could increase the international impact of future studies in the Asia Pacific.

4.3 Theoretical Models of Stress and Strain

The decision for choosing a particular time lag in panel studies should be based on theoretical, methodological, and practical reasons. Frese and Zapf (1988) identified several theoretical models explaining the issue of time in the relationships between stressors and strains. Two types of stress reactions were identified: stress reactions that occur as a more or less direct response to the stressor (initial impact), and stress reactions where over an extended period of time stressors lead to ill-health (exposure time models). The different theoretical models discussed by Frese and Zapf (1988) represent just some of the many reasons for choosing particular time lags, which we discuss later in this chapter. We firstly discuss the Frese and Zapf (1988) models in more detail. Although these models have become extremely prominent, we will show that the associated implications for appropriate time lags are less clear, which has led to the derivation of wrong conclusions by many researchers. In particular, we challenge the derivation of many researchers that exposure time models always require long time lags to demonstrate relations between onset of stressors and appearance of effects. Instead, we aim to show that quite short time lags are sufficient in most instances.

We wish to note that Frese and Zapf (1988) were essentially correct in their propositions and we do not challenge their arguments. However, their descriptions apply to how stressors impact on strains within individuals. That is, they described single individuals' trajectories in stress reactions over time. Opposed to this, researchers usually use panel data to analyze how changes in stressors relate to changes in strains in samples (e.g., using regression methods or structural equation modeling), which is a between-person approach. Therefore, we firstly discuss the Frese and Zapf (1988) models and their implications for time lags in panel studies. Secondly, we then significantly extend the list of possible reasons used to choose particular time lags, and we derive the consequences of these reasons. Thirdly, we apply these insights to analyze extant Asia Pacific panel research on psychosocial factors, and we derive some conclusions on how future Asia Pacific research can benefit from these conclusions.

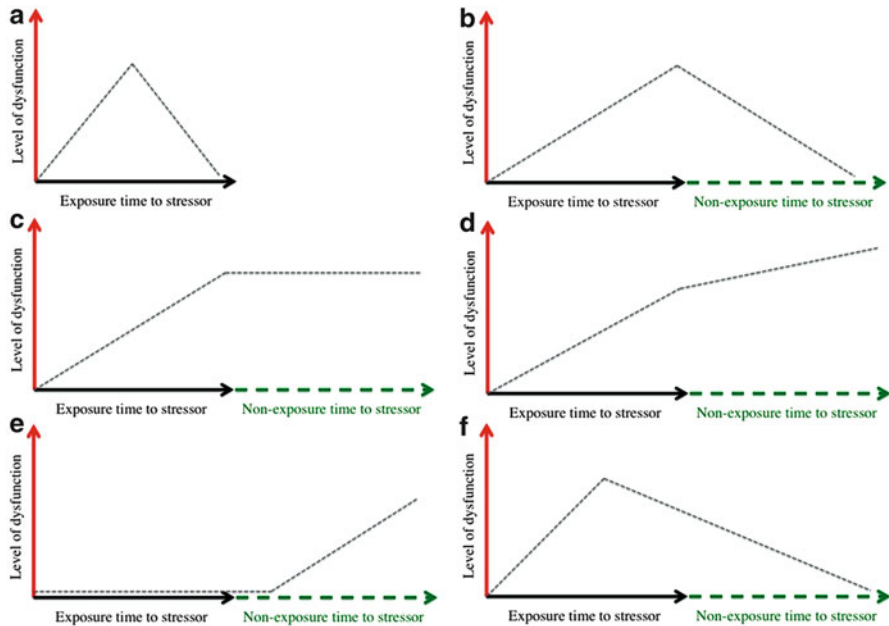


Fig. 4.1 Theoretical stressor-strain models (a) Initial impact model (b) Stress reaction (exposure time) model (c) Accumulation (exposure time) model (d) Dynamic accumulation (exposure time) model (e) Sleeper effect (exposure time) model (f) Adjustment (exposure time) model (After Frese and Zapf 1988, pp. 388–389)

Initial impact models (cf. Fig. 4.1a), as elaborated by Frese and Zapf (1988), propose that stressors have an effect on strain without much delay. Strain increases directly with the level of stressors involved, but then strain disappears after some initial exposure to the stressor. This decline in strain occurs by nature because the human body runs out of strain drivers such as neurotransmitters or hormones. An example of such initial impact of stressors is the immediate biological reaction following induced stressors in an experimental setting. Häusser et al. (2011), for example, measured salivary cortisol at seven time points across 3.5 h. They used a 2×2 experiment in which levels of job demands and job control were manipulated. Participants in the high demand – low control condition showed significantly increased cortisol response compared to the other three conditions. Other examples of initial impact changes in strain include cardiac responses (e.g. blood pressure or heart rate; cf. Landsbergis et al. 2013; Hernandez-Gaytan et al. 2013) and hormonal activity (e.g., adrenaline and nor-adrenaline; cf. Aronsson and Rissler 1998). Physiological, initial impact reactions are often beneficial in activating the internal resources needed to cope with a stressor. However, when activated repeatedly or chronically, these physiological reactions stop following the characteristic pattern described by the initial impact model and may start contributing to prolonged ill-health and reduced well-being.

The exposure time models discussed by Frese and Zapf (1988) describe such kinds of development – we review them in the next paragraphs.

Exposure time models. In addition to the initial impact model, five plausible variations on exposure time models are discussed by Frese and Zapf (1988) and widely used by scholars in work and organisational psychology ever since: the stress reaction model, the accumulation model, the dynamic accumulation model, the sleeper effect model, and the adjustment model.

First, according to the *stress reaction model* (cf. Fig. 4.1b), as exposure to a certain stressor increases, so too does the detrimental effect on health and well-being. However, health and well-being improve again when the stressor is removed. The longer the stressor is removed, the better the person fares. An assumption of this model is that the increase of a stressor would have the same impact on psychological dysfunction as its decrease; simply the sign of the impact should be reversed (Zapf et al. 1996). This effect has been described in the context of unemployment, wherein when the stressor “unemployment” was removed, depression diminished again (cf. Frese and Mohr 1987).

Second, the *accumulation model* (cf. Fig. 4.1c) states that the impact of a stressor on strain increases over time and then strain stabilizes at a ceiling level. Even after exposure to the stressor is reduced, the level of strain is stable after the “breaking point” is reached. The accumulation of stress effects can lead to psychosomatic illnesses. For example a loud working environment can lead to hearing impairment (Chang et al. 2006). These effects of the working environment do not diminish after the stressor – loud work environment – is taken away, as noise-induced hearing loss is a permanent and irreversible disease (Neitzel et al. 2011).

Third, this *accumulation model can be dynamic* (cf. Fig. 4.1d). After removal of a stressor the strain resulting from that stressor continues to increase. This model would suggest that one is not simply more vulnerable to negative consequences of job stressors specifically when “under stress”, but that decreases in well-being cause further decreases in well-being. Such a dynamic accumulation model has been suggested for depression (and burnout). For example, Brosschot et al. (2005) describe a process of perseverative cognition, manifested in phenomena such as worry, rumination, and anticipatory stress, mediating the stress-disease link.

A fourth model, the *sleeper effect model* (cf. Fig. 4.1e), implies that job stressors may have little initial impact on strain and may only begin to cause health and well-being problems after a lengthy period of exposure or even thereafter, as may be the case in post-traumatic stress disorder (cf. Leymann and Gustafsson 1996). For example, social stressors may lead to a cautious and even hostile attitude toward colleagues that contributes to later depression (Garst et al. 2000). This sleeper effect model could for instance explain why ter Doest and de Jonge (2006) found a significant longitudinal path from social support to emotional exhaustion after 2 years, whereas previous studies did not find this relationship in full-panel studies with a 1-year time lag (de Jonge et al. 2001; Houkes et al. 2003b). This is consistent with the idea that burnout follows a developmental trajectory, with emotional exhaustion emerging only after prolonged exposure to job stressors (Maslach et al. 2001). Evidence for such a delayed effect was observed in a multi-wave

study by Dormann and Zapf (2002), who concluded that time lags of at least 2 years may be needed to capture effects of workplace social support on depressive symptoms.

Finally, the *adjustment model* (cf. Fig. 4.1f) assumes the development of coping strategies to deal with stressors. At a certain point employees learn to cope with job stressors, even though they are still exposed to these stressors. At first, stress reactions evolve in similar manner to the initial impact model. Whereas in the initial impact model strain is naturally reduced because biological strain drivers are depleted, the decrease of strain according to the adjustment model occurs later because it relies on learning processes. Through such learning processes the employee adjusts to the stressor because internal or external resources have been used. Individuals as well as their surroundings at work are not static in nature.

A large array of possible moderators of the stressor-strain relationship has been described in the literature. The adjustment model can, for instance, be described within Lazarus' theory (Lazarus 1966): employees develop coping mechanisms in order to deal with their stressors. Further, job stressors can be perceived (appraised) by employees as being challenging or threatening (cf. Lazarus and Folkman 1984), which will also affect the stressor-strain relationship. Ample other personal resources have been described in the literature. Apart from personal resources, job resources can influence the stressor-strain relation often described in terms of moderation. Most authors propose interactive effects of job demands and job resources, in which job resources are assumed to moderate the relation between job demands and outcomes (Cooper et al. 2001). This has been described for example in prominent job stress models such as the Demand-Control-(Support) Model (Johnson and Hall 1988; Karasek and Theorell 1990; Karasek 1979), the Effort Reward Imbalance Model (Siegrist 1996; Siegrist et al. 1986), the Job Demands-Resources Model (Demerouti et al. 2001), and the Demand-Induced Strain Compensation Model (de Jonge and Dormann 2006). Employees, however, are not necessarily passive recipients of stressors and resources. They can craft their job and initiate changes in their job themselves (cf. Tims et al. 2013; Wrzesniewski and Dutton 2001). Further, recovery processes have been described in terms of the adjustment model (i.e. the opposite to the strain process, Sonnentag and Fritz 2007).

4.3.1 *Consequences for Time Lags*

The theoretical models described above have an impact on the appropriate time lags for studying a certain stressor-strain relationship. However, this choice is complicated by the fact that different outcomes within a single study are likely to follow different trajectories. Two further lines of argument apply. First, in those cases in which a researcher can determine the exact starting point or onset of a stressor (e.g. starting a new job, intervention studies, restructuring in organisations, etc.) it makes sense to use longer time lags to measure stressor effects that apply to every participant and that might unfold slowly. Knowing the exact starting point for each

participant is of pivotal importance because only then can follow up measures yield equal exposition times for all of them and only then can one reasonably assume that all participants are in a similar phase of strain development during a follow up measurement. Unfortunately, the exact starting point is rarely known. Second, in those cases where there is no clear understanding of the starting point of stressors and, thus, the exposure times for individuals vary, we argue below that shorter time lags are sufficient in most cases.

When stressor-strain relations are in accordance with the initial impact model, the time lag in a panel study should be rather short. For all participants who have already passed the initial impact phase, stressor-strain relations no longer exist. For all participants who are within the initial impact phase at the first measure, there is a chance to observe an increase in strain only if the follow up measure is not taken too long afterwards. In fact, diary studies or experimental designs seem more appropriate to study initial impact stressor-strain relations than studies across decades.

Turning to exposure time frameworks, when the stress reaction model applies, the exposure time to a stressor is proportional to the level of concurrent strain. The same applies to the change in exposure time and change in strain, that is, to panel analysis. Hence, the time lag does not matter. However, with increased time lags, interim effects become more likely. Interim effects may consist of interruptions, disturbances, and the like which may impact on stressors and strains. Such interim effects bias lagged stressor-strain relations downwards. Interim effects can never be avoided completely, however, they are more likely across long intervals. Hence, if the stress reaction model applies, utilizing short time lags in panel studies would minimize the influence of interruptions, disturbances, and other interim effects.

Accumulation models also have implications for length of time lag. In the accumulation phase, the relation between stressor exposure and strain is again proportional, so the same argument as for the stress reaction model applies: time lags do not matter for estimates of stressor-strain relations, except that the likelihood of interim effects increases as the lag increases. Furthermore, the longer the time lag, the greater the likelihood that the breaking point has been reached. Thus, obtaining strain data after the breaking point will bias lagged stressor-strain relations downwards because, after stressor removal, the relation between stressors and strain becomes zero. Using panel designs to test accumulation models would thus also be best accomplished with short time lags.

With a sleeper effect model, predicting optimal time lags is most complicated. At the beginning, exposure time and level of strain are uncorrelated. If the “wake up” point is reached during exposure, there is a short phase during which exposure time and strain are positively correlated. If the “wake up” point occurs after exposure has ended, the correlation may even become negative. This picture is so complicated that it seems difficult to make any recommendations for an optimal time interval. However, since there is one phase in which the positive relation between stressor exposure and strain turns into a negative one, one should try to avoid tapping into this phase. The only reasonable choice, then, is again to use rather short time lags and multiple measurement waves.

In the initial phases of the adjustment model, similar reasoning as for the initial impact model applies. Since adjustment processes may take longer than naturally occurring depletion of physiological stress responses, however, time lags could be slightly longer and may be extended to intervals until the adjustment phase begins. To clarify, this rationale does not imply that time lags have to be longer during the adjustment phase, rather that they could be longer without biasing the cross-lagged stressor-strain effects downwards. Thus, sticking to short time lags is also a good suggestion if researchers believe adjustment models match the relations among their focal variables.

Apart from shorter time lags being sufficient, for each of the Frese and Zapf (1988) models that can apply, it is always advisable to include multiple waves of measurement (cf. Zapf et al. 1996). Above and beyond making possible more complex modeling techniques such as growth curve models (Garst et al. 2000) or modeling unmeasured third variables (Dormann 2001), this allows for testing effects across different time lags. Based on the theoretical arguments outlined above, we believe that short time lags usually will yield larger effects. However, when researchers find that longer time lags yield statistically larger effects, theoretically elaborating on possible reasons could be advisable.

4.4 Definition of Terms: How Long Is Long and How Short Is Short?

Authors (e.g. Lazarus 1990; Sonnentag and Frese 2003) describe the stress process including short-term and long-term stress reactions without mentioning specific durations. A more specific, time-based distinction of stressors could offer advantages to researchers, but no generally accepted taxonomy of what constitutes immediate, short-term, mid-term, and long-term stress reactions exists. Payne (2001) was among the few who provided a time-related taxonomy concerning affective states. Payne (2001) distinguished “short” as a duration of minutes up to hours, “medium” lasting days up to weeks, and “long” as developing across months and years.

We believe that Payne’s (2001) taxonomy should be expanded and nuanced. The “short” term category should further distinguish between immediate effects and effects that take at least some time to develop. Likewise, the “medium” category is not differentiated enough and doesn’t account for the growing number of studies using day- (and even week-) level data. The “long” category also includes a too broad range of time lags. We therefore suggest the taxonomy displayed in Table 4.1.

This terminology can be applied to differences in the measurement occasions of causes (stressors) and, separately, effects (strains). For example, one could investigate meso-term stressors (e.g., bullying) on grand-term stress reactions (e.g., depression). The taxonomy does not apply to the time scale used in the phrasing of the items or to the response scale used with these items. Researchers

Table 4.1 Taxonomy of time lags

| Term | Time frame |
|-----------------------------|--------------------------|
| Immediate stress-reactions | Seconds up to minutes |
| Short-term stress-reactions | Hours up to one day |
| Mid-term stress-reactions | One day up to one month |
| Meso-term stress-reactions | One month up to one year |
| Long-term stress-reactions | One year up to ten years |
| Grand-term stress-reactions | More than a decade |

should pay attention that the time lag that is (in some cases) mentioned in the item (e.g. have you experienced depressive symptoms during the last month) or the response scale (e.g., 1 = *once throughout the last four weeks* to 5 = *every day*) does not exceed the actual lag between two measurements (e.g., 2 weeks).

4.5 Reasons for Choosing Particular Time Lags

Little research has yet been devoted to the question of which time lags should be chosen in panel designs. Instead, vague statements, such as ‘not too short’ or ‘not too long’, are common (cf. Boker and Nesselrode 2002; Hertzog and Nesselrode 2003). However, the reasons that researchers give for choosing particular time lags are many and varied, and they go far above and beyond those discussed by Frese and Zapf (1988). Although not exhaustive, Table 4.2 lists several of these, which will be discussed in the present chapter.

The different clusters in Table 4.2 represent major groups of reasons. Reasons related to the *construct* are those wherein the construct definition includes time, either implicitly or explicitly. For instance, to investigate the impact of job demands on depression in a prospective study, it may be necessary to make use of a reasonably long time lag in order for sufficient participants to experience a significant change in their level of depression. Therefore, researchers are unlikely to investigate a construct such as a ‘one-day lasting depressive episode,’ even if such a construct could exist. Instead, researchers frequently investigate constructs such as 1-year or 2-year incidence rates, that is, they use a *relative time span* to define their focal constructs. Compared to constructs linked to a relative time span, there are also definitions of constructs, which refer to *absolute time points*. Such definitions could refer to particular ‘historic’ days (e.g., day on which the merger of companies is announced), or repeatedly changing constructs such as morning recovery (e.g., as outcome of stress spillover from the previous workday) or Blue Mondays (e.g., as indicator of lack of work motivation). Constructs defined with reference to relative time frames or absolute time points impose one particular restriction to full wave panel designs: Each pair of two subsequent waves should cover a time interval that allows a second, conceptually non-overlapping measurement of the construct (e.g., 7 days for Blue Mondays).

Table 4.2 Methodological reasons influencing the length of time lags

| Source | Time relatedness | Explanation | Examples (*cf. reference given) | Reference (Example) | Time lag required (reason) |
|--------------------------------|---------------------------------------|---|--|---|---|
| Construct | Relative time span | Time frame or time span across which a construct exists | *Incidence rates, duration of employment, chronic exposure, annual turnover | <i>"The dependent variable of this study was the 2-year incidence of depressive and anxiety disorders [...]"</i> (Plaisier et al. 2007, p. 403) | Study interval should exceed the lag used to define the construct (in order to avoid conceptual overlap) |
| | Absolute time points | Time points at which the construct exists | Blue Monday | <i>"Monday is viewed as unpleasant because most people anticipate four more (presumably unpleasant) workdays ahead."</i> (Stone et al. 1985, p. 129) | Time points in a study should allow for constructs that are defined with reference to a particular time to (re)occur (in order to gather required data) |
| Operationalization/ Indicators | Relative time span | Time frame or time span to which a measurement refers | *Annual turnover as operationalization/ indicator of the construct job transitions | <i>"During the last 2 years (since you completed the first questionnaire), did you voluntarily quit your job"</i> (de Croon et al. 2004, p. 446) | Study interval should exceed the lag referred to in the measurement of the variable (in order to avoid measurement overlap) |
| Mechanism/Effect | Strength of effects | Weak effects may take longer time to unfold | *Stress & emotional exhaustion | <i>"[...] drops of water may dent a stone in time"</i> (Taris et al. 2010, p. 470) | Study interval should be long (in order to avoid underestimation of effects) |
| | Duration/ length of effects | True effect can only be detected using "true" causal lags | *Pesticides exposure measured by morning void urine samples | <i>"[...] pesticides are typically metabolized and excreted from the body within a 72 hour time period"</i> (Grzywacz et al. 2010, p. 265) | Study interval should match the "true" causal lag (in order to avoid biased effect estimates) |
| | Effect curves/ variability of effects | Effect sizes may vary over time (cf. Frese and Zapf 1988) | *Accumulation model (e.g., allostatic load), direct effect model, sleeper effect model, adjustment model, etc. | <i>"The theoretical exposition assumes that allostatic load develops slowly from primary stress reactions via health risk factors to actual diseases"</i> (Kinnunen et al. 2005, p. 27) | Study interval should be "optimal" and take effect curves into account (in order to avoid biased effect estimates) |

(continued)

Table 4.2 (continued)

| Source | Time relatedness | Explanation | Examples (*cf. reference given) | Reference (Example) | Time lag required (reason) |
|--------------------------|----------------------------|---|---|--|--|
| Mechanism/Effect (cont.) | Rate of change in IV or DV | Time frame or time span across which a construct changes sufficiently | *Workplace injuries, mortality, employment status | "Consequently, to collect a sample of 300 workers with workplace injuries in a given year, a survey would need to contact 10,000 households [for approx. 5,000 households in a 2-year interval]" (Reville et al. 2001, p. 453) | Study interval should be long (in order to increase variance and, therefore, covariance & effects, between IV and DV) |
| Method | Relative time span | Certain time intervals allow controlling for certain events without explicitly measuring these events | *Interim effects, *seasonal effects | "[...] interim effects (i.e., effects of unobserved events during the time lag, such as a job change), maturation effects (e.g., effects due to increased experience), and seasonal effects (e.g., effects of measuring in summer or winter." (de Lange et al. 2003, p. 285) | Study interval should be chosen so that events are 'neutralized' (in order to avoid biased effect estimates) |
| Method | Method <i>per se</i> | Certain time points are not feasible because of the methodological approach <i>per se</i> | *Participative action research (PAR), natural experiments | "[...] based on Time 1 data collected from the three units in the PAR group, there were several aspects of work organization that were associated with stress-related outcomes. On the basis of these findings, their experiences, and their priorities, committee members decided to develop proposals and action plans to increase workers' job control" (Bond and Bunce 2001, p. 294) | Study interval should be appropriate (in order to do preparatory work, other work, or just waiting until data collection becomes possible) |

| | | |
|--------------------------------------|--|---|
| Conventions | Certain time lags are commonly used | Study interval should correspond to time lags which are commonly used (in order to prevent discussions with editors and reviewers, or to use available evidence about time lags for which effects have been detected to guide study design) |
| Sample: | Some participants cannot be approached, which is <i>not</i> due to reasons correlated with studied variables | Time points of data collection should be chosen mindfully (in order to obtain sufficient sample size.) |
| Sample: Missing data (at random) | *Farmworkers, shift workers, off-shore workers | |
| Sample: Missing data (not at random) | *Workload at times of high workload | Time points of data collection should be chosen mindfully (in order to achieve a random sample) |
| Sample: Panel mortality/attrition | Some participants stop participating from a certain wave onward | Comment: Same day/week/month/hour as in previous waves might be a good suggestion here |
| Sample: Panel mortality/attrition | Change of employer, moving to a new house, reduced compliance | Study interval should be short (in order to reduce panel mortality due to problems in finding previous participants), alternatively use long time lags (in order to avoid drop out due to too much burdened participants) |

(continued)

Table 4.2 (continued)

| Source | Time relatedness | Explanation | Examples (*cf. reference given) | Reference (Example) | Time lag required (reason) |
|------------------------------------|--------------------------|--|---|--|--|
| Method (cont.) | Internal validity | Multiple testing threatening the internal validity | Participants may come to realize that certain questions are measuring similar concepts and modify their answers accordingly, or simply remember previous answers and report those | “[...] to prevent multiple testing from threatening the internal validity of the study, we left a sufficient time interval between the measurement points.” (Houkes et al. 2003a, p. 23) | Study interval should be long enough in order to avoid respondents’ detailed memories of previous data-collection. |
| Epistemology (Theory of knowledge) | Add-on value/originality | Time lags that provide new insights | 8.5 month lags | “[...] as opposed to the common 1-year timeframes used in injury research” (Halbesleben 2010, p. 6) | Study interval should be different to time lags used in previous research (in order to avoid replication) |
| Researcher | Impact goals | Time lags that impress/surprise readers in order to support/prevent changes in thinking/acting | *50 year lags | “This is by itself surprising given that the data reported here span almost 50 years in time [...]” (Staw et al. 1986, p. 69) | Study interval should be extraordinary (in order to impress) |
| | Convenience | Time lags requiring minimal effort | Unplanned opportunities for unplanned follow up measurements | | |
| | Boundary restrictions | Time lags that match personal, social, or legal restrictions rather than scientific evidence | Doctoral thesis, because doctoral students usually cannot use time lags longer than the time of their scholarships or financial resources | | |

| | | | | |
|-----------|---|--|---|---|
| Intuition | Time lags corresponding to held beliefs, which may or may not correspond to scientific evidence | Long time lags are required for outcomes that develop slowly | “Do not mix up sustainable effects in real life [...] vs. cross-lagged long-term effects in panel studies [...]” (Dormann 2007) | Interval should be shorter than intuition suggests (in order to capture the strongest of all time-varying correlations rather than the incubation period or ‘true lag’) |
|-----------|---|--|---|---|

Note. The quotes and references, which refer to the indicated example (*) given in the column to their left, should not always be interpreted as the respective authors’ sole or major reasoning but rather as illustrations of the different reasons for selecting time lags

A second and related group of arguments relates to the *operationalization/indicators* of constructs, that is, to the measurement level. Some measures require a certain time interval to elapse before it makes sense to apply them again. For example, if a researcher chooses to measure job transitions by asking respondents if they changed their job during the preceding 2 years, measurement overlap can only be avoided when successive measurement occasions are separated by intervals of no less than 24 months.

A third group of reasons for choosing particular time lags is related to the *mechanisms* or the *type of effect* under study. For instance, with regard to the strength of effects, it has been argued that weak effects need a long time to unfold (e.g. Taris et al. 2010). Such reasoning is widespread; it is a common sense view that “little strokes fell big oaks” or “drops of water dent a stone in time.” Note, however, that this implies very long time lags only if the focal variables are “stony” or “oaky”, that is, if they hardly change at all. For focal variables that change more rapidly, a few strokes or drops (i.e., a shorter time) could be sufficient to conduct a follow up-measurement. A second effect-related reason is linked to the *duration/length* of an effect. For cortisol to be identified in saliva it takes around 30 min after a stressor occurred, and pesticide exposition can hardly be identified in excretions after 3 days. Unfortunately, for many demand and strain variables the inner time dynamics are unknown. For instance, although emotional exhaustion is frequently used as an outcome of demands at work, it is unknown how long exposure to demands (duration) has to be to cause exhaustion, nor how long it takes for a change in demands to cause a change in exhaustion (length). For example, we believe this may take a single day only, whereas other scholars might argue the process takes at least a year. Whatever the true length, it does not make sense to measure the outcome before the effect has occurred or can be expected to occur. A third way in which mechanism/effects are related to time is via the shape of the *effect curves* or the *variability of effects* over time. All effects as, for example, discussed by Frese and Zapf (1988) and summarized above, fall in this category. Fourth, the *rate of change* in the focal variables also determines time lags in panel studies. Workplace injuries, for instance, fortunately do not occur very frequently. Therefore, in order to have a sufficient number of cases with injuries, one has to wait a substantial amount of time. As explained before, this is the reason why constructs or their operationalizations are frequently tied to time. However, this is not a necessity. One could also increase the sample size in order to increase the number of cases with injuries. Hence, reasons for time lags based on duration/length of effects (which cannot be compensated by sample size) should not be mixed up with reasons related to the rate of change of variables (which can be compensated).

In the fourth group are various methodological reasons (*Method*). A *relative time span* of, for example, 12 months may be chosen to allow controlling for seasonal fluctuations (e.g. de Lange et al. 2003). This issue may be important in studies of work stress because workload (e.g., number of customers) may vary according to the time of the year (e.g., Christmas). Controlling for or minimizing maturation effects (by using short lags) or memory effects (by using long lags) are further examples. A second reason why the applied research method determines time

lags could be the method per se (*method per se*). For instance, work stress studies sometime apply participative action research designs (PAR; e.g., Bond and Bunce 2001). Such designs include a feedback phase, in which data obtained at an initial measurement wave are fed back to the participating organisations, departments, or work teams. This procedure requires data to be coded and analyzed accordingly, making it difficult to implement time lags spanning shorter intervals. *Conventions* regarding how to apply panel designs in a particular research area represent a third reason. For example, 1-year lags have been the most frequently used time lags in occupational health psychology, and because this has become a convention, several authors of more recent articles refer to this convention (cf. Halbesleben 2010). Also, characteristics of the sample may imply particular lags, which mainly aim at avoiding certain types of missing data. Data are said to be *missing at random* (in statistical terms: missing completely at random, MCAR; e.g. Little and Rubin 1989) if the reason why data are missing is statistically unrelated to the focal variables. No particular suggestion of how to design the time interval between measurement occasions can be made here, but each time point should be thoroughly planned in order to approach as many target participants as possible. The impact of the sample on the time lag becomes more important in order to avoid data *missing not at random* (NMAR). Data are NMAR if data are missing (or target participants do not participate), the reason of missingness relates to the focal variable, and the reason of missingness is unknown (i.e., no variable is available that statistically relates to the reason of missingness). For instance, if one investigates the impact of long work hours on health, it is likely that in particular those potential participants who have really long work hours cannot be approached or will not respond to the invitation to participate. Similarly, people who feel unhealthy (e.g., due to work-related stress) and therefore refuse participation are NMAR if one aims at analyzing the impact of work stressors on health. In order to avoid data NMAR, the time point for data collection, again, must be thoroughly planned. For the second wave of measurement, a time point that shares some characteristics with previous measurement occasions (e.g., the same day of the week, the same time of the day etc.) is a good suggestion. Finally, there is the common problem of panel *mortality/attrition*, which is present if participants of the initial sample do not participate at later measurement occasion. This may happen if time intervals are too long because, for instance, the likelihood increases that participants change employer or move. Time lags that are too short may also be problematic because short time lags may place a burden on participants so that they refuse further participation. Fortunately, panel mortality is not entirely NMAR even though we usually do not know why a participant did not participate. Frequently data on the focal and background variables (e.g., gender, age etc.) from previous measurements are available, and missing data algorithms can take advantage of them to impute missing values at subsequent waves. Results are not biased then, however, standard errors do increase. Therefore, one should aim to use an interval that minimizes panel mortality. Finally, certain time lags threaten the *internal validity* of a study. This occurs if the variables or their relations co-vary with time lags. For example, short time lags may cause memory effects, that is,

test-retest correlations are biased upwards if too short lags are applied (e.g. Houkes et al. 2003a). Similarly, we have frequently observed that measurement errors of indicators of latent variables decrease with time, which could be attributed to increased response tendencies. This could happen if participants are bothered by too frequent request for repeated participation.

The fifth group of arguments relates to *epistemology*: A time lag should be chosen that allows expanding existing scientific knowledge. This is contrary to the previously discussed reason to use conventional time lags. Conventional time lags, however, are just convenient for researchers and do not contribute to extant evidence if the same variables as used in previous studies are analyzed. Surely, editors and reviewers usually demand explanation for a selected time lag, and they are not as easily satisfied if time lags that have never been applied before are chosen. Nevertheless, we believe this is exactly what should be done to contribute to the development of a research field.

The sixth and final group of influence factors refers to *researchers*. Obviously, any time lag is finally based on a researcher's choice and all previously discussed issues do not exist independently of a researcher. This last cluster in the table, however, lists reasons that are not science-based. Although, it is therefore difficult to find explicit examples in the literature that support our claim that choices, which are not based on scientific reasons, do actually exist, we believe we should discuss them for completeness. Firstly, researcher may want to achieve an *impact goal* in its broad sense. For instance, a potential audience (colleagues, policy makers etc.) are likely to be particularly impressed if one could demonstrate that the effects under study are quite sustainable, that is, that they span a long time lag (e.g. Kinnunen et al. 2005). We rather believe that the strength of panel studies lies in making cause-effect relations plausible compared to cross-sectional designs, and cause-effect relations have to be fairly well established before one should aim at demonstrating their sustainability. Therefore short time lags are perhaps better suited, in particular when doing research in a newly developing field. Another reason certainly is *convenience*. Researchers may design the time lag of a study even against their best scientific knowledge if it is somehow convenient, for instance, because an initially unexpected opportunity for a follow up measurement emerges. *Boundary restrictions* such as financial, legal and other restrictions frequently have similar consequences. For example, organisations frequently prefer a different time lag than a researcher does, and doctoral students usually cannot realize very long time lags in their studies because of financial restrictions. Finally, there is *intuition*. Of course, expertise-based intuition may lead to valid judgments even if conditions are very complex (Dane et al. 2005). However, we refer here to intuition that is not based on systematic scientific evidence. For example, many researchers probably agree intuitively that long time lags are required to investigate the impact of work stressors on depression because depression takes quite long to develop. However, as there are few – if any – short-term panel studies on stressor-depression relations, this intuition is certainly not evidence-based. Furthermore, although it is probably true that depression *per se* takes a long time to develop, this argument is not relevant if

the goal of a study is to demonstrate cause-effect relations. The relevant question then is how long it takes for a change in stressors to cause a change in depression, rather than how long it take for full-grown major depression to develop. Hence, intuition in the sense we use the term here can lead a choice for time lags that are not at all warranted.

4.6 Time Intervals in Research from the Asia Pacific Region

4.6.1 Introduction

In the following paragraphs, we focus on specific Asian Pacific examples of panel studies investigating the link between psychosocial work characteristics and health and well-being outcomes. The question here is not so much which time lags should be used, but rather we want to illustrate which time lags have been used in Asian Pacific studies and how these different time lags are motivated by the authors. As an illustration of the tables above, and in order to make a state of the art review of longitudinal research on stressors and strain in the Asian Pacific region, we apply the taxonomy in Table 4.1 and the overview of reasons for choosing time lags in Table 4.2, to these studies.

4.6.2 Method (Identification of Relevant Studies)

In order to identify recent high quality empirical studies with samples in the Asia Pacific region, a literature search was performed in the electronic databases PsycINFO and Web of Science in June 2013.

We identified 11 relevant journals in the top half of the subject category “Psychology, Applied” as ranked by the 2012 ISI Journal Citation Reports Social Science Edition. The following journals were included: Journal of Management, Journal of Applied Psychology, Journal of Organisational Behavior, Work and Stress, Personnel Psychology, Journal of Vocational Behavior, Journal of Occupational Health Psychology, European Journal of Work and Organisational psychology, Journal of Occupational and Organisational Psychology, Applied Psychology – An International Review, and Journal of Business and Psychology. Our search was limited to recent studies (i.e. published between 2004 and June 2013).

Our search string further included: “longitudinal OR panel OR lagged OR repeated measures” and a list of countries in the Asian Pacific region. This resulted in a list of 54 studies. Both authors inspected all abstracts and in cases of doubt the full text in order to rate the articles as either having met the inclusion criteria, or not. The two lists of ratings were correlated with $r = .65$. Each case where the two

Table 4.3 Panel studies in the Asia Pacific region published in major Journals

| Reference | Country | Number of waves | Lag T1-T2 | Lag T2-T3 | Arguments for interval |
|----------------------------|---------|-----------------|-----------|-----------|------------------------|
| Boyd et al. (2011) | AUS | 2 | 3 years | | Yes |
| Bradley (2007) | AUS | 2 | 8 months | | Yes |
| Chrisopoulos et al. (2010) | AUS | 2 | 1 year | | No |
| Chun et al. (2012) | KOR | 3 | 6 months | 1 month | Yes |
| Dollard and Bakker (2010) | AUS | 3 | 8 weeks | 1 year | No |
| Gong et al. (2012) | TAI | 3 | 3 months | 4 months | No |
| Hall et al. (2010) | AUS | 2 | 1 year | | No |
| Hom et al. (2009) | CHI | 2 | 18 months | | No |
| Lee and Peccei (2011) | KOR | 2 | 6 months | | No |
| Liu and Fu (2011) | HK | 3 | 6 weeks | 6 weeks | No |
| Lu et al. (2011) | CHI | 2 | 6 months | | Yes |
| Magee et al. (2012) | AUS | 3 | 1 year | 1 year | Yes |
| Panatik et al. (2011) | MAL | 2 | 6 months | | No |
| Wang et al. (2011) | CHI | 2 | 3 months | | Yes |
| Wu et al. (2012) | CHI | 2 | 4 months | | No |
| Xie et al. (2008) | CHI | 4 | 2 years | | No |

T1-T2 Time 1 – Time 2, *T2-T3* Time 2 – Time 3, *AUS* Australia, *KOR* Korea, *TAI* Taiwan, *CHI* China, *HK* Hong Kong, *MAL* Malaysia

ratings differed was extensively discussed until agreement was reached. Main reasons for exclusion were (a) lack of a health outcome (studies that only focused on performance were excluded), (b) only internal personal resources or personality variables were measured as independent variables and there were no work-related independent variables, (c) no Asia Pacific sample, (d) use of student samples, and (e) relevant variables were not measured longitudinally.

A final list of 16 relevant studies was identified (cf. Table 4.3). Eleven studies used two-wave designs; five studies used a three-wave design. Time lags varied from 6 weeks (e.g. Liu and Fu 2011) to 3 years (e.g. Boyd et al. 2011). Most studies analyzed time lags up to 1 year. One study has to be mentioned specifically. Xie et al. (2008) describe their study as being a two-wave design. However, as they collected blood samples (for measurement of immune functions) and blood pressure measurements 1 week after each wave, one could also consider their study a four-wave design. However, data were analyzed and described as a two-wave design and therefore also coded here as such.

4.6.3 Results and Illustrations

A first remarkable finding of our inspection of the 16 relevant studies was the fact that only 9 of the 16 studies (56 %) report the time lag in the abstract. This seems to be in line with general practice in the scientific literature in our field, where indeed

time lags are often not regarded as worth mentioning in the abstracts. Given the importance of the time lag used, we would advocate for always including this information in research abstracts; a recommendation for authors, as well as reviewers and editors, both in the Asia Pacific region and worldwide.

Second, we inspected all 16 studies in order to find justifications (theoretical as well as practical) for the choice of time lags. Surprisingly, only 6 out of 16 studies (37 %) reported why a particular time lag was selected (cf. Table 4.3). This is in line with de Lange et al. (2001) who coded 39 studies on the Demand-Control-(Support) Model (Johnson and Hall 1988; Karasek and Theorell 1990; Karasek 1979) regarding the quality of the rationale for selection of the time lag. They rated only one study (3 %) as being “excellent” concerning the choice and motivation of time lags. Three studies (8 %) were considered “good”, 16 studies (41 %) were considered “sufficient”, and 19 studies (49 %) were considered “insufficient” in terms of choice and justification of choice of time lag. Although our findings in Asian Pacific studies are in line with previous research, we believe that future research should always address this topic, however briefly, so that our knowledge of the influence of time lags in longitudinal studies and the particular practical or theoretical reasons for choosing them can be expanded in the future.

In the following, we focus on the six papers that provided explanations or reasons for the time lag. These six papers serve as examples for how time lags are discussed in Asian Pacific studies. The cases show that Asian Pacific studies share both the strengths and weaknesses of studies worldwide, while also providing some excellent examples for choosing and justifying the choice for a specific time lag.

4.7 Case Studies: Six Asian Pacific Studies and Their Time Lags

4.7.1 Case Study 1: Boyd et al. (2011)

Boyd et al. (2011) conducted a *long-term* longitudinal test of the Job Demands-Resources model of work stress and engagement (Bakker and Demerouti 2007; Demerouti et al. 2001) in a sample of Australian university academics ($N = 296$).

Boyd et al. (2011) justify their 3-year time lag by referring to the triennial enterprise bargaining cycle (i.e. negotiations between unions and university management). Their second wave of data collection took place in the same phase of this bargaining cycle. In the taxonomy provided in Table 4.2, this line of reasoning would be classified as *Method – Relative Time Span*. The interval allowed controlling for these negotiations and their potential effect on the outcomes, without explicitly measuring its influence.

4.7.2 Case Study 2: Bradley (2007)

Bradley (2007) provides the most elaborate discussion of his chosen *meso-term* time lag of 8 months. Job tenure was studied as a potential moderator of the stressor-strain relations.

In the introduction section of his paper, Bradley (2007) refers to the theoretical models as discussed by Frese and Zapf (1988) and as summarized in the present chapter as well (i.e. *Effect – Effect Curves*). He tests his hypotheses in a sample of novice teachers ($N = 248$), compared to more experienced teachers ($N = 422$). A two-wave panel design was used with an 8 month-time lag. One can rightfully assume that Time 1 measurements for the novice teacher group approximates genuine “starting-point” data, and the data at Time 2 is “post-exposure” data. In other words, the onset or starting point of stressors seems clear for the novice teachers.

Further, Bradley (2007) argues that the time lag provided ample opportunity for the respondents’ job conditions to have an impact (i.e. *Mechanism – Strength of Effects*), it was of sufficient duration to neutralize short-term testing effects (i.e. *Method – Internal Validity*), it ensured that both questionnaires were completed in months of the year that were similar climatically (i.e. avoiding seasonal effects; *Method – Relative Time Span*), and it avoided the large attrition problems likely to be associated with a change of school years (i.e. *Sample – Panel mortality*).

4.7.3 Case Study 3: Chun et al. (2012)

Chun et al. (2012) reported on a 7-month formal mentoring program using $N = 111$ matched reports from both mentors and protégés in nine Korean companies.

They collected data at three different points in time: 1 week (*mid-term*) after an orientation session, 6 months later (*meso-term*) and a last wave 1 month later (i.e. *mid-term* when change from the second wave is analyzed and *meso-term* when change from the first wave is analyzed). Referring to the longitudinal study by Wanberg et al. (2006), Chun et al. (2012) reason by referring to *Method – Convention*: using time lags that are commonly used. Second, the time lag is also inspired by the length of the mentoring program (i.e., *Method – Method per se*). Chun et al. (2012) also argument that the small time lag between Time 2 and Time 3 was intended to minimize potential contamination in the relationships between mentoring functions and outcomes (i.e. *Method – Internal Validity*).

4.7.4 Case Study 4: Lu et al. (2011)

Lu et al. (2011) studied family-to-work enrichment processes in a sample of $N = 279$ Chinese female nurses. They used a two-wave panel design with a *meso-term* lag of 6 months.

Lu et al. (2011) only briefly defended their 6-month time lag by stating it provides ample separation between measurements, without explaining why this should be the case. Presumably, they want to stress that sufficient change between Time 1 and Time 2 could have occurred (i.e. *Construct – Relative Time Span*). Further, they argued that the time lag was chosen in order to avoid attrition (i.e. *Sample – Panel Mortality*).

4.7.5 Case Study 5: Magee et al. (2012)

Magee et al. (2012) examined whether work-to-family interference and work-to-family enhancement mediated the association between job characteristics and self-reported mental and physical health. They use data from the Household, Income and Labor Dynamics in Australia (HILDA) survey in a three-wave panel design ($N = 820$), with two time lags separated by 12 months (*meso-term*).

Clearly, the main rationale for using the 12-month time lags for this specific paper relates to the boundary restriction that the HILDA survey is administered every 12 months (*Researcher – Boundary Restriction*). However, additional arguments are provided by referring to previous studies on similar topics (*Method – Conventions*). Also, Magee et al. (2012) refer to Hemingway et al. (1997) concerning the time lag, stating that 12 months is a sufficient period to observe changes on most Short-Form Health Survey scales that were used to measure the dependent variables (*Operationalization – Rate of Change in Scales used to measure IV and DV*).

4.7.6 Case Study 6: Wang et al. (2011)

Wang et al. (2011) studied four perceived person-environment fit variables as mediators between adaptability variables and newcomers' work-related outcomes. In their *meso-term* study, two waves of data were collected among a sample of $n = 671$ Chinese newcomers. Predictors were measured before newcomers started working in their new organisation and outcomes were measured 3 months after their entry.

The reason for the 3-month time lag is provided in a footnote. Two main reasons are given. First, the time lag was chosen according to previous literature (i.e. *Method – Conventions*). Second, the Time 2 data collection was chosen to match the corporations' official evaluation for the newcomers, making the collection of supervisor-rated job performance more convenient (i.e. *Researcher – Convenience*).

4.8 Challenges and Future Directions

In order to get a better understanding of the inner dynamics of the stress processes, the time perspective has to be explicitly considered. Ignoring immediate, short-term, and mid-term reactions to stressors limits our understanding of how the effects of stressors unfold. For instance, a common explanation for this unfolding is that affective reactions play a key role as a direct outcome of perceived stressors (e.g. Lazarus 1990) because they mediate the effects of perceived stressors on long-term and grand-term outcomes (c.f. Dudenhöffer and Dormann 2013). Similarly, we have to admit that we know little about long-term and grand-term consequences of stressors. It might well be that such long-term and grand-term consequences do not exist, or that they are very difficult to detect using conventional methods of panel analysis. However, the limited number of such studies does not allow firm conclusions yet.

For a better understanding of the developmental processes of strain we are therefore in desperate need of a wider array of variables that warrant further investigation across more varied time lags. Studies on psychosocial factors using immediate, short term, and mid-term intervals as well as long-term and grand-term intervals are scarce – this literature is dominated by meso-term intervals. In this regard, there is not much difference between the entire scientific community and that within the Asia Pacific.

Our overview demonstrates that almost every kind of time lag can somehow be justified, but there are good scientific reasons and bad ones. Neither it is sufficient to reason that a study is original just because the time lag applied had never been applied before, nor is it a good reason to keep using time lags that were commonly applied in previous research. Good reasoning should always consider multiple sources that might bias findings when one aims at demonstrating cause-effect relations using panel research. However, we believe that panel research is driven too much by conventions and convenience rather than by theoretical reasoning and consideration of existing empirical evidence. Although this applies to research done worldwide, it is noteworthy that an exceptional study in this regard (Bradley 2007) was conducted in the Asia Pacific region.

Reasoning for or against particular time lags, however, is not easy. We believe human cognition is prone to evaluate timing in terms of individual trajectories. What is true for human trajectories, however, may not apply to regression-based methods applied to data obtained from samples. Sometimes, only data simulation can help to further clarify the impact of time lags on estimates of stressor-strain relations. Unfortunately such simulations are scarce, too. To our knowledge, only Dwyer (1983, p. 359), Sims and Wilkerson (1977), and Cole and Maxwell (2009) have published this sort of simulation research. All these simulations, however, rested on different assumptions and their conclusion can thus not be generalized. Similarly, rather than using simulations, mathematical models that derive optimal time lags analytically are rarely applied either (e.g. Cole and Maxwell 2003; Dormann 2007). So we need much more research in this area as well.

Despite the numerous existing gaps, we believe that one future direction is to apply shorter time lags (i.e. short term and mid-term). In most cases, shorter

time lags are sufficient and appear more adequate for examining stressor-strain relationships; at the least, they will lead to estimates similar to those obtained with longer time lags. Only rarely are longer time lags superior. For organisational practice, which is more concerned with program and intervention evaluation rather than panel analysis, long time lags might be more adequate because exact starting points for treatment effects are known. However, one should not forget that human beings are quite adaptive and too long time lags may lead to the wrong conclusion that interventions were not effective. Indeed, when it comes to productivity or quality, organisations know very well that without *continuous* improvement programs they will not thrive, and without *continuous* measures taken to improve employee health and well-being many of them might suffer.

4.9 Conclusion

So where does this all leave us? Firstly, we hope that our summary of reasons helps to make future research reports more systematic in terms of their reasoning for choosing time lags. Of course, some reasons seem to be more convincing than others, however, sometimes multiple reasons do indeed apply and can be used to strengthen the value of a study. In some cases, however, there are reasons that other time lags would have been better, which then should be discussed in the discussion sections rather than being completely ignored.

Secondly, theoretical frameworks such as those provided by Frese and Zapf (1988) provide a clear rationale for time intervals. However, researchers are frequently mistaken in their reasoning. Whereas it may indeed take a very long time for certain types of dysfunction to develop, this does not imply that long time lags are required to investigate such processes. For most possible stressor-strain models, short time intervals seem sufficient to assess the relationship of changes in stressors to changes in strains.

Thirdly, research from the Asia Pacific shines with some exceptional examples of good reasoning and choice of time lags (e.g. Bradley 2007). However, Asia Pacific future research should go above and beyond meso-term studies. We hope that this chapter can be used to well justify choices of shorter and longer time lags including short-term, mid term, long-term and grand term studies.

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Chapter 5

Momentary Measurement of Psychosocial Factors

Kazuhiro Yoshiuchi

5.1 Introduction and Rationale for Ecological Momentary Assessment

Psychosocial factors at work, such as those discussed in this volume, have an important influence on various aspects of health and motivation such as emotions, mood, attitudes, cognitions, psychological health, physical symptoms, and behaviors. Traditionally, questionnaires or interviews have been used to assess the association between psychosocial factors and self-reported health-related and motivational outcomes. Self-report measures typically ask workers to summarize past states over a defined period of time. For example, a pain questionnaire might ask about the intensity of last week's distress. However, self-reported data that involve this sort of recall have an intrinsic problem – “recall bias.”

Recall bias is a form of systematic error that contributes to the inaccuracy or incompleteness of memory recollections regarding events or experiences from the past. Many studies have shown that people are not be able to accurately recall past experiences, because the following heuristics are used to reconstruct the experiences instead of a simple retrieval process (Hufford 2007):

1. *Availability*, which means that more remarkable, recent, or unusual events are more likely to be recalled easily;
2. *Saliency*, which means that the personal relevance of experiences can affect encoding and retrieval;
3. *Effort* after meaning, which refers to people's natural and unconscious tendency is to reconstruct events so as to make them consistent with subsequent events;
4. *State biases*, which means that an emotional state can affect retrieval;

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5. *Participants'* misunderstanding of questionnaire instruction sets, which requires them to aggregate and summarize their past experiences; and
6. *Aggregation*, in terms of cognitive processing it is not clear how average or typical characteristics of experiences (e.g., frequency) are extracted during retrieval.

Due to these errors, research has revealed inconsistencies between data collected through typical self-report methods (recalled at varying time intervals following the event, experience, or phenomenon of interest) and data collected immediately following or during the event, experience, or phenomenon. For example, studies have shown inconsistency in recall versus momentary-recorded symptoms of simple phenomena such as pain (Stone et al. 2004, 2005; Kikuchi et al. 2006).

The discrepancy between recalled and momentary-recorded data may be greatest when the phenomenon or event is highly variable. In other words, variability may contribute to recall bias and error in measurement (Stone et al. 2005; Kikuchi et al. 2006). As an example, research by Kikuchi et al. (2006) examined the consistency between recalled headache and momentary-recorded headache intensity. Momentary-recorded headache intensity was recorded using an electronic diary at scheduled time six times per day and when a headache became exacerbated. The intraclass correlation coefficient (ICC) of absolute agreement was examined, which takes account of agreement of variability and levels of two measures. Participants were divided into participants with low variation in headache intensity and those with high variation. The results showed that agreement between recalled and momentary-recorded headache intensity was low for participants with high headache intensity variation (ICC = 0.21, CIs = -0.11, 0.56), with higher agreement between the two measures when headache intensity was less variable (ICC = 0.75; CIs = 0.04, 0.93).

In addition, Schneider et al. (2013) reported that temporal trends in symptoms such as anger, depression, fatigue, and pain intensity could influence the accuracy of recalled reports. They found that, compared with flat temporal trends, when there were negative or positive temporal trends in symptoms there was also more inconsistency between recalled symptoms and momentary-recorded symptoms. Therefore, this potential for inconsistency should be considered in research designs involving temporal changes. Ideally, symptoms should be recorded momentarily.

Recently, ecological momentary assessment (EMA) has been proposed for maximizing ecological validity while avoiding the pitfalls of retrospective recall. EMA is defined as a sampling method to assess phenomena at the moment they occur in natural settings (Stone and Shiffman 1994). EMA can be achieved through existing methods such as diaries, behavioral observation, self-monitoring, time budget studies, experience sampling, and ambulatory monitoring. As well as overcoming recall bias, the rationale for EMA includes realization of ecological validity by collecting data in the real world and achievement of temporal resolution, enabling analysis of dynamic processes over time.

From a historical perspective, the experience sampling method was developed by Csikszentmihalyi and Larson (1987), which involved collecting data at a number

of time intervals, triggered by a beeping alarm at random or prearranged times. This method is mainly focused on understanding subjective experience, and has advanced the development of models of subjective experiences such as “flow” (e.g., Csikszentmihalyi and LeFevre 1989). On the other hand, EMA is appropriate to assess any variables in the “real world”; both internal and external factors can be assessed such as subjective experiences, behavior, and ambulatory monitoring using biosensors like electrocardiography, ambulatory blood pressure monitor, and actigraphy.

Paper-and-pencil diaries have also often been used as recording devices to achieve EMA. However, such diaries have the disadvantage of “faked compliance.” Stone et al. (2002) used a customized paper diary with photosensors, which could detect when participants recorded symptoms. Participants given the paper diary were not told that compliance would be recorded electronically. Another group of participants were given an electronic diary, which could automatically record when participants input symptoms. After 21 days usage, actual compliance rates for recording symptoms at the scheduled times was 11 % in the paper diary group and 94 % in the electronic diary group, although the reported compliance rate from the participants in the paper diary group was 90 %. What this research reveals is that, because a time record (or date stamp) cannot be accurately recorded, research participants can disguise their compliance by recording data at times other than those designated, even if signaling is used to remind them to record data. Therefore, computerized ecological momentary assessment (cEMA) using an electronic diary has been proposed as a reliable method to assess and record events and subjective symptoms in natural settings to avoid “faked compliance.”

5.2 Designing Protocols for EMA

The essential consideration in designing protocol for EMA is to decide how assessments will be scheduled in real-world settings. The key steps in designing and implementing a study of daily life are shown in Fig. 5.1. After refining the research questions, two fundamental questions in designing an EMA protocol are: “what is the target phenomenon (e.g. happiness, work engagement, and psychological stress)?”, and “is the target phenomenon continuous (e.g., mood, strain) or discrete/episodic (e.g., workplace harassment, and anger)?”

Next, target sample and sample size should be identified. Then, an appropriate sampling protocol should be chosen according to the temporal characteristics of the target phenomena. Sampling protocols include event-based, time-based, and combinations of both approaches. Tables 5.1 and 5.2 summarize the key aspects of time-based and combination approaches (as discussed by Shiffman 2007). For discrete, episodic phenomena, event-based sampling approaches are appropriate. In organisational life, such phenomena may include aggression from customers or supervisors.

Fig. 5.1 Key steps in designing and implementing a study of daily life using EMA (This figure was modified from Conner and Lehman (2012))

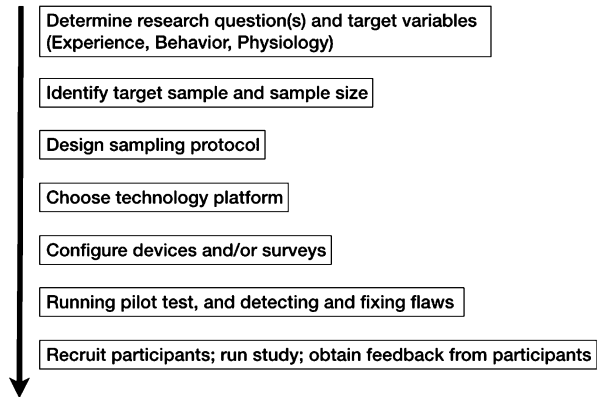


Table 5.1 Time-based sampling approaches

| Approach | Definition | Targets | Examples |
|--------------------|---|---------------------------------------|--|
| Regular intervals | | | |
| Daily | Recording once daily, usually at end of day | Summary of day's experience or events | End of day depression assessment; evening recovery activities; sleep quality |
| Interval | Recording multiple times per day | Summary of experience or events | positive and negative affects assessment morning, afternoon, night; |
| Intensive | Recording very frequently (e.g., once/h, or more) | Fast-changing phenomena | Ambulatory blood pressure |
| Variable intervals | | | |
| Random | Recording scheduled at random, variable intervals | Continuous phenomena | Negative and positive affects during work; working conditions; attitudes |

Table 5.2 Combination sampling approaches

| Approach | Definition | Targets | Examples |
|---------------------|--|---|---|
| Event or time + day | Combining within-day event or time-based recording with end of day | Daily summary to supplement within-day momentary assessment | Noting plans for tomorrow's work while tracking positive and negative affects during today's work |
| Event + random | Combining event-based recording with randomly scheduled time-based recording | Correlates, antecedents, and sequelae of events | Mistake + background mood |
| Event + follow-up | arranging time-based recordings following an index event | Sequelae of events | Track negative affects since facing reproach by supervisors or customers |

For continuous phenomena, time-based sampling approaches with variable intervals are appropriate. As shown in Table 5.1, continuous phenomena include distress and depressive mood. Table 5.1 also indicates that time-based sampling approaches with regular intervals are appropriate for fast-changing phenomena or when a summary of experience or events is of interest. However, researchers should be aware that these summary experiences may include the recall biases discussed earlier. Finally, a combination of sampling approaches is recommended to investigate more complex phenomena such as relationships among multiple variables and sequelae of events. Typical combinations and their application are shown in Table 5.2.

With regards to the platform for EMA data collection, the following functions are required: facility to present assessment content (i.e., display questions); time-stamp to document time of completion; capability for managing the schedule of assessments; and potential to prompt participants, if protocols involve active prompting. Therefore, portable, wearable (ambulatory), or tablet computers are most suitable for EMA data collection. To date, only a minority of studies on psychosocial factors at work have used computers for data collection (e.g., Sonnenschein et al. 2007; Vrijkotte et al. 2002; see also the case studies, below). Finally, before running studies, pilot tests should be performed in order to detect and fix flaws, and feedback about the study from participants should be obtained for improving study protocol in future.

It seems that EMA methods are generally well-accepted, as indicated by the low drop-out rates (Klumb et al. 2006). However, methods for raising compliance rates should be taken into consideration when designing protocols. The length of assessment periods should be carefully considered because the length of time participating in the study is positively associated with the number of missed signals and reduced variance in mood ratings (Klumb et al. 2009). Of particular relevance in the study of psychosocial factors at work, sampling schedules should be customized to participants' daily work routines. Answering items should be able to be postponed when participants cannot deal with EMA studies due to their work, especially in demanding occupations with time critical functions, such as emergency services, policing, healthcare, etc. Moreover, items should be easy to understand and respond to, and should be as short as possible in order to reduce participant burden.

In addition, it is important to build a strong research relationship with participants, explain the significance of compliance, and inform participants that their compliance will be checked (Kudielka et al. 2003; Stone and Shiffman 2002). Attending to these steps will help to increase the compliance. Researchers must also garner the support from senior management in organisations because participants will need to record during working time. Moreover, they have to try to reduce the effect of the study protocol on organisational routines and performance as little as possible (Klumb et al. 2009). These issues can be complex and involve careful consideration, planning, and pilot testing (as mentioned above).

5.3 EMA Studies on Psychosocial Factors at Work

5.3.1 Demand Control Support Model

With regard to Karasek's (1979) model, Kamarck et al. (2002) investigated the effects of psychosocial factors including psychosocial demands and decisional control on blood pressure in natural settings using electronic diaries and ambulatory blood pressure monitors. Participants were 340 elderly people aged 50–70, who were instructed to wear the blood pressure monitor and to carry the computer diary during all waking hours over a 3-day period. Assessments were taken every 45 min during this period.

They found that both within-person and between-person effects of psychosocial demands and decision control on ambulatory blood pressure. Psychosocial demands were negatively, and decisional control positively, correlated with ambulatory blood pressure. In addition, mean scores of psychosocial demand and decisional control for each participant were negatively and positively correlated with mean blood pressure for the participant, respectively. Therefore, these psychosocial factors were observed to have physiological effects in natural settings and broadly supported the hypothesis that psychosocial demands and decisional control had an effect on blood pressure.

Daniels and Harris (2005) investigated whether problem-focused, emotion-focused, appraisal-focused, and avoidance coping with work demands implemented through control and support are related to well-being. Data were collected with a daily diary protocol, in which participants recorded entries before and after work over two consecutive working weeks. They found that problem-focused coping implemented by eliciting support and goal attainment. In addition, they found that emotion-focused and avoidance coping was associated with subsequent unpleasant and pleasant affect, respectively.

Totterdell et al. (2006) investigated the demand-control-support (DCS) model in self-employed individuals. Participants were required to complete a diary questionnaire every week for 26 weeks. An on-line version of the diary was completed by 54 participants, while 11 participants chose instead to complete an equivalent paper-and-pencil version. The on-line diary participants were sent an e-mail reminder every Tuesday evening to complete the diary the following day. The reminder contained an address link to a website, which hosted the diary questionnaire. The authors did not report the difference in compliance rate between on-line diary participants and paper-and-pencil diary ones. They found the expected main effects of demands (positive), control (negative), and support (negative) on job strain. However, the overall interaction effects of demands, control, and support were not shown while there was difference in the strength of interaction effects of demands, control, and support among participants.

5.3.2 *Work-Life Balance*

There have also been some studies using EMA methods on the interface between life at work and life. Most of them investigate the spillover of one domain into the other domain. For example, Heller and Watson (2005) investigated the bidirectional spillover of satisfaction between work and marriage. They took advantage of EMA methods and investigated both the concurrent and lagged associations between job and marital satisfaction at a within-individual level of analysis using a diary study of 76 fully employed, married adults. Their results showed bi-directional lagged associations between job and marital satisfaction; in other words, satisfaction influenced later ratings of marital satisfaction, and vice versa.

Another interesting application of EMA in this area is in the study of processes of emotional transmission or crossover to other individuals. Song et al. (2008) explored how momentary moods could spill over between work and family and crossover from one spouse to another. They used cell phones for collecting reports of momentary moods three or four times a day over eight consecutive days. They found crossover when spouses were physically together and when the time interval between spouses' reports was short as well as mood spillover between family and work.

5.4 Challenges and Future Directions

Although the case studies illustrate that it is possible to use EMA to investigate different research questions relevant to psychosocial factors at work, there are some limitations to keep in mind. First, EMA may not be optimal for assessing all experiences. For example, particularly rare and important experiences such as death of parents, birth of a child, and divorce would not require the use of EMA. Second, individuals with visual or fine motor difficulties may find the technology associated with self-reported EMA challenging to use (Stone et al. 2007). Third, the psychometric properties of measurement instruments may not apply when used in EMA. EMA self-reported items demand short, yet very precise measurements because it is burdensome to record items many times a day (Stanton et al. 2003). However, reduced versions or single-item measures typically have less validation data available and may be less reliable in general (Klumb et al. 2009). Participant burden may also reduce response rates, which should be taken into consideration.

With regard to future directions, it may be possible that individuals will be provided with on-site intervention based on data of cEMA in the near future, which is called ecological momentary intervention (Heron and Smyth 2010).

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Chapter 6

A Multi-level Study of Psychosocial Safety Climate, Challenge and Hindrance Demands, Employee Exhaustion, Engagement and Physical Health

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6.1 Introduction

For several decades the main work stress theories have emphasized the role of job design as the main cause of work stress. Prominent models such as the Job Demand-Control (JDC) model (Karasek 1979), the Effort-Reward Imbalance (ERI) model (Siegrist 1996; Siegrist et al. 1986), and the more recent Job Demands-Resources (JD-R) model (Demerouti et al. 2001) all highlight the job design features of job demands and job resources and their combinations as important for work stress. This fairly singular focus on job design for so long has neglected the question, “what influences job design?” Unsurprisingly there is a call for researchers to explore the genesis of job design and how elements of the organisational context operate to shape work design characteristics (Morgeson et al. 2010). The question is of practical significance because as one gets closer to the source of the problem, the better chance there is of solving the work stress problem. Psychosocial safety climate (PSC) theory addresses this theoretical gap and extends the main work stress theories in a multilevel way and proposes that psychosocial safety climate, as an organisational level construct, precedes job design features that are experienced at the individual level. This theory proposes that the genesis of job design features that specifically relate to psychological health and well-being, arise from the management values and priorities for psychological health and safety.

In this study we are interested in how PSC affects job design factors, specifically focusing on job demands. Job demands are defined as the aspects of work that

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required sustained physical, cognitive and emotional effort in order to fulfill the work tasks (Demerouti et al. 2001). We conceive that job demands are not necessarily negative. Building on previous work that distinguishes kinds of job demands we explored challenge and hindrance demands (Cavanaugh et al. 2000). We are interested to know whether high PSC contexts are more likely to generate more positive challenging demands for employees, and less likely to create negative hindrances to work goal achievement. Since PSC concerns employee health and well-being, we are interested to know how these demand types create different processes via which PSC affects health and work outcomes. Our study contributes to the body of knowledge in four ways. Firstly, while most previous studies have focused on the negative effects of job demands, we focused on both positive (i.e., work engagement) and negative outcomes (i.e., emotional exhaustion and physical health problems) of job demands (i.e., challenge and hindrance demands). Secondly, to date, study on PSC has focused only on general job demands without separation into challenges and hindrances. Thirdly, with the exception of a few studies (e.g., Idris et al. 2012), most studies on PSC have focused on Western job settings. We, however, undertook the investigation in Malaysia, an emerging Eastern economy, which is regarded as having a collective culture and power distance, much different from Western countries with their individual values (Hofstede 1994). We considered how these factors could affect how PSC translates to qualitatively different job demands. Forth, while PSC is proposed to relate to psychological health, here we propose and test links to physical health for the first time.

6.2 Psychosocial Safety Climate and Its Relationship with Challenge and Hindrance Demands

PSC is defined as a shared perception among employees regarding policies, practices, and procedures in the workplace as they relate to worker psychological health and well being (Dollard and Bakker 2010; Dollard 2007). PSC theory proposes that management values and priorities will characterize the kind of organisational climate that is experienced by employees. Since management are largely responsible for how job design is created (Morgeson and Campion 2003; Morgeson and Humphrey 2008), this implies that PSC precedes job conditions. Empirical evidence has consistently shown that PSC is a precursor to work-related stress factors in multilevel studies using both longitudinal (Bond et al. 2010; Dollard and Bakker 2010; Dollard et al. 2012), and cross-sectional (Law et al. 2011), designs. These studies found that PSC is a leading indicator of a better working environment by providing manageable demands and a high level of resources to cope with demand/tasks at work. An organisation with poor PSC might lead to poor job design such as excessive work pressure, and emotional demands (Dollard and Bakker 2010). On the other hand, a high level of PSC tends to reduce demands and create healthy working conditions by providing adequate resources (Dollard and Bakker 2010).

Previous studies have explored PSC as a contextual precursor to the JD-R model (e.g., Idris et al. 2011). The JD-R model explains how job demands and job resources trigger the health impairment and motivational processes (Schaufeli and Bakker 2004). Job demands require sustained physical and/or psychological effort and are associated with physiological and psychological impacts (Bakker et al. 2004), while job resources play a motivational role that facilitate work goals and reduce job demands (Bakker and Demerouti 2007). Under this framework, prior studies have discovered that PSC is negatively related to job demands which in turn lead to negative work outcomes, such as burnout, depression and anger, including among Malaysian workers (Idris et al. 2011, 2012; Idris and Dollard 2011). It is argued that PSC is able to reduce the negative effect of job demands at work. Although several types of job demands have been used to provide support that PSC is able to mitigate the effects of job demands (Dollard and Bakker 2010; Idris et al. 2012), to date most studies still rely on negative job demands (i.e., emotional demands, role conflict).

Using the Conservation of Resources (COR) theory (Hobfoll and Shirom 2001; Hobfoll 1989), we argue that PSC may be negatively related to negative job demands, and positively related to positive job demands. The COR theory suggests that individuals strive to retain, preserve and build resources in order to cope with demands, and the most threatening to them is the loss of resources (Hobfoll 1989, pp. 516). Therefore, we reason that PSC may be a mechanism to make jobs more challenging while, at the same time, reducing the negative aspect of job demands. High PSC organisations will try to enhance the way in which it distributes job tasks to its employees (Dollard and Bakker 2010). Thus, the organisation possibly tries to find ways to motivate its employees by giving them more challenging tasks which are able to enhance employees' learning and skills (i.e., Idris et al. under review), at the same time, reducing the work characteristics that have a negative effect on their well-being (Idris and Dollard 2011). Previous studies on PSC revealed that effective employers are always alert to employees' needs by providing them with adequate support and job resources (Idris and Dollard 2011).

6.3 Hindrance Demands vs. Challenge Demands

Although most job stress models postulate that job demands may lead to negative consequences (Bakker and Demerouti 2007; Karasek 1979), recent studies have revealed that some types of job demands also lead to positive outcomes such as increased performance (LePine et al. 2004, 2005; Wallace et al. 2009), and motivation (LePine et al. 2004). The outcome of the demand depends on how stress manifests either by encouraging, or as an obstacle, to personal growth and mastery. These appraisals are characterized as '*challenge appraisal*' and '*threat appraisal*' respectively (Lazarus and Folkman 1984). Conditions in which the employee perceives demands as a challenge may influence positive individual and organisational

outcomes. In contrast, an erosion of the individual's energy will be inevitable if demands are perceived as threats.

Similarly, using different terminology, Cavanaugh et al. (2000) separated work stressors into two types (i.e., challenge and hindrance stressors) and suggested that job demands have their own unique impacts on employees' well-being and work behaviour (Webster et al. 2010). Job demands are related to physiological or psychological costs (Demerouti et al. 2001) which also able to put an individual in motivated state when viewed as challenges. Van den Broeck et al. (2010) stated that not all job demands are equal which might be lead to different impact on individual. Some types of job demands challenge employees to gain personal achievement at work. They argued, for example, that time pressures, workload, high job responsibility, and job complexity may increase stress levels, but consequently lead to personal growth, creativity, and innovative performance (LePine et al. 2005; Cavanaugh et al. 2000). Some other types of job demands, such as role conflict, red tape, organisational politics, and job insecurity (Cavanaugh et al. 2000) may decrease personal gain and increase negative outcomes, for example, counterproductive behaviours, anxiety, and anger (Rodell and Judge 2009), and turnover and withdrawal behaviour (Podsakoff et al. 2007). Hindrance stressors lead to employee confusion about their actual role and decrease their performance (LePine et al. 2004, 2005; Cavanaugh et al. 2000). In a similar way, job insecurity is also a cause of negative work consequences: employees who experience this condition might feel insecure and not engage with their work. LePine et al. (2004) reported that hindrance stressors act as a predictor of emotional exhaustion: high levels of hindrance stressors lead to an increasing level of emotional exhaustion. Even though challenge and hindrance demands affect work outcomes such as work engagement differently, some studies have discovered that they affect exhaustion in a similar way (Crawford et al. 2010; LePine et al. 2004, 2005). This can be explained by using the Conservation of Resources (COR) theory (Hobfoll and Shirom 2001; Hobfoll 1989) as both types of demands lead to depletion of energy. The COR theory argues that loss of resources in coping with demands is the main component of stress (Hobfoll and Shirom 2001). Also, jobs in which employees experience high levels of demands influence emotional exhaustion and emotional depletion (Hobfoll 1989).

In this paper we draw on the work of Cavanaugh et al. (2000), but propose some modifications. We use the term demands rather than stressor. The term stressor already implies the expectation of a negative reaction. Alternatively job demands are aspects of the job that require sustained cognitive, emotional and/or physical effort (see Jones and Fletcher 1996). In and of themselves, demands such as time pressure and work load are unlikely to be challenge demands. They may ultimately become positive when considered in combination with the levels of job control and resources available, as predicted in the JDC and JD-R models respectively. Since PSC theory is concerned only with promoting an environment that will lead to positive benefits PSC theory does not predict challenge stressors as previously operationalized (LePine et al. 2005; Cavanaugh et al. 2000). In line with PSC theory we propose that PSC is positively related to challenge demands (**Hypothesis 1a**), and negatively associated with hindrance demands (**Hypothesis 1b**). Thus, prior

studies also show that challenge and hindrance demands relate to emotional exhaustion in a similar way (LePine et al. 2004; Crawford et al. 2010). However, hindrance demands influence emotional exhaustion stronger than challenge demands on emotional exhaustion (Crawford et al. 2010). Under this new formulation we predict that the challenge demands (**Hypothesis 2a**) will be weakly related to emotional exhaustion, and hindrance demands (**Hypothesis 2b**) demands will be moderately positively related to emotional exhaustion.

Although employees who are trapped by high job demands experience negative consequences, it is possible that demands may also lead to positive individual and organisational outcomes (i.e., challenge demands). Challenge demands are positively related to work engagement and suggest that the nature of demands plays an important role in the relationship between demands on work and individual outcomes. Thus, meta-analytical analysis discovered that if job demands are appraised as challenges, this will increase the level of work engagement (Crawford et al. 2010). Conversely, hindrance stressor is a type of stressor that reduces and hinders personal growth (Cavanaugh et al. 2000) and reduces levels of work engagement among employees (Crawford et al. 2010). Van den Broeck et al. (2010) also discovered that challenge demands and hindrance demands influence vigour (sub-dimension of work engagement) in positive and negative way, respectively. Thus, we predict that challenge demands will be positively related to work engagement (**Hypothesis 3a**) and hindrance demands will be negatively associated with work engagement (**Hypothesis 3b**).

By focusing on the physical complaints due to the exposure of work-related stress, there has been growing recognition of the relationship between psychological functioning and physical complaints in the literature (see Herbert and Cohen 1993). Psychological factors (e.g., stress) have also been considered as potential factors in physical health problems (Cohen 1996; Schaufeli and Bakker 2004). Cohen (1996) explained the linkage between psychological stress and physical disease through the concept of 'immunosuppression', the immune system suppress its function in response to stress conditions and the risk of getting disease is high. Hence, prior studies have revealed that high exposure to work-related stress increases the risk of an infectious disease (Cohen and Williamson 1991), musculoskeletal complaints (Lundberg et al. 1999), and stroke, asthma and ulcers (Quick et al. 2001). In relation to work engagement and emotional exhaustion leading to physical health problems, some previous studies discovered that work engagement improves employees' health but that emotional exhaustion reduces employees' health (e.g., Law et al. 2011). Law et al. (2011) found that work engagement and emotional exhaustion are related to psychological health. We argued that positive and negative psychological conditions affect physical conditions by proposing that emotional exhaustion that is experienced by employees leads not only to psychological problems, but also to physical health problems, such as headache, sleep disturbance and digestive problems, whereas positive states of mind are able to reduce the emergence of physical complaints. Therefore, we hypothesize that work engagement will negatively relate to the physical health problems (**Hypothesis 4**) and emotional exhaustion will positively relate to physical health problems (**Hypothesis 5**).

In testing mediating pathways, several studies have discovered the indirect links between work characteristics (i.e., job demands) and health consequences through work engagement and emotional exhaustion (Dollard et al. 2012; Idris and Dollard 2011; Idris et al. 2011). In a similar way, LePine et al. (2004) discovered that emotional exhaustion acts as a mediator of the indirect relationship between hindrance stressor and learning performance. Therefore, we proposed that challenge demands have an indirect relationship on physical health problems via work engagement (**Hypothesis 6**), and that emotional exhaustion will mediate the relationship between hindrance demands and physical health problems (**Hypothesis 7**). Thus, we consider PSC as an important predictor of the indirect relationship towards work and individual outcomes through job demands (i.e., challenge and hindrance demands). Several studies on PSC also discovered that the relationship of PSC towards work engagement and emotional exhaustion were mediated by job demands, specifically among Malaysian employees (Idris et al. 2012; Idris and Dollard 2011). Based on the idea of challenge and hindrance demands as specific facets of job demands (Cavanaugh et al. 2000), we proposed that challenge demands will mediate the relationship between PSC and work engagement (**Hypothesis 8a**), and hindrance demands will mediate the relationship between PSC and emotional exhaustion (**Hypothesis 8b**).

As the final hypothesis, we are also interested in how PSC affects physical health problems. Studies on PSC mostly focus on the psychosocial aspect of working conditions and its relation to psychological health (e.g., Dollard and Bakker 2010; Idris et al. 2011; Law et al. 2011). Hence, as psychological functioning has also been considered associated with physical aspects (Cohen 1996), we argue that PSC is able to influence physical health among employees by providing management priority, commitment, involvement and participation, and communication similar to the effect of PSC on psychological health. Therefore, we propose that PSC will be negatively associated with physical health problems via the mediation paths proposed above (**Hypothesis 9**).

6.4 Participants and Procedure

Participants in this current study were 909 police personnel from 58 departments in Peninsular Malaysia. Each participant was given a self-rated questionnaire to complete. Participants comprised 630 males (69.3 %) and 279 females (30.7 %), with 193 having worked from 6 to 10 years (22.6 %). In total, 772 of participants were married (84.9 %), 13.1 % were single and 2.0 % were divorced. Participants were mainly Malay (89.5 %), followed by Chinese and other ethnicities (each 3.6 %), and 3.2 % were Indian. In addition, 31.4 % of participants were aged in their thirties and 29.1 % were in their twenties. Most participants were Muslim (91.1 %), 3.5 % were Buddhist, 2.8 % Hindu, 1.7 % Christian and, lastly, 1.0 % were 'others'.

6.5 Instruments

Psychosocial safety climate: This was assessed using a PSC-12 scale (Hall et al. 2010) from the original PSC-24 (Dollard and Kang 2007). The instrument consists of four sub-dimensions which include three items for each sub-dimension: management commitment, management priority, organisational communication, and organisational participation and involvement (e.g. “In my workplace senior management acts quickly to correct problems/issues that affect employees’ psychological health”). All items were scored using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) with the reliability $\alpha = .91$.

Emotional exhaustion. This was examined using the Oldenburg Burnout Inventory (OLBI) (Demerouti et al. 2003). This dimension consists of eight items ($\alpha = .87$; e.g. “After work, I tend to need more time than in the past in order to relax and feel better”) which were scored on five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Work engagement. We used *vigor*, *dedication* and *absorption* dimensions to measure work engagement. These dimensions consist of 17 items derived from the Utrecht Work Engagement Scale (UWES) (Schaufeli et al. 2002, 2006; Schaufeli and Bakker 2003). *Vigor* was measured with six items (e.g. “At my work, I feel bursting with energy”), while *dedication* was assessed with five items (e.g. “I am enthusiastic about my job”), and *absorption* was assessed with six items (e.g. “To me, my job is challenging”). All these items were scored on seven-point scales ranging from 1 (*never*) to 7 (*everyday*).

Challenge and hindrance demands. These were examined using 10 items from the stressor scale (LePine et al. 2004, 2005; Cavanaugh et al. 2000). *Challenge demands* (five items; e.g. “I have a lot of projects/tasks at work”) represents job responsibility, job complexity, and job scope, whereas *hindrance demands* (five items; e.g. “I have not fully understood what is expected to me”) represent role ambiguity, role conflict, organisational politics, hassles and red tape, and two additional items from challenge demands. We omitted two items of challenge demands which represent time pressure and workload due to the factor loadings were more likely to be hindrance demands (see Table 6.1). Then, we combined these two items with the hindrance demands. The reliability of challenge (3 items) and hindrance (7 items) demands were $\alpha = .78$ and $\alpha = .85$, respectively. The items were scored on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Physical health problems. We used the Physical Health Questionnaire (PHQ) (Schat et al. 2005) to measure physical health problems, such as gastrointestinal problems, headaches and sleep disturbance. This instrument consists of 11 items ($\alpha = .86$; e.g. “How often have you had difficulty getting to sleep at night?”) with items scored on a four-point scale ranging from 1 (*never*) to 4 (*very often*).

6.6 Statistical Analysis

Harmann’s test was conducted to assess common method variance (Podsakoff and Organ 1986) on challenge and hindrance demands due to their similarity as types of demands. We found that two factors were extracted of which the first variant was 35.2 % and 23.7 % was the second variant of both demands. In addition, data were analyzed using hierarchical linear modelling version 7.0 (Raudenbush et al. 2011) in order to test all hypotheses. Data were standardized and differentiated into two levels, namely level 1 variable across individuals and level 2 variables across the 58 departments (Mathieu and Taylor 2007).

To test the indirect effects of the hypotheses proposed, we followed a Monte Carlo method (Selig and Preacher 2008) which required a significant effect from independent measure (*X*) to outcome (*Y*), followed by significant effects of *X* to *M* (mediators), and lastly a significant effect from *M* to *Y*. A Monte Carlo method was used to measure the confidence intervals of the indirect effect by reporting lower level and upper level values (Selig and Preacher 2008) (Fig. 6.1).

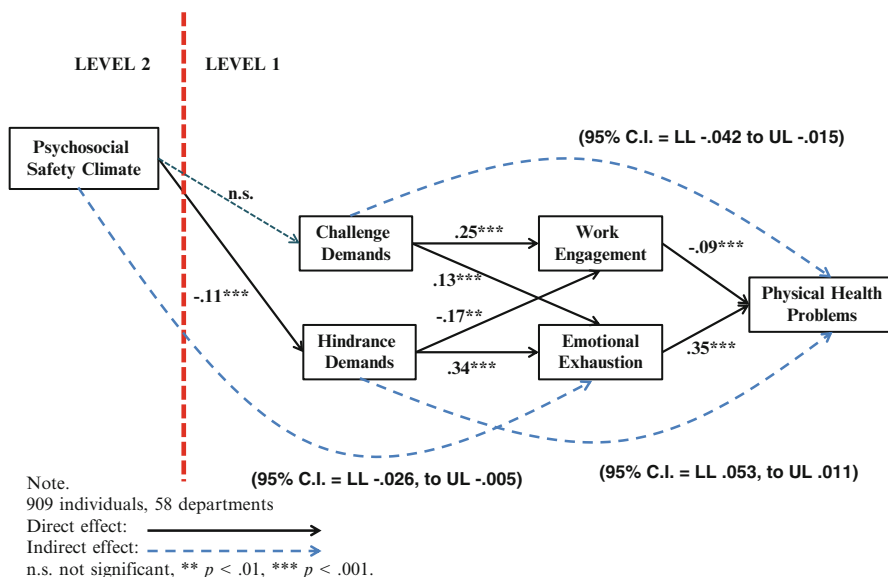


Fig. 6.1 Research model

6.7 Aggregation Procedure

In order to determine the level of analysis, namely individuals ($N = 909$) and departments ($N = 58$), two tests, inter-rater reliability ($r_{(wg)}$) and intra-class coefficient (ICC 1) were conducted. PSC was aggregated as the team level with the $r_{(wg)}$ agreement index as $.96 (SD = .03) = (.83-1.00)$, representing 96 % the homogeneity of psychosocial safety climate (PSC) perception within departments (James et al. 1984). In addition, one-way random effects analysis of variance (ANOVA) showed significant between-group variance ($F_{III} (56, 744) = 2.45, p < .001$). The ICC (1) was $.0959$ indicating that nearly 10 % of variance in the PSC was explained by differences between departments, with a significant chi square ($57) = 154.07, p < .001$.

6.8 Hypotheses Testing

In **Hypotheses 1a** and **1b**, we tested PSC (psychosocial safety climate) at the team level to predict challenge and hindrance demands at the individual level in cross-level analysis with the equation as follows:

$$\begin{array}{ll} \text{Level 1 : Challenge}_{ij} & \beta_{0j} + r_{ij} \quad \text{and} \quad \text{Level 1 : Hindrance}_{ij} \quad \beta_{0j} + r_{ij} \\ \text{Level 2 : } & \beta_{0j} \quad \gamma_{00} + \gamma_{01}(\text{PSC}_j) + u_{0j} + r_{ij} \quad \text{Level 2 : } \beta_{0j} \quad \gamma_{00} + \gamma_{01}(\text{PSC}_j) + u_{0j} + r_{ij} \end{array}$$

Next, we ran an analysis for **Hypotheses 2a** and **2b** at the lower level effect of challenge and hindrance demands to predict emotional exhaustion. In further individual analysis of **Hypothesis 3a** and **Hypothesis 3b**, we alternated emotional exhaustion with work engagement as the outcomes of challenge and hindrance demands:

$$\begin{array}{ll} \text{Level 1 : Exhaustion} & \beta_{0j} + \beta_{1j}(\text{Challenge}_{ij}) + r_{ij} \quad \text{and} \quad \text{Level 1 : Exhaustion} \quad \beta_{0j} + \beta_{1j}(\text{Hindrance}_{ij}) + r_{ij} \\ \text{Level 2 : } & \beta_{0j} \quad \gamma_{00} + u_{0j} \quad \text{Level 2 : } \beta_{0j} \quad \gamma_{00} + u_{0j} \\ & \beta_{1j} \quad \gamma_{10} \quad \beta_{1j} \quad \gamma_{10} \end{array}$$

To test the mediation pathways, we utilized a Monte Carlo method (Preacher and Selig 2012; Selig and Preacher 2008). Monte Carlo methods are seen as a better test than the Sobel test in multi-level mediation analysis (MacKinnon et al. 2004). Therefore, we analyzed the mediation effects in several pathways which showed that: challenge demands predicts physical health problems via work engagement (challenge demands → work engagement → physical health problems) and hindrance demands predicts physical health problems via emotional exhaustion (hindrance demands → emotional exhaustion → physical health problems), PSC predicts work engagement via challenge demands (PSC → challenge demands → work engagement), and lastly PSC predicts emotional exhaustion via hindrance demands (PSC → hindrance demands → emotional exhaustion).

6.9 Results

Table 6.2 reports the means, standard deviations and inter-correlations between variables at the individual and team level, the F values and intra-class coefficients, ICC (1).

Hypotheses 1a and **1b** proposed that PSC would be positively related to challenge demands and negatively related to hindrance demands. We found that hypothesis 1a was not supported as PSC was not significantly related to challenge demands ($\gamma = -.01$, $SE = .04$, $t = -.18$, n.s.) (Table 6.3), whereas PSC was found to be negatively associated with hindrance demands ($\gamma = -.11$, $SE = .03$, $t = -4.09$, $p < .001$) (Table 6.3) and supported the hypothesis 1b, indicating that PSC does not affect level of challenge and PSC reduces the level of hindrance demands (see Table 6.3). **Hypotheses 2a** and **2b** which proposed that challenge and hindrance demands would be positively related to emotional exhaustion were supported ($\beta = .13$, $SE = .03$, $t = 4.15$, $p < .001$, and $\beta = .34$, $SE = .03$, $t = 12.31$, $p < .001$), respectively (see Table 6.4). These findings indicated that both challenge and hindrance demands lead to an increasing level of emotional exhaustion. The result showed that hindrance demands influence emotional exhaustion stronger than challenge demands. In a similar vein, **Hypothesis 3a** was also supported as the analysis found that challenge demands were positively related to work engagement ($\beta = .25$, $SE = .04$, $t = 5.43$, $p < .001$) (Table 6.4). High levels of challenge demands were predicted to lead to more engaged police personnel. Support was also found for **Hypothesis 3b** with findings showing that hindrance demands was negatively related to work engagement ($\beta = -.17$, $SE = .06$, $t = -2.77$, $p < .01$) (Table 6.4), which indicated that high levels of hindrance demands would decrease the level of work engagement.

As expected, the relationship between work engagement and emotional exhaustion on physical health problems were significant. **Hypothesis 4**, proposing that work engagement would be negatively related to physical health problems, was supported ($\beta = -.09$, $SE = .02$, $t = -4.59$, $p < .001$), indicating that increasing level of work engagement will decrease physical health problems (see Table 6.4). On the other hand, emotional exhaustion was found to be positively related to

Table 6.1 Factor analysis of challenge and hindrance demands

| Factor analysis | Component | |
|-----------------|-----------|------|
| | 1 | 2 |
| Challenge1 | | .852 |
| Challenge2 | | .864 |
| Challenge3 | .659 | |
| Challenge4 | | .689 |
| Challenge5 | .745 | |
| Hindrance1 | .672 | |
| Hindrance2 | .670 | |
| Hindrance3 | .828 | |
| Hindrance4 | .520 | |
| Hindrance5 | .736 | |

Extraction method: Principal component analysis

Rotation method: Varimax with kaiser normalization

Table 6.2 Means, standard deviations and correlations between variables

| Variables | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | F | ICC (I) |
|--------------------------------|------|------|--------|-------|--------|--------|-------|---|---------|---------|
| 1. Psychosocial safety climate | 3.54 | .68 | | | | | | | | .0959 |
| 2. Challenge demands | 3.15 | .68 | .02 | | | | | | 2.50*** | .0567 |
| 3. Hindrance demands | 2.94 | .75 | -.19** | | | | | | 1.91*** | .0752 |
| 4. Work engagement | 5.50 | 1.11 | .15** | .46** | | | | | 2.23*** | .0842 |
| 5. Emotional exhaustion | 2.40 | .53 | -.16** | .18** | -.12** | | | | 2.37*** | .0402 |
| 6. Physical health problems | 2.09 | .53 | -.11** | .14** | .47** | -.21** | | | 1.64** | .0798 |
| | | | | | .36** | -.22** | .37** | | 2.50*** | |

Note. Above diagonal, aggregate; below diagonal, individual. (N = 909 individuals, 58 departments)

* $p < .05$; ** $p < .01$; *** $p < .001$ (2-tailed)

Table 6.3 Multi-level random coefficient model of PSC Level 2 predicting Level 1 (between-group variance)

| | Challenge demands (Model 1) | | | Hindrane demands (Model 2) | | | Work engagement (Model 3) | | | Emotional exhaustion (Model 4) | | | Physical health problems (Model 5) | | |
|------------|--------------------------------|------|------|-------------------------------|------|----------|------------------------------|------|-------------------|-----------------------------------|------|----------|---------------------------------------|------|--------|
| | γ | S.E. | t | γ | S.E. | t | γ | S.E. | t | γ | S.E. | t | γ | S.E. | t |
| PSC | -.01 | .04 | -.18 | -.11 | .03 | -4.09*** | .12 | .06 | 2.17 ^a | -.08 | .02 | -3.42*** | -.06 | .03 | -2.05* |

Note. $N = 909$ individuals, 58 departments

γ = parameter estimate, $S.E.$ = standard error, t = t-ratio

* $p < .05$; *** $p < .001$

^asig. at one-tailed

Table 6.4 Multi-level random coefficient model of challenge and hindrance demands Level 1 predicting Level 1 (within-group variance)

| | Work engagement (Model 6) | | | Emotional exhaustion (Model 7) | | | Physical health problems (Model 8) | | |
|----------------------|------------------------------|------|----------|-----------------------------------|------|----------|---------------------------------------|------|----------|
| | β | S.E. | <i>t</i> | β | S.E. | <i>t</i> | β | S.E. | <i>t</i> |
| Challenge demands | .25 | .04 | 5.43*** | .13 | .03 | 4.15*** | .10 | .03 | 3.27*** |
| Hindrance demands | -.17 | .06 | -2.77** | .34 | .03 | 12.31*** | .25 | .03 | 8.01*** |
| Work engagement | | | | | | | -.09 | .02 | -4.59*** |
| Emotional exhaustion | | | | | | | .35 | .04 | 9.15*** |

Note. *N* = 909 individuals, 58 departments
 γ = parameter estimate, *S.E.* = standard error, *t* = t-ratio
 p* < .01; *p* < .001

Table 6.5 Multi-level random coefficient model of PSC Level 2, and Level 1 factors predicting Level 1 outcomes

| | Work engagement (Model 9) | | | Emotional exhaustion (Model 10) | | | Physical health problems (Model 11) | | |
|----------------------|------------------------------|------|----------|------------------------------------|------|----------|--|------|----------|
| | β | S.E. | <i>t</i> | β | S.E. | <i>t</i> | β | S.E. | <i>t</i> |
| Lower-level | | | | | | | | | |
| Challenge demands | .41 | .05 | 8.92*** | -.02 | .03 | -0.88 | .01 | .02 | 0.64 |
| Hindrance demands | -.37 | .06 | -6.35*** | .34 | .03 | 11.74*** | .16 | .03 | 4.84*** |
| Work engagement | | | | | | | -.07 | .02 | -3.50*** |
| Emotional exhaustion | | | | | | | .22 | .04 | 5.49*** |
| Cross-level | | | | | | | | | |
| PSC | γ | S.E. | <i>t</i> | γ | S.E. | <i>t</i> | γ | S.E. | <i>t</i> |
| | .09 | .07 | 1.51 | -.04 | .02 | -1.87* | -.01 | .03 | -0.57 |

Note. *N* = 909 individuals, 58 departments
 β unstandardized parameter within groups, γ unstandardized parameter between groups, *S.E.* standard error, *t* = t-ratio
 p* < .05, **p* < .001

physical health problems as **Hypothesis 5** was supported by the analysis ($\beta = .35$, *SE* = .04, *t* = 9.15, *p* < .001) (Table 6.4).

In further analysis, combining effects from Model 8 and Model 9, the indirect effect (**Hypothesis 6**) of work engagement mediating the effect of challenge demands on physical health problems (95 % C.I. = LL -.042 to UL -.015) was supported. Combining effects from Model 10 and Model 11, the relationship between hindrance demands and physical health problem via emotional exhaustion proposed in **Hypothesis 7** was also supported (95 % C.I. = LL .053, to UL .011). In testing further mediating pathways, **Hypothesis 8a**, proposing that challenge demands would mediate the relationship between PSC and work engagement, combining effects from Model 1 and Model 9 was not supported (95 % C.I. = LL -.023, to UL .017). On the other hand, **Hypothesis 8b** was supported as the analysis, combining effects from Model 2 and Model 10, found that hindrance demands mediated the relationship between PSC and emotional exhaustion (95 % C.I. = LL -.026, to UL -.005). Finally, **Hypothesis 9** proposing that PSC would be negatively associated with physical health problems, was also supported, as indicated by combining the significant findings of the two mediation processes H7 and H8b; PSC is significantly related to physical health problems via its effect on hindrance demands, and in turn emotional

exhaustion. Note PSC is initially significant as a direct effect in Model 5 Table 6.3, and this effect is not significant in Table 6.5 Model 11, with all other predictors in the model.

6.10 Discussion

In general, the present study provides an insightful understanding of PSC's influence on challenge and hindrance demands. This study discovered that PSC at the team level was negatively related to hindrance demands, but unfortunately PSC was not related to challenge demands. Moreover, this study also provides an explanation for the inconsistent findings in the literature about work and individual consequences of job demands, and supports the theoretical separation of demand dimensions.

Challenge and hindrance demands were found as predictors of positive and negative outcomes (i.e., work engagement, emotional exhaustion and physical health problems). This study was able to support the idea that the relationship between demands and consequences (i.e., work engagement and emotional exhaustion) may depend on the type of demands itself, that is, whether stress is related to challenge or hindrance. According to the results, challenge demands was positively associated with work engagement, whereas hindrance demands was positively related to emotional exhaustion and physical health problems. The positive relationship between challenge demands and work engagement was consistent with LePine et al.'s (2004, 2005) studies as they found that challenge demands increases positive motivation and also learning performance. The current study also found that challenge and hindrance demands were positively related to emotional exhaustion which was similar to the findings of LePine et al.'s (2004) study. It can be argued that the basic characteristic of challenge demands is job demands so that it is inevitable that challenge demands also produces strain (i.e. emotional exhaustion). However, the study indicated that hindrance demands was found to be more strongly and significantly related to emotional exhaustion than challenge demands on emotional exhaustion.

In relation to physical health problems, the study supported the idea of a relationship between psychological functioning and physical complaints. Work engagement as the positive state of mind towards work reduces physical complaints, whereas emotional exhaustion likely triggers an increasing level of physical problems among employees. In conclusion, we suggest that it is important to distinguish the type of demand (challenge demands from hindrance demands) in order to get a better explanation of the effect of demands and their consequences on work and individuals. Importantly the study found that physical health could be explained by understanding an organisation's PSC. Knowing about levels of organisational PSC one could predict the levels of hindrance demands, and emotional exhaustion, and in turn the physical health status of employees. Thus, the organisation level (i.e. PSC) should also be considered as an important aspect that could reduce job demands and create a healthy and safe working environment. Upper level management's policies and regulations play a crucial role in

determining employees' physical health and well-being as well as employees' perception towards work.

6.11 Limitation and Practical Implication

This current study was able to identify the significant influence of PSC on demands (i.e. challenge and hindrance) by using a multi-level perspective which differentiated PSC at the team level and other variables at the individual level. However, we acknowledge that we were unable to explain a long-term effect due to the cross-sectional data employed. Future research is expected to further this study in order to explain these relationships using longitudinal data. Moreover, future research should also employ other variables in order to enrich this field of study in the literature. Finally, self-rated questionnaire should also be improved using the objective measurement in order to get more reliable data.

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Chapter 7

Comparing the Impact of Occupation-Specific and Generic Work Characteristics

Paula Brough and Amanda Biggs

7.1 Introduction

Empirical assessments of occupational health have generated substantial evidence that a broad array of job characteristics impact upon an equally broad array of employee health and performance outcomes (e.g., Brough et al. 2009). Two distinct approaches to assessing job characteristics and outcomes have emerged within this literature. The first involves the measurement of generic job characteristics and outcomes that are commonly encountered in most occupations and job roles. Generic assessments of job characteristics are primarily influenced by the job design literature, and have formed the basis of several influential organisational psychology theories, including the job characteristics model (Hackman and Oldham 1976), the job demands control model (JD-C; Karasek 1979), the job demands control support model (JDC-S; Johnson and Hall 1988), Warr's work-related well-being model (WWB; Warr 1990), and the effort-reward imbalance model (E-RI; Siegrist 1996). Theoretical models based upon generic measures of job characteristics and outcomes are credited with improving insights into the experience of well-being and motivation at work, stimulating an extensive body of research, and informing numerous workplace intervention and job redesign strategies (Houkes et al. 2001).

The second approach recognizes the value of including occupation-specific job characteristics and outcomes and has developed alongside generic job characteristics measures. The development of occupation-specific measures is driven largely by the research context and involves assessing job characteristics that

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are specific to a single or limited number of occupational groups. Occupation-specific measures focus on salient features of the job context, and are valued for their increased face validity (e.g., Brough and Frame 2004; Cooper et al. 2001) and relevance in the development of targeted organisational interventions (Cooper et al. 2001; O'Driscoll et al. 2009).

Although the merits and limitations of each approach are often discussed, empirical studies directly comparing the two approaches are limited. This is unfortunate, given that the few studies comparing the approaches have shown that additional variance is explained when both generic and occupation-specific assessments of work characteristics are conducted (e.g., Brown et al. 1999; Brough 2004; Kop et al. 1999). Assessments of work characteristics and outcomes should ideally incorporate both occupation-specific and generic measures to provide a comprehensive perspective of occupational health that balances the advantages and limitations of each approach. While researchers increasingly advocate for multifaceted assessments of work characteristics (e.g., Brough and Biggs 2010; Cartwright and Cooper 1997; Cooper et al. 2001; Keinan and Malach-Pines 2007; Wall et al. 1996) these recommendations are unfortunately rarely heeded.

This chapter presents a brief history of the emergence of both approaches, discussing advantages and limitations for each. The chapter presents key international and local Asia-Pacific research comparing generic and specific job characteristics. Two case studies providing a detailed description of approaches to the measurement of both generic and occupation-specific work characteristics in two unique occupational groups are also discussed. Finally, we discuss current challenges and future directions for the assessment of generic and occupation-specific work characteristics and outcomes.

7.2 Theoretical Approaches Explaining Generic Job Characteristics

The early formal work undertaken to classify jobs and to define the actual functions of work is useful in establishing the common type of demands that paid employment requires of employees. Fine's categorization of the characteristics and requirements of millions of economic jobs resulted in the creation of the *Dictionary of Occupational Titles* and its more recent web-version *O*NET* (Fine 1955; Peterson et al. 1995). Fine suggested that every job consists of demands arising from three core dimensions: *data*, *people*, and *things*. Furthermore it is the *complexity* and the *time* taken up by each of these three dimensions that is important in assessing the actual functions and demands of a job. When we consider more contemporary descriptions of job demands it is pertinent to note that these demands remain fundamentally based on a worker's time and interactions with *data*, *people*, and *things*.

Explanations of key job characteristics have been provided by several influential models, generated for the purpose of ordering job characteristics research into

coherent theoretical models, clarifying causal patterns and establishing key job characteristics and outcomes (Houkes et al. 2001). One key model, for example, is the job characteristics model (Hackman and Oldham 1976), which described five core job characteristics that are central to work performance and employee motivation and job satisfaction. These five characteristics consist of: *task variety*, *job autonomy*, *job feedback*, *task significance*, and *task identity*. Importantly, Hackman and Oldham also identified the influence of individual employee's discretion for each of these characteristics (i.e., how much of each characteristic they desired and could achieve in their job) that resulted in their growth and motivation for their work.

From this and similar theoretical models, the focus on the actual demands of a job have tended to emphasize the amount of job task variety, number of tasks, and time to complete tasks that a job requires from its workers, i.e., an assessment of *workload*. Formal assessments of workload have been proposed and utilized, which focus on job demands that are common (generic) to most occupations. Such measures typically ask workers to rate how much their work requires their *undivided attention* or how much discretion they have to *plan their own work* (Wall et al. 1995).

Several organisational psychology theories have been proposed, most of which focus on a limited number of generic job characteristics. Cox and Griffiths (2010) reviewed several of these theories, to emphasize the commonalities amongst them. They noted that each of the theoretical approaches possess a common framework of describing occupational health as a process involving the interaction between individuals and the organisational context. Furthermore, the theories describe a limited range of key variables "built around notions of demand, control, and support with variations including ability, needs, effort, coping, and reward" (p. 48). Most of these theories focus on general concepts that are applicable to a wide range of situations and occupational contexts (van Veldhoven et al. 2005). Finally, standardized work characteristics measures based on these theories have been developed for use in a multitude of occupational contexts; a major benefit of this generalizability is the ability to establish normative data for comparative purposes.

Despite these advantages, several limitations of these occupational health theories and their associated measures have been discussed. Criticisms have primarily centered on their limited scope, specifically, their focus on a limited range of generic variables presumed to be equally applicable across unique occupational roles and contexts (Cox and Griffiths 2010). This is problematic as it "obscures and ignores" other important work characteristics that may influence well-being and motivation (Narayanan et al. 1999, p. 64). Research generally supports these criticisms, by demonstrating that elements of work beyond those included in traditional occupational health theories often have a greater impact on outcomes (discussed in detail below). Overall, empirical evidence suggests that a greater number of work characteristics should be considered in order to provide a more comprehensive account of well-being and motivation, as there is seemingly "more to job stress than demands, control, and social support" (van Veldhoven et al. 2005, p. 7).

In summary, these generic assessments of job demands are valuable for the purpose of evaluating common job characteristics across all employment sectors. The main advantage of these generic assessments is that they are cost-effective, simple to administer and, importantly, provide scores that can be compared to published normative data. Generic assessments of job demands have also contributed to the redesign of numerous job roles and formed the foundation of influential organisational psychology theories including, for example, Karasek's (1979) job demands-control (JDC) model, Johnson and Hall's (1988) job demands-control-support (JDCS) model, and Warr's (1990) work-related well-being model.

7.3 Occupation-Specific Approaches to Explaining Stress

Apart from focusing on a limited number of variables, a disadvantage of research drawing on traditional occupational health models is the presumption that global approaches to assessing work characteristics can be effectively applied to all occupational roles and contexts (Sparks and Cooper 1999). Generic measures of work characteristics seldom meet the requirements of academics or organisational stakeholders in applied organisational research contexts (Brough and Biggs *in press-a, b*). It has been widely recommended that theoretically derived occupation- or context-specific measures be designed to meet both research and organisational needs, and to provide a more comprehensive understanding of the impact of work characteristics on outcomes (Sparks and Cooper 1999). Thus, the development of occupation-specific measures of work characteristics and outcomes has occurred in tandem with generic measures.

Unlike the 'laundry list approach', occupation-specific measures are developed with reference to theoretical models. For example, several occupation-specific measures derived from the JDC model have been developed for use in samples of physicians (Johnson et al. 1995) and teachers (van der Doef and Maes 2002). Within law enforcement research, occupation-specific measures often reflect the theoretical distinction between organisational and operational job characteristics (Brough and Williams 2007; Brough and Biggs *in press-a*). The use of theoretically derived occupation-specific measures has been associated with several theoretical and practical advantages, including increased face validity for the research participants (Dewe and Guest 1990), improved application to intervention development (Cooper et al. 2001) and for providing greater support for occupational health theoretical models (Brough and Biggs *in press-a*).

Occupation-specific measures play an important role in informing the development, implementation, and evaluation of occupational health interventions. Interventions based upon occupation-specific models and measures are likely to have a greater relevance than off-the-shelf interventions based upon generic theoretical principles (Sparks and Cooper 1999). Intervention strategies possessing a higher degree of relevance to the workplace, in turn, are evaluated more positively by potential participants and produce sustainable workplace changes (Brough and

Biggs 2010; Cooper et al. 2001). For example, Narayanan et al. (1999, p. 71) noted that occupation-specific characteristics “may be more amenable to interventions and change than more global measures of stress.”

Although studies directly comparing generic and occupation-specific work characteristics measures are rare, those that have compared them have demonstrated that the occupation-specific measures tend to explain a greater proportion of variance in outcomes (van der Doef and Maes 2002; Xanthopoulou et al. 2007). In addition, greater support for organisational theories has been demonstrated when occupation-specific measures are utilized. For example, greater support for the somewhat elusive JDC and JDCS interaction terms has been demonstrated for occupation-specific measures compared to generic measures (van der Doef and Maes 2002). Reviewers of JDC and JDCS research have pointed out the interaction effects are less likely to be observed in large heterogeneous samples because of the diversity of occupations and job characteristics (de Jonge et al. 2000). For example, de Jonge et al. (2000) tested the JDC model in several occupational groups and determined that interaction effects between demands and control occurred only for specific occupational groups. Interactions were more likely to occur for emotional demands, which were more relevant to the occupational groups sampled than other measured demands. Finally, de Jonge et al. found an interaction effect between emotional demands and control that was inconsistent with the JDC model, due to the occupational group sampled. Overall, they concluded that occupation-specific measures of JDCS “could improve the predictive power” of the JDC model (p. 281).

Despite the greater face validity and ecology of using occupation-specific measures, there are several disadvantages to their use. Specifically, the lack of external validity, inability to make comparisons with established norms, and time-consuming process of developing measures for different occupations (Latack and Havlovic 1992; Wall et al. 1995). Additionally, van Veldhoven et al. (2005) caution against moving too far from general occupational health models, which are “still quite adequate in most situations” (p. 9): while occupation- or situation-specific measures may be useful in homogenous research populations, “they add relatively little detail in examinations of heterogenous data sets” (p. 22).

7.4 Studies Incorporating Occupation-Specific and Generic Work Characteristics

Research assessing occupations such as policing, nursing, and teaching has identified the value of including *specific measures* of job demands. For example, Hart et al. (1995) demonstrated that a police-specific job demands measure successfully accounted for significant amounts of variance within the assessment of the quality of work-life and the psychological well-being of police officers. This observation has also received support from other occupational stress

researchers who have, for example, tested specific measures of job demands in samples of police officers (Brough 2004), teachers (van der Doef and Maes 2002), and fire-fighters (Tuckey and Hayward 2011).

A pertinent local example of research investigating the impact of both generic and specific assessments of job demands is the work by Brough, Biggs and colleagues in their evaluations of the occupational stress experienced by correctional workers. Corrections is generally considered to be a high-stress occupation for correctional workers due to commonly experienced operational stressors such as perceived danger and threats to physical safety from offenders. For example, Keinan and Malach-Pines (2007) estimated that 38 % of corrections workers experienced traumatic events involving physical injury caused by offenders. Furthermore, the most common job demands experienced by correctional workers involved offender interactions such as managing offenders' special needs and exposure to deviant and manipulative offender behavior (see also Brough and Biggs 2010). Brough and Williams (2007) described the consequences of these prolonged job demands upon correctional workers' health outcomes and job performances. Brough and Williams also noted the considerable financial costs to the organisation attributable to the worker's experiences of these job demands: "Adverse organisational consequences of stress also impact on correctional center budgets due to staff illness, turnover, required overtime, early retirement, and workers' compensation claims" (p. 556).

Generic job demands are, of course, also relevant to correctional work. Job demands describing the organisational structure (e.g., most typically reported as being hierarchical, bureaucratic, and militaristic) and the functioning of correctional departments have been reported to be significantly associated with psychological strain and work attitudes such as low levels of job satisfaction, work engagement, and high turnover intentions (Brough and Williams 2007; Dollard and Winefield 1998; Summerlin et al. 2010). However, the impact of *generic* job demands upon correctional worker's health and job performance outcomes is often reduced when *specific* job demands are also measured. For example, in an assessment of formal occupational stress claims submitted by correctional workers, Brough et al. (2007) identified that only *job-specific* characteristics (e.g., submission of grievance reports by offenders, specific correctional job roles) were significant predictors of occupational stress claims. No generic job demands (e.g., workload) were found to be significantly associated with the submission of an occupational stress claim.

Ideally, assessments of occupational stress should, of course, include *both* specific and generic measures of job demands in order to provide a detailed and comparable representation of the work environment. This multifaceted assessment of job demands has been widely recommended (Brough and Biggs 2010; Cooper et al. 2001) but is typically overlooked. This is unfortunate given that research has documented the additional variance explained when a multi-faceted assessment of job demands is conducted (Brough 2004; Brown et al. 1999). For example, Wall et al. (1996) acknowledged the accurate assessment of job demands has suffered from a general "lack of correspondence between theoretical constructs and

measures which may have undermined the accumulation of adequate evidence” (p. 164). Wall et al. recommended that this line of inquiry should be pursued by further research. More recent research also continues to identify the need to focus on occupation-specific work characteristics in order to provide a greater insight into both theoretical explanations of job strain and practical recommendations to improve worker’s health and job attitudes (Mauno et al. 2010).

In order to accurately assess specific job demands commonly experienced by correctional workers, Brough and colleagues developed a specific instrument, the *Correctional Job Demands Measure* (Brough and Biggs [in press-a](#); Brough and Williams 2007). The measure consists of 14 job specific items asking correctional workers about their experiences of violence and harassment from offenders, their need to be constantly alert for their own personal safety and about their experiences in major incidents (e.g., death, overdose, and injuries to colleagues). The authors compared the impact of this specific job demands measure with an off-the-shelf generic job demands measure, which measured items such as workload, work time demands and problem-solving task demands. Brough and Biggs ([in press-a](#)) reported that the correctional job demands measure produced significant associations with all four criterion variables (job satisfaction, work engagement, turnover intentions, and psychological strain) while the generic job demands did not. The authors concluded that their results “reinforce suggestions that the accurate estimation of occupational stress and/or mental health for workers within high-risk occupations is best assessed by occupation-specific job demands” (p. 15).

A second example of Asian-Pacific research in this field was conducted by Noblet et al. (2005) in their assessment of Australian public sector employees. Noblet et al. noted that a number of specific job demands had a significant detrimental impact on employee health and performance indicators, over and above the impact of generic job demands. Such specific job demands included, for example, issues of pay and the availability of some human resource services. Noblet et al. concluded that assessing both generic and specific job demands is valuable in maintaining and improving the quality of working life experienced by public sector employees.

A final example evaluating generic and specific job demands was conducted among a sample of Australian nurses by Teo et al. (2012). Teo et al. assessed the impact of specific nursing administrative job demands including, for example, “insufficient time to take meal breaks” and “unrealistic performance targets.” Teo et al. found that these job specific demands did have a negative impact on outcome variables including psychological health, job satisfaction, and organisational commitment. Teo et al. also noted that the specific nursing administrative job demands concerning pay, recognition, and resource constraints were associated with job dissatisfaction. These authors concluded that nursing managers should certainly take into account these job specific demands, as well as generic job demands, to implement strategies designed to produce and to retain a psychologically healthy and productive nursing workforce.

7.5 Case Studies

7.5.1 *Case Study 1: Killing Me Softly: Assessing the Job Demands of Animal Care Workers*

7.5.1.1 Background

Veterinary work has been identified as an occupation at high risk of occupational stress, due to the unique stressors experienced by these personnel. However, while empirical research on occupational stress in human health services is well established, comparatively few studies have addressed occupational stress in animal care workers. Moreover, the majority of the research conducted in animal care workers has failed to examine occupational stress in accordance with established occupational stress theories. A recent Australian study conducted by Black et al. (2011) provided a rare theoretical assessment based upon the job-demands-control-support model (Johnson and Hall 1988). Black et al.'s findings indicated that approximately one third of animal care workers reported high demand-low control work conditions, and that levels of workplace social support were effective for reducing their occupational strain. Furthermore, Black et al. noted that the job-specific demand of involvement in animal euthanasia was significantly associated with burnout. This finding is consistent with previous research, which has identified that animal care workers with euthanasia responsibilities are more likely to report increased job stress, work-family conflict, somatic complaints, traumatic stress reactions, substance abuse, and decreased job satisfaction (Reeve et al. 2005; Rohlf and Bennett 2005).

Whilst research supports the assertion that euthanasia responsibilities have the potential to evoke adverse stress outcomes in animal care workers, the influence of associated job demands involving exposure to animal suffering and assisting with animal deaths have yet to be fully assessed. Furthermore, the impact of workloads and emotionally stressful interactions with animal owners, for occupational stress outcomes for animal care workers has not to date been fully assessed from an organisational psychology perspective.

7.5.1.2 Results

Deacon (2013) conducted a research project with the aim of providing a comprehensive understanding of the factors associated with occupational stress in Australian animal care workers. In particular, the researchers investigated the impact of both generic and occupation-specific characteristics in assessments of psychological burnout, psychological strain, and work engagement. It was found that occupation-specific job demands such as the death and/or suffering of a patient (animal) were identified as frequently occurring stressors by the respondents.

Furthermore, in the prediction of employee's psychological burnout, the impact of occupation-specific job demands was significantly moderated by levels of social support; veterinary nurses exposed to patient death and suffering as a frequent job demand and who reported high levels of workplace social support experienced lower levels of burnout, compared to veterinary nurses who reported low levels of workplace social support.

7.5.1.3 Implications

The results support the value of including occupation-specific job characteristics in the assessment of the psychological health of veterinary nurses/animal care workers. The exposure to the suffering and deaths of animals was rated as a frequently occurring job task and produced significant associations with the three psychological health outcome variables. The results also provide a basis for future investigations of personality and coping styles in relation to the wider animal care workforce.

7.5.1.4 Acknowledgment

We formally acknowledge the research conducted by Rebecca Deacon (2013) and her kind permission for this work to be included here in this case study.

7.5.2 Case Study 2: Stress Experienced by Prison Staff

7.5.2.1 Background

Correctional employees are responsible for the supervision and rehabilitation of offenders serving sentences in prisons, or probation and parole orders within the community. Research has consistently demonstrated the high-stress nature of corrections work compared to other occupational groups, as evidenced by high levels of psychological ill-health, absenteeism, turnover and mental stress claims (e.g. Johnson et al. 2005; Lambert et al. 2006; Dollard and Winefield 1995; Australian Safety and Compensation Council 2008).

Correctional employees are exposed to a range of unique operational and organisational stressors. These include increased threat of exposure to violence and allegations from offenders. Stressors originating from sources external to the workplace, such as the poor social image of corrections, are also unique to this occupational group. In addition, the hierarchical, militaristic structure that typically exists in correctional organisations is another key source of stress. For example, increased stigma associated with stress discourages employees from

seeking social support at work (Brough and Biggs 2010; Brough et al. 2007). Moreover, generic job demands and organisational stressors are also relevant to Corrections employees. For example, inadequate remuneration, understaffing, lack of recognition, work overload and lack of promotional opportunities are stressors that are common to all occupations (Botha and Pienaar 2006; Keinan and Malach-Pines 2007).

Recent Australian research (Biggs 2011) investigated the role of both generic job demands and occupation-specific job demands on Correctional Officer's stress and wellbeing. As mentioned previously in this chapter, although widely recommended, the inclusion of both generic and specific job demands in occupational stress research is scarce. This research therefore explicitly addressed the dearth of research in this area, in a sample of correctional workers.

7.5.2.2 Aims and Hypothesis

The impact of generic and occupation-specific job demands on psychological strain, engagement, and burnout was examined. It was hypothesized that occupation-specific demands would have a stronger impact on work characteristics and well-being outcomes compared to generic work demands measures.

7.5.2.3 Method

A total of 809 Corrections employees participated in this research. Participants completed a survey package, consisting of published, standardized measures for generic job demands, job control, social support, coping, engagement, psychological strain, and burnout. In addition, the Correctional Job Demands Measure (Brough and Biggs *in press-a*; Brough and Williams 2007) was also included to measure corrections-specific organisational and operational demands.

7.5.2.4 Results

The findings produced partial support for the hypothesis. In particular, both generic job demands and corrections-specific demands (organisational stressors only) were significantly related with engagement and work-related burnout, and indirectly associated with psychological strain. Consistent with the hypothesis, corrections-specific organisational demands were more strongly associated with outcomes compared to the generic job demands. Corrections-specific operational stressors did not have a significant direct effect on psychological strain, engagement or burnout. However, the results demonstrated the adverse effect of operational stressors, when job-related and social resources were lower.

7.5.2.5 Implications

These findings reinforce the argument that a multifaceted assessment, including both generic and occupation-specific demands provides a more accurate assessment of work characteristics. Therefore, these findings have important implications for researchers and practitioners involved in the design and implementation of occupational stress management interventions. In particular, the simultaneous measurement of generic and occupation-specific demands is effective for informing targeted occupational stress interventions that are appropriate for the organisational context, therefore increasing the probability of achieving improved health and wellbeing outcomes.

7.6 Challenges and Future Directions

It is apparent that research is increasingly recognizing the value of assessing occupational-specific job characteristics as well as generic job characteristics. We suggest that this interest will continue to increase as occupational health researchers continue to include both more sophisticated research designs and statistical analysis techniques to improve their assessments of employee's well-being and performance. We hope that adopting a dual approach of *simultaneously* assessing both specific and generic job characteristics will increase in occurrence.

One pertinent direction for future research is to test these occupation-specific measures across multiple international samples of the same type of workers. The most progress here, for example, has been made with assessing police officer-specific job characteristics, although primarily still within samples from countries with similar cultural orientations (i.e., Australia, New Zealand, UK; Brough and Biggs 2010). The assessment of the influence of national cultural variations is valuable for theory-testing beyond purely Western samples (Brough et al. 2013), and this, therefore, is a highly pertinent research avenue for researchers within this Asian-Pacific area in particular. For example, calls for published research significantly contributing to scholarly discussions utilizing samples that are not European or US-based have been issued (Cadogan 2010; Gelfand et al. 2008).

A second pertinent area for future research in this field is the scholarly application of these occupation-specific assessments of job characteristics to organisational training and intervention programs. Brough and O'Driscoll (2010) noted the general lack of controlled intervention studies with appropriate research designs (e.g., control groups, pre and post testing, objective evaluations, etc.). Brough and Biggs (in press-a) reported that organisational interventions for improving psychological health with high-risk of stress populations are most effective when such training is specifically-targeted to the sample in question. Generic 'off the shelf' psychological training courses typically lack face validity and, therefore, often struggle to produce sustainable improvements in psychological health and work attitudes for these

workers. Assessing occupation-specific job characteristics that are then used to inform the targeted content of psychological health interventions is considered to be an effective method to improve the effectiveness of these interventions (see also: Brough and Biggs [in press-b](#)).

7.7 Conclusion

This chapter provided a brief review of the development of tests of both generic job characteristics and occupation-specific job characteristics and we briefly described the key theories to which such assessments contribute. We noted the recent interest in assessing occupation-specific job characteristics and suggested this was for two key reasons: increased face validity for the participants (e.g., asking prison workers about the job demands arising from offender's behaviours) and secondly, for improving theory-testing purposes, particularly in relation to discussions of significant demands x control/support interaction terms and in terms of theory testing with employee samples holding different cultural values. We also noted the renewed interest in increasing the efficacy of organisational psychological health interventions and the recognition of how assessments of occupation-specific job characteristics can often improve both the content and face validity of such programs. The chapter has brought attention to the recent interest in assessing occupation-specific job characteristics and we suggest this is a highly relevant research avenue for researchers based within the Asian-Pacific region.

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Chapter 8

Enacting Job Demands and Resources: Exploring Processes and Links with Individual Outcomes

Carolyn M. Boyd and Michelle R. Tuckey

8.1 Introduction

It has been long accepted that job characteristics, including demands such as work pressure, and resources such as control and support, influence worker wellbeing, learning and productivity. In addition to the influence of these psychosocial factors, during the past two decades researchers have focused on the role of workers themselves in shaping their work experiences. In this literature, workers are seen as active agents, capable of influencing important aspects of their job in ways that are more or less beneficial (Berg et al. 2010; Rafaeli 1989; Wrzesniewski and Dutton 2001). However, although workers' active participation in managing their jobs and work environment may ultimately determine their wellbeing, productivity, and capacity for personal growth (e.g., Fay and Frese 2001), certain formal job characteristics (e.g., decision authority; Berg et al. 2010; Lievens et al. 2010) and contextual factors (e.g., task interdependence, the social environment; Ilgen and Hollenbeck 1991) place absolute limits on the scope of worker agency and autonomy. Consequently, there has been a renewed emphasis on the complementary influences of job and worker, and the interplay between them. According to these integrative approaches, it is the interactions between worker and environment that provide the key to understanding of the processes that shape workers' experiences and behavior on the job.

This chapter investigates one such approach, Daniels' (2006) multilevel model of job characteristics. In brief, Daniels (2006) proposed that job characteristics exist at three levels: latent, perceived, and enacted. While all three levels are posited to influence worker wellbeing, it is the enacted level that is most proximal to it. Latent and perceived job characteristics are generally well understood and perceived job

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demands and resources in particular have attracted a wealth of research. In this paper we direct our major emphasis towards the third category – enacted job characteristics. Specifically, we develop and refine the concept of enactment and integrate it with an influential contemporary job characteristics model of work stress, the Job Demands-Resources model (JD-R; Bakker et al. 2003a; Demerouti et al. 2001). We build a comprehensive picture of the processes by which workers act out daily experiences on the job in interaction with job characteristics and the work environment and, in so doing, provide a more detailed understanding of the psychological processes underpinning the pathways proposed by the JD-R model to link job characteristics to worker exhaustion and engagement. This enhanced picture also leads to new predictions and directions for future research regarding these links.

8.2 The Context: Retail Work in the Asia Pacific Region

To illustrate our framework, we consider the factors associated with occupational stress and wellbeing in the context of retail employment. In Australia, and in many other parts of the world (including the Asia-Pacific region), retail work is often characterized by poor job resources, including insecure employment, unpredictable hours, low pay rates, and little autonomy, together with repetitive tasks which are nevertheless fast-paced and demanding (Broadbridge 2002). In addition, frontline customer service frequently entails emotional demands arising from abusive, aggressive or demanding customer behavior (i.e., customer-related social stressors), which results in the need for employees to engage in emotion regulation and emotional labor, two particularly effortful, and potentially exhausting job demands (Dormann and Zapf 2004). And, given low base wages, a further demand is that retail workers may feel the need (or indeed be encouraged) to compete for customers and extra earnings, thus potentially creating conditions for inter-coworker conflict. On the other hand, in the Asian context, there may be added demands because of the importance to individual identity of preserving social harmony and respect for authority (Ayupp and Kong 2010), and the difficulty of combining these values with the possible need to compete with coworkers.

Besides the demanding nature of retail work and the potential vulnerability of retail employees, one reason that retail work warrants the focus of research attention is that the retail sector is a major employer in the Asia-Pacific region. In Australia, for example, 10 % percent of the workforce (1.2 million people) is employed in the sector (Productivity Commission 2011), while in Malaysia (Australia's near neighbor), the figure employed in wholesale and retail is around 16 % (Department of Statistics Malaysia 2013). As well as being one of the largest employers, the retail sector is highly labor intensive (Productivity Commission, 2011), which means that the psychological health and well-being of workers are fundamental to the future of the industry. It is therefore important to understand potential threats to psychological health and well-being, most notably occupational stress.

In the following paragraphs we outline two major theoretical frameworks that inform our work, the JD-R model (Demerouti and Bakker 2011), and Daniels (2006) concept of enacted job characteristics.

8.3 Two Theoretical Approaches to Work Stress

8.3.1 *Job Characteristics: Demands and Resources*

Job characteristics models of work stress outline the broad processes by which important aspects of the job influence health and well-being outcomes, independently and in combination. The Job Demands-Resources model (Bakker and Demerouti 2007; Demerouti et al. 2001) proposes that job characteristics fall into two classes, demands and resources, which play differing roles in determining worker wellbeing, motivation and productivity. In brief, job demands (e.g., work pressure, role conflict, role ambiguity) are aspects of the job that require sustained, or repeated, expenditure of effort, energy or skills, and that are associated with physiological or psychological costs (Bakker et al. 2003a; Demerouti et al. 2001; Schaufeli and Bakker 2004). Job resources (social support, autonomy, procedural justice), on the other hand, aid in fulfilling basic psychological needs (e.g., Baard et al. 2004), in maintaining the physical and psychological resources required for meeting job demands (Daniels and de Jonge 2010), and in achieving work goals (Demerouti et al. 2001). When demands are excessive or prolonged, and job resources are scarce, energy is depleted over time, leading to impaired health and exhaustion (the *health impairment* pathway; Bakker et al. 2003a; see also Lee and Ashforth 1996). Importantly, job resources stimulate personal growth, learning and development, both intrinsically, by meeting basic psychological needs (e.g., autonomy, relatedness, and competence; see Ryan and Deci 2000), and extrinsically, by enabling the completion of work goals (Bakker et al. 2003b; Demerouti et al. 2001) thereby fostering work engagement and organisational commitment (the *motivational* pathway). By implication, low levels of resources undermine motivation, leading to disengagement and reduced performance (Demerouti et al. 2001).

Numerous quantitative studies have supported the health impairment and motivational pathways of the JD-R model by demonstrating the links between perceptions of job demands and resources, and outcomes such as exhaustion and engagement (see Bakker and Demerouti 2007 for a review). However, these studies have provided relatively limited insight into *how* these links are forged (Daniels and de Jonge 2010; de Jonge and Dormann 2006). Daniels' notions of latent, perceived and enacted characteristics offer possibilities for a more detailed understanding of the mechanisms and processes involved and of the role of the individual in these overarching pathways of the JD-R model.

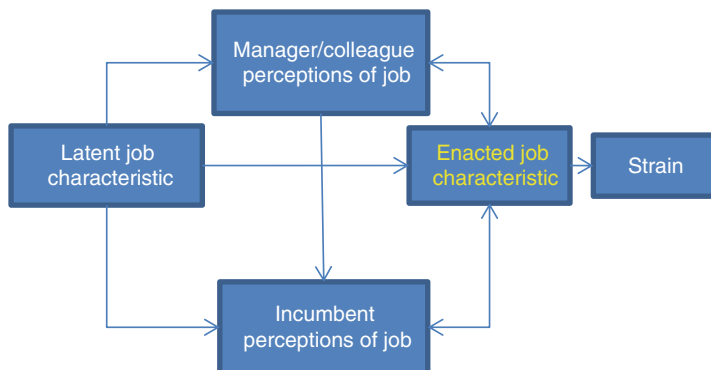


Fig. 8.1 Daniels' (2006) model of latent, perceived and enacted job characteristics. (Reproduced with permission.)

8.3.2 *Job Characteristics – Latent, Perceived and Enacted*

Daniels (2006, 2011) proposes that job characteristics (i.e., job demands and resources) exist at three levels – latent, perceived, and enacted – and that an understanding of all three levels and the links among them is necessary for a comprehensive insight into work stress. In essence, latent characteristics consist of the formal requirements, entitlements and facilities of the job, as set out in position descriptions and workplace agreements, while perceived characteristics comprise workers' assessments of typical levels of job stressors/demands and job resources, as captured in questionnaires and surveys. Enacted characteristics comprise specific events as they happen on a daily basis – the “acting out” from one day to the next of perceived job characteristics, as reflected in workers' (and others') expressed views, decisions and actions. Daniels' model, therefore, encompasses both the objective and formal features of the job (i.e., those that exist, regardless of job incumbency), and the subjective and informal features that emerge from incumbents' perceptions of their role and their position within the social environment (see also Ilgen and Hollenbeck 1991). In this way, the model takes account of both job and worker in the development of occupational stress (Fig. 8.1).

In Daniels' (2006) account, enacted job characteristics (demands and resources) provide the pivotal connection between latent and perceived demands and resources on the one hand, and workers' experiences of and attitudes to work on the other. In a sense, enacted characteristics channel the effects of latent and perceived characteristics. Latent (formal, objective) job demands and resources influence workers' (and others') assumptions (perceptions) regarding the requirements, options and constraints of the job. In turn, these perceptions determine the scope of thoughts, words, and decisions enacted on any given working day in response to the events experienced on the day. It is in this way that enacted characteristics shape workers' dynamic experiences from one day to the next, driving felt emotions

(Weiss and Cropanzano 1996), and leading over time to the development of either positive (e.g., vigor, dedication, satisfaction) or negative (e.g., exhaustion, disengagement) affective states and work attitudes (Weiss and Cropanzano 1996). Of course, perceived resources are also relevant in determining the way a given job is enacted on any given day. In turn, the enactment of characteristics, and the consequences that ensue (e.g., positive or negative feedback), help shape workers' perceptions of the job over time, and of what behaviors will lead to desired outcomes (e.g., Hornung et al. 2010).

While enacted job characteristics are thought to drive experiences and responses on a daily basis, which build-up to longer-term influences on health and well-being, some questions remain regarding the processes of enactment. In particular, it remains unclear whether enacted demands should be treated as a stimulus or can also involve elements of response to the demand. Similarly, it is uncertain whether enacted resources refer only to the measures taken by the incumbent to obtain or utilize resources, or whether they also include the effects of those measures as well – their success or otherwise in obtaining or applying the desired resources. In the next sections we unpack these issues.

8.3.2.1 Enacted Job Demands: Stimulus or Response?

While Daniels' (2006) concept of enacted job characteristics promises fresh insight into the pathways linking objective and perceived job characteristics to exhaustion via demands and resources as they are encountered on the job, certain details in his original (2006) account are unclear. For example, an "enacted" job demand could refer to the presentation of a specific stimulus (or set of stimuli) by a person or object in the work environment that "demands" a particular set of responses from the incumbent at a given time (e.g., allocation of an urgent task), or, alternatively, to the execution of behaviors by the incumbent in response to that demand (e.g., working hard and fast to complete the urgent task). We believe that it is important to disentangle these elements in recognition that an enacted demand incorporates multiple facets and, therefore, may also involve more than one agent. To this end, for the remainder of this chapter we conceive of the job incumbent as an agent who enacts demand-responses in response to his/her appraisals of specific demanding stimuli in the work environment. Demands themselves may be activated by others (e.g., as in the aforementioned assignment of an urgent task), by environmental events (e.g., a crisis), or by the self (e.g., the volitional undertaking of additional responsibilities). When the incumbent acknowledges the demand, and begins responding to it, the enactment of a demand-response begins.

Differentiating Among Elements of Enacted-Demand Responses

While all job demands are presumed to require the application of energy and other personal resources (e.g., time and attention or skills and abilities; ten Brummelhuis and Bakker 2012), job demands themselves vary considerably.

Demands may include task requirements (e.g., the tasks that have to be done) or organisational stressors (e.g., impaired communication processes) (see Dormann and Zapf 2004; Frese and Zapf 1994). Alternatively, they may be viewed as challenges (demands that offer learning and growth opportunities), or hindrances (demands that impede task accomplishment and/or threaten the self; see Crawford et al. 2010; Van den Broeck et al. 2010), or classified according to whether they are primarily emotional, cognitive or physical in nature (de Jonge and Dormann 2006). Differences in types of demand translate into differences in the goals towards which enacted demand responses are directed. Thus, incumbents may variously channel their energy and skills towards meeting task requirements and cognitive challenges (e.g., solving complex problems); overcoming, managing, or avoiding obstacles or hindrances (e.g., administrative red tape); or protecting the self against emotional threats or physical harms (e.g., bullying, or aggressive customer demands) and their deleterious psychological or physical effects (Lazarus and Folkman 1984). Since any given job demand likely incorporates several of these components, a variety of enacted demand-responses may be engaged to fulfill demand-related goals.

8.3.2.2 Enacting Resources

Regardless of the specific nature of demands, enacting demand-responses requires the individual to expend volatile personal resources, such as energy, time, and attention. Volatile resources are finite and transient (there is a limited supply and they can only be used once), and they therefore require regular recovery and replenishment if the employee is to avoid exhaustion (Hobfoll 1989; ten Brummelhuis and Bakker 2012). Volatile resources are used along with constructive personal resources, consisting of knowledge, skills, and abilities that can be accumulated over time and, which, when acquired, can be deployed repeatedly and across different situations. In addition, key personal resources are overarching, adaptive psychological resources, such as self-efficacy, which govern decisions about the deployment and coordination of other personal resources (see ten Brummelhuis and Bakker 2012 for a comprehensive discussion of these concepts).

According to demand-resources frameworks, it is the unchecked expenditure of volatile resources, in the absence of recovery opportunities, that leads to energy depletion (see also Meijman and Mulder 1998; Sonnentag 2001). To conserve personal resources, therefore, additional contextual (i.e., job) resources must be sought to help meet current demands. Harnessing, or enacting, job resources also requires the outlay of personal resources and hence may lead initially to energy depletion (Schaufeli et al. 2009; ten Brummelhuis and Bakker 2012; Tims et al. 2013). In terms of the JD-R framework, job resources are harnessed in order to enact demand-responses (i.e., to meet or cope with particular demands effectively), and/or to meet psychological needs (e.g., Baard et al. 2004; Van den Broeck et al. 2008). Examples of the former include seeking help to accomplish a task (i.e., enacting instrumental social support), or choosing to alter one's work schedule to regulate energy expenditure (i.e., enacting autonomy). Examples of the latter include building strategic relationships or undertaking training in order to meet growth needs, or

initiating workplace friendships to meet relational needs. In such cases, garnering of resources might also be partnered with crafting of additional challenge demands in order to meet the desired end. For example, volunteering as an office bearer for an organisational committee member might be a way of simultaneously crafting challenging responsibilities as well as building professional and social networks, both of which may serve current growth needs and future career plans.

Clearly, in these examples, the incumbent is the agent who initiates the enactment of resources (Daniels 2006, 2013; Daniels et al. 2009). Nevertheless, in some jobs that involve high levels of task interdependence (e.g., frontline retail work) specific persons in the employee's environment (e.g., his/her supervisor or colleagues) govern the availability of resources from day to day. In such situations, enacting job resources may consist of interactions involving initiated and responsive actions, both by the employee, and by those agents in his/her environment (i.e., supervisor, co-workers) who control access to the resource. This may be especially the case for emotional resources, such as co-worker and supervisory support. For this reason, attempts to enact resources may not always succeed.

To summarize, enacting job characteristics provides the pivotal link between the job incumbent and his/her working environment. Further, individual employees enact demands and resources in a variety of ways and for a variety of purposes. The success of enactment strategies (in combination with other factors, such as recovery opportunities) helps to determine whether, ultimately, individuals experience an overall net gain or loss in personal and job resources over time.

8.4 Case Studies

The case studies presented below illustrate the interplay of demand- and resource-enacting processes. Both concern employees in the Australian retail sector, who were interviewed as part of a qualitative study of occupational stress (Boyd et al. 2014). The case studies were chosen because they provide examples of "unsuccessful" and "successful" enactment strategies, respectively.

8.4.1 Case Study 1: When Job Crafting Misfires

The first case study describes an unsuccessful attempt at crafting additional job resources and challenge demands by a young woman who was employed in a small supermarket in an Australian country region. Judged by her supervisor to be a capable worker, she had been placed in charge of a discrete section of the store (e.g., greengrocer, delicatessen). While the position gave her limited supervisory responsibility (a challenge demand), and informal decision authority (a potential resource), it did not bring additional benefits, such as increased remuneration or control over hours of work.

To make her work more satisfying, therefore, the employee attempted to craft (enact) additional resources (decision authority) and challenge demands (creativity), by streamlining certain procedures and redesigning the section display, respectively. To accomplish these goals, she required the cooperation of both her supervisor and her fellow workers. Unfortunately, her attempts to enact these resources met with resistance on both fronts. Her supervisor would not support her ideas for redesigning the display. Her fellow workers resisted her attempts to streamline procedures, so that interpersonal conflict ensued, creating an additional emotional demand burden. To make matters worse, the store manager would not provide backing by insisting that her fellow workers comply with the new procedures. Thus, the employee's attempts at crafting creativity and decision authority were thwarted through lack of cooperation and social support. The employee subsequently left the job to obtain more satisfactory employment.

The employee attributed the opposition of her mostly older coworkers to feelings of resentment and envy, coupled with a lack of respect and reluctance to recognize authority in a much younger employee. She attributed the unsupportiveness of her (male) manager to disrespect for her youth and (female) gender, as well as to a reluctance to upset her colleagues. Regardless of how much these forces were actually in play, her account underscores the important influence of perceived legitimacy and social acceptance upon the eventual success or failure of attempts to craft benefits into one's job by enacting new challenge demands and resources. Job crafting is typically regarded as a "good" thing, since it demonstrates initiative and self-responsibility on the part of the employee, while also assisting the employee to achieve long-term growth goals (Frese et al. 1997). Further, efforts to craft challenge demands and resources have been shown to produce increases in both over time, as well as improved job engagement (Tims et al. 2013). Nevertheless, in line with previous research (Berg et al. 2010), this case study indicates that job crafting may be unsuccessful if employees are seen to exceed the recognized limits of their decision authority, especially when they occupy subordinate positions, or where there is high task interdependence. These factors appear to have been at play here. Such findings also point to decision authority as an overarching resource that facilitates the enacting of resources and challenge demands (Berg et al. 2010; Wrzesniewski and Dutton 2001). The employee's possible lack of experience and negotiating skills may also have been factors in this case.

8.4.2 Case Study 2: Enacting Job Resources Averts a Crisis

By contrast, the second case study concerns the successful enactment of personal and job resources to overcome challenges and hindrance demands. It concerns a specific incident in which an employee made creative use of available job resources to avert a potentially overwhelming build-up of stressful job demands. Again, the

case study concerns the retail context (see also Boyd et al. 2014). By way of background, the employee in question, a mature woman with many years of retail experience, had responsibility for overseeing the checkout area in a large suburban supermarket. She described how she generally found ‘staffing issues’ stressful – the lack of sufficient customer service staff during busy times. As a specific example, she described how, during the incident in question, large queues of waiting customers had formed at the cash registers while she was preparing for closing time. Her initial attempt to enact more job resources – by making an urgent request for allocation of more staff to serve at the checkout – was unsuccessful. However, rather than dealing with the staff shortage by serving customers herself – thereby enacting the demand in a way that could lead to rapid energy depletion, as well as leaving her unable to attend to other demands – she adopted a more innovative strategy. She opened one of the packets of toffees on sale at the checkout, offered toffees to the waiting customers, apologized for the wait, and engaged the customers in conversation. She later reported that this strategy “worked”. Thus, by using her ingenuity to enact the resources at her disposal – informal decision authority, a packet of toffees – she was able to prevent the difficult customer-related situation from becoming unmanageable. Her approach was proactive (cf. Carver and Connor-Smith 2010), aimed at averting customer anger before it would erupt (potentially creating more emotional demands for other service staff). In addition, the primary coping strategy was problem-focused, aimed at managing the situation overall – to keep things running smoothly and divert anger away from the checkout operators. Furthermore, she was able to capitalise on the stock of job resources that she had acquired over time – job security, the respect and trust of her manager and colleagues – to take a calculated risk in the approach she adopted.

8.4.3 Case Study Summary

The case studies described above highlight how different approaches to enacting resources in response to job demands may achieve very different results. In Case Study 2, the employee was able to capitalize on both her personal resources and an accumulated pool of job resources in such a way as to allow her to overstep the bounds of legitimate authority (i.e., by using the toffees) in order to avert a crisis. In Case Study 1, on the other hand, a young woman without these kinds of resources to draw on was unable to shape her job as she desired because she was unable to craft the challenge demands and job resources she aspired to. Together, the case studies underscore the importance of the *consequences* (i.e., success or failure) of enactment for employees’ capacity to thrive, as well as the importance of context, and the employees’ capacity to judge that context accurately in order to determine what resources might or might not be available, or effective in meeting current job demands.

8.5 Challenges and Future Directions

The foregoing theoretical discussion and case study have highlighted the advantages of using the concept of enactment as a lens through which to view processes that link the individual with the demands and resources in his/her environment via the lens of. In the case of demands, we have refined the concept, so as to separate the notion of activating a (latent) demand from that of enacting a demand-response. We have also considered the notion that multiple agents may be involved in enacting both demands and resources. In these ways we believe we have clarified the enactment concept.

Nevertheless, as has been argued extensively elsewhere, there are many theoretical frameworks for understanding individuals' transactions with their environment that have not been included in this account. There are also well-known constructs such as cognitive appraisals, physiological and affective reactions, and self-control demands (Muraven and Baumeister 2000; Schmidt and Diestel 2012). One example is action regulation theory (Frese and Zapf 1994), which provides a comprehensive framework for analyzing decision processes and actions as individuals regulate their behavior in accordance with regulation requirements (job requirements), opportunities (job resources), and problems (work stressors). Daniels' (2006) notion of enactment, and subsequent developments could fruitfully be investigated within such a framework, since it provides a system for theorizing and making predictions about the conditions that shape demand and resource enactment. For example, mention has already been made of the difficulties in enacting certain resources under conditions of low autonomy, because one requires permission from those in authority. Similarly, under conditions of interdependence, one requires cooperation from one's colleagues in order to enact certain resources. From the perspective of action theory, these conditions place limits on enactment because they curtail possibilities for action regulation.

Related to this is the assumption that resources, in particular, are only effective if they are enacted. That is, it is not enough for resources to be perceived or available, rather they must be actively used (Daniels et al. 2009). However, it is possible that in some circumstances, simply knowing that a resource will be available should it be needed (e.g., social support) may provide sufficient reassurance to allow one to tackle job demands confidently. Conversely, the perceived absence or loss of such resources may be experienced as causes for concern. Exploring the relative contributions of perceived and enacted resources is a potential avenue for future research.

Another area that could be fruitfully addressed is the potential role of regulatory focus in the enactment process. According to Higgins (1997), self-regulation may be geared towards promotion (i.e., towards accomplishment and aspirations) or towards prevention (i.e., towards safety and responsibility). This difference in regulatory orientation influences the tendency to engage in approach or avoidance strategies. It is possible, therefore, that selection and implementation of demand-responses, and resource enactment strategies may differ along these lines (Brockner and Higgins 2001; Higgins 1997).

Last, but not least, is the aforementioned influence of culture in determining the kinds of behavioral goals and strategies that are deemed appropriate for enacting demand-responses and job resources. While Australia is situated geographically in the Asia-Pacific, its western value-base means that individual responsibility, initiative and personal ambition are highly prized for meeting challenging job demands and obtaining Workplace benefits (although even here there are limits, as illustrated in our Case Study). As argued earlier, in other countries in the region, however, greater power distance and collectivism may encourage greater deference to authority and regard for the common good. At the same time, however, where western values of independence and individualism have made inroads into developing countries, there may be some clashes in the cultural values that prevail in retail employment, creating interpersonal conflict. Thus, it is important to examine broader cultural and other upstream factors that shape perceived and enacted job characteristics.

8.6 Conclusion

To summarize, we have attempted to refine Daniels' (2006) notion of enacted job characteristics as an explanatory construct linking job demands and resources to individual outcomes. Our approach has been to disentangle and describe the elements involved in activating and responding to job demands, as well as to separate the attempt to enact resources from the success or failure in doing so. In so doing, we have highlighted the multifaceted nature of enactment, as well as need to consider multiple agents and multiple perspectives in understanding the processes involved. In the case of frontline customer service workers, framing job demands and resources in this way has the potential to lead to greater insight into the factors leading to occupational stress and how to deal with them.

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Part III
Psychosocial Risks in the Asia Pacific

Chapter 9

Dominant Culture and Bullying; Personal Accounts of Workers in Malaysia

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9.1 Introduction

Workplace bullying is a serious psychosocial hazard at work, with a range of negative effects. These effects include increased psychosomatic symptoms, irritation, depression, poor physical health (e.g., Leymann 1996; Mikkelsen and Einarsen 2002), sickness absence (Kivimäki et al. 2000), and the potential onset of cardiovascular disease (Kivimäki et al. 2003; Tuckey et al. 2010). Alarmingly, up to 40 % of victims have contemplated suicide (Einarsen et al. 1994). The effects of observing bullying may be similar to actually being bullied (e.g., Hoel and Cooper 2001; Vartia 2001). Organisations face the direct cost of compensation claims (around one-third of stress claims result from bullying) (Earnshaw and Cooper 1996) as well as indirect costs from staff turnover, lost productivity, and lower morale (Salin 2003).

A large number of studies have discussed the prevalence, forms, antecedents, and outcomes relating to workplace bullying. Around 95 % of studies in the international literature, where participant origin can be identified, have been undertaken in Western countries (see Neall and Tuckey 2014), especially in Great Britain (e.g., Earnshaw and Cooper 1996; Einarsen et al. 2009; Harthill 2008; Hoel et al. 2001;

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Rayner 1997), Belgium (e.g., Baillien et al. 2009; Notelaers et al. 2006), the United States (e.g., Fox and Stallworth 2005; Lutgen-Sandvik et al. 2007), Germany (e.g., Zapf 1999; Zapf and Gross 2001; Zapf et al. 1996) and also Australia (e.g., Bond et al. 2010; Hutchinson et al. 2004; Winsor 2001).

In contrast, few studies have been conducted in non-Western countries such as Malaysia (Imran et al. 2010; Khoo 2010; Patah et al. 2010a, b; Yaakub et al. 2010), Japan (Abe and Henly 2010; Takaki et al. 2010a; Tsuno et al. 2010), Taiwan (Ma et al. 2011; Tsai et al. 2011), Korea (Seo et al. 2012) and China (McCormack et al. 2009; Sims and Sun 2012). Surprisingly, even in these studies, Western psychological concepts, theories, and measures have underpinned the study of workplace bullying. Moreover, there are comparatively few cross-cultural studies of workplace bullying, and most of these have also adopted Western approaches to explain the emergence of bullying (e.g., Power et al. 2013; Loh et al. 2010).

Hence, knowledge of workplace bullying has originated in Western countries with largely Caucasian samples. It could be problematic to assume that this knowledge is automatically applicable to workers and workplaces from Eastern countries. There are significant differences in cultural perspectives between Western and Eastern countries, which means that bullying as a phenomenon may not be understood in the same way across different cultural groups. Hence, it is important at the outset to examine the meaning of 'workplace bullying' in different cultural contexts.

Scholars have argued that the use of qualitative methodologies can provide in-depth understanding of organisational practice and how employees deal with bullying as an issue (Kinman and Jones 2005; Idris et al. 2010). This chapter describes a case study that utilises a qualitative research method to develop a more detailed understanding of workplace bullying from the Malaysian perspective. In doing so, it provides new insights into how workplace bullying is understood in an Eastern developing country.

9.2 Workplace Bullying in the Asia Pacific Region

What constitutes bullying behavior is seen differently in different cultures (Nordin and Jusoff 2010), and those varying perceptions are most noticeable when considered along the individualism-collectivism dimension (Khalib and Ngan 2006). Given Malaysia's position as a multi-ethnic Eastern country, a more comprehensive understanding of bullying in the Malaysian context is valuable for examining the meaning of workplace bullying in Eastern cultures and the potential applicability of the Western-derived knowledge base in the Asia Pacific region.

Although bullying is identified as a cause of mental stress in the work environment in the *Malaysian Guidelines for Hazard Identification, Risk Assessment and Risk Control* (DOSH 2008), cases of workplace bullying are rarely reported to the Malaysia Department of Occupational Safety and Health (DOSH), Ministry of Human Resources (DOSH 2008). This lack of reporting may be due to difficulties

in identifying bullying because there is no clear description in Malaysian law of behaviors that are classified as workplace bullying.

The definitions and accompanying measures of workplace bullying are based on Western perspectives and are supported by theories, models, and research studies conducted in Western cultures. The concepts and terminologies used to study bullying at work are also adapted from the West. Thus far, it remains unknown whether bullying is perceived and experienced in a similar way in Eastern cultures, and whether knowledge of bullying antecedents and outcomes can inform Eastern workplaces regarding how to prevent bullying.

Even though the *Malaysian Guidelines* provide general information for employees, this guidance material lacks detail about the duration of exposure, types of bullying behaviors, and legislation on the issue. As a collectivist country (Huff and Kelley 2003) with a high power distance (Hofstede et al. 2010), understanding the complexity and subtlety of workplace bullying, and understanding work-related traditions and attitudes within Malaysia are pertinent in the effort to prevent it. Malaysia's social complexity is exemplified by the varied ethnic composition, the population consisting of three major ethnic groups (Malay, Chinese and Indian) plus other indigenous minorities such as Kadazan, Sino-Kadazan, Dusun, and Bidayuh.

9.3 Theoretical Frameworks of Workplace Bullying

Workplace bullying was initially identified as 'mobbing' when it was first discovered in the 1980s by a psychologist, Heinz Leymann in Sweden (Einarsen et al. 2003). In the 1990s, researchers in the United Kingdom started to investigate the same phenomenon, which they labeled 'bullying' (Rayner and Keashly 2005). Since then, various theoretical frameworks have been developed to explain the origins of bullying, the majority of which emphasize the role of psychosocial factors at work. These frameworks include the stress perspective (Leymann 1996), conflict escalation model (Zapf and Gross 2001) and work environment hypothesis (Salin 2003).

Considered as a sign of stress, bullying was depicted by Leymann (1996) as consisting of four stages: (1) critical incidents, or short-term conflicts that act as a trigger for bullying; (2) bullying and stigmatizing an individual for the purpose of damaging the victim; (3) personnel management, involving the 'official' responses from organisational management, which can further bully the victim; and (4) expulsion, wherein the victim is forced to leave as a result of the serious impact on his/her health. To be described as bullying, the behaviors should occur repeatedly for at least six months, or at least once a week, and it is not regarded as bullying if two equally strong parties are in conflict (Leymann 1990, 1996). Further, after some time an unequal power structure will result, so limiting the resources of the victims to defend themselves (Einarsen 2000; Einarsen et al. 1994; Leymann 1996). Hence, the key elements underpinning the definition of bullying originated in this very early work.

The 'conflict escalation' model considers bullying is a severe form of unresolved social conflict which has escalated beyond the control of the victim (Zapf and Gross 2001). Workplace bullying is said to occur if the victim has reasonable grounds to feel that the situation continues as a daily hassle (Kanner et al. 1981) or as a critical event which may change the status of an employee in the workplace and affect the employee's health (Zapf and Gross 2001). In other words, if conflict is not resolved it will likely lead to negative behavior which may escalate into destructive behaviors such as bullying (Baillien et al. 2009). This situation may cause an imbalance of power in the organisation, and management has the tendency to view the victim negatively and may even take over the role of the bully, especially if more than one bully is involved in the organisation (Zapf and Gross 2001). Therefore, the relationship between organisational management and employees is crucial.

The 'work environment' hypothesis (Einarsen et al. 1994) describes bullying as associated with a poor working environment. A high stress working organisation is associated with high level of bullying because job demands such as time pressure, haste, and workload will increase the likelihood of bullying behaviors occurred towards employees in order to meet work requirement. In order to cushion the effect of job demands, job resource such as organisation support and control could play an integral part whereby it acts as buffer against job strain, due to high job demand, and help workers to promote growth and development (Demerouti et al. 2001). However, previous studies (Tuckey et al. 2009; Xanthopoulou et al. 2007) found a negative relationship between high job demands and job resources. Therefore, an imbalance between job demands and job resources may expose the employees to workplace bullying (Tuckey et al. 2009). Furthermore, a number of studies (e.g., Coyne et al. 2003; Einarsen et al. 1994; Hoel and Salin 2003; Notelaers et al. 2010; O'Moore et al. 1998; Vartia 1996) have shown a wide range of inconducive work environment that serves as precursors to workplace bullying such as poor leadership, role conflict, lack of job control, and lack of information flow. Leadership behaviors such as autocratic and *laissez-faire* are found to be antecedents of workplace bullying at an organisational level (Hoel and Salin 2003). A lack of adequate leadership may create interpersonal tensions, escalates conflict and anti-social behaviors such as workplace bullying within the work group due to frustration and stress (Skogstad et al. 2007). In addition, ignorance and failure to identify and cope with workplace bullying by leaders in the organisation will indirectly increase the likelihood of bullying because of the misleading message that bullying is acceptable (Skogstad et al. 2007). When leaders do not show their responsibility to any work conditions, show little concern and avoid dealing with workplace issues, it increases the risk of workplace bullying (Nielsen 2013). This condition may result in employees feeling dissatisfied with unfriendly and unsupportive work environment due to pressure of work, performance demands and autocratic management (Agervold 2009). In contrast, good leadership can empower workers and enhance well-being by challenging and managing job demands with appropriate levels of job resources (Tuckey et al. 2012). Additionally, high role conflict and

poor work control will create negative feeling (angry, stress and frustration) in the workgroup (Einarsen et al. 1994). Thus, role conflict emerges with inadequate role disruptions can result employees involve in workplace bullying. Working conditions that place high demands on employees with limited control over working time and methods also escalate workplace bullying (Zapf et al. 1996) because limited opportunities for control cause strain which may provoke bullying (Hoel et al. 2002). In fact, low level of control has restricted employee's opportunities to affect decision making. Poor working conditions have created feelings of frustration and threat amongst employees at work (Bond et al. 2010) and employees tended to relieve their frustration by acting aggressively to other co-workers (Fox et al. 2001) which lead to workplace bullying. In conclusion, bullying is potentially occurs in these examples kind of stressful organisation atmosphere that enabled workplace bullying.

From the brief description of these three Western models it can be seen that bullying has four main components: (a) regular and repeated exposure; (b) over a period of time (e.g. about six months); (c) to harmful behaviors; (d) perpetuated by a power imbalance between perpetrators and targets. To determine if behaviour constitutes bullying, these four factors should be considered. But do these criteria apply in all work contexts? It is important to investigate the definition of workplace bullying and bullying behaviors from the perspective of employees in Eastern countries. To examine this issue in light of the above models, we will draw on Hofstede's theory of cultural dimensions.

9.4 Hofstede's Culture Dimensions

Culture is the collective programming of the mind and distinguishes the members of one group or category of those of another (Hofstede 2007). There are well-established differences between cultures along the dimensions of individualism (which focuses on the role of individual choice, personal freedom and self-actualization) and collectivism (as a social way of being, oriented towards in-groups and away from out-groups) (Oyserman et al. 2002).

In an organisation with a collectivist culture, workplace bullying will become a group issue, not just an individual one (Nordin and Jusoff 2010). This can be explained by integrating Salin's (2003) theory with Hofstede's (2007). Power structures and power imbalances in organisations can partly explain bullying insofar as they function as enabling conditions (Salin 2003). Collectivist societies which are higher in power-distance tend to accept greater power imbalances between individuals than do low power-distance individualist societies which expect more limited power equalities between individuals (Hofstede et al. 2010). Applied to workplace bullying, this means that in the former bullying may be perceived as an acceptable and effective way to accomplish tasks at work (Loh et al. 2010). To make matters worse, where there is a collective orientation

individual targets may feel afraid to report bullying because they would be ashamed to do so; moreover, they may fear making mistakes in interpreting certain behaviors as bullying.

The study of International Business Machines (IBM) research and its replications have been conducted to 76 countries and regions to investigate Hofstede's four dimensions of cultures (Hofstede 1980) which consisted of power distance, collectivism versus individualism, femininity versus masculinity, and uncertainty avoidance while the World Values Survey has been conducted to investigate the long-term orientation dimension (Hofstede 1980) to 93 countries and regions (Hofstede et al. 2010). Based on the IBM research, Malaysia practices collectivism culture compared to individualism culture. Malaysia scored the highest rank of power distance among all the countries. Malaysia also showed a moderate rank of masculinity dimension but a lower rank of uncertainty avoidance dimension. Based on World Values Survey, Malaysia scored a moderate rank of long-term orientation dimension. Although Malaysians practice other cultural dimensions but Malaysia is characterized as a collectivistic country with a high power distance.

Therefore, our research seeks to identify how Malaysians (in a multi-Ethnic Eastern culture) perceive bullying: whether they view it in terms of Western perspectives or according to the DOSH definition, or indeed if they have other notions of bullying. To date, no research has been conducted to explore lay beliefs (i.e., public explanations of social behaviors; Kinman and Jones 2005) of bullying behaviors at work in the Malaysian context. Lay theories, though not scientifically-based, could help to understand workplace bullying because lay representations that described by the employees provide in-depth meaning and understanding of bullying behaviors from their own perspectives. Thus, it is important to fill the gap in the literature by exploring Eastern concepts of workplace bullying and defining bullying at work according to Eastern cultural perspectives. This knowledge is vital to inform preventative strategies to combat workplace bullying in Malaysia and the Asia Pacific.

9.5 Profile of Malaysia

Malaysia consists of states in West Malaysia (Johor, Kedah, Kelantan, Malacca, Negeri Sembilan, Pahang, Perak, Perlis, Penang, Selangor, Terengganu, the Federal Territories of Kuala Lumpur and Putrajaya) and three states in East Malaysia (Sabah, Sarawak and the Federal Territory of Labuan). Malaysia is a multi-ethnic country which the principal ethnic groups are Malay, Chinese and Indian. There are also other indigenous people of Sabah and Sarawak such as Kadazan Dusun, Sino Kadazan, Bajau, Murut, Iban, Bidayuh and Melanau. The profile of Malaysia from industrial perspective is shown in Table 9.1 is based on the Malaysian Economy in Figures 2013 (Economic Planning Unit 2013).

Table 9.1 Profile of Malaysia 2013.

| | Million | Percentage |
|--------------------------------|---------|------------|
| Population | 29.7 | |
| Ethnic group | | |
| Malay | 15.0 | |
| Natives | 3.5 | |
| Chinese | 6.6 | |
| Indian | 1.9 | |
| Others | 0.3 | |
| Non-Malaysian Citizen | 2.4 | |
| Labor force | 13.2 | |
| Labor Force participation rate | | 66.2 |
| Male | | 80.7 |
| Female | | 51.1 |
| Unemployment | | 3.1 |
| Employment | 12.8 | |
| Agricultural | | 10.8 |
| Mining | | 0.3 |
| Manufacturing | | 29.4 |
| Construction | | 6.2 |
| Services | | 53.3 |

Note: Sub-total and total are rounded to one decimal place

9.6 The Concept of ‘Buli’ in Malaysia

Malaysia is a multiracial and multilingual country, with Malay as the national language. In 1956, the Institute of Language and Literature of Malaysia, also known as Dewan Bahasa dan Pustaka (2013) Malaysia, was established. DBP is the authority responsible for the coordination and development of the Malay language. In 1970, the first edition of the Malay dictionary, Kamus Dewan (KD), was published. This work, and subsequent editions, list all formal Malay words and has been regarded as the definitive reference for scholars. The English word *bully* has been translated into Malay as *buli*. Referring to KD (1970), the word *buli* was first recorded as a noun in both singular form *buli* and plural form *buli-buli*. Apparently, there is no such entry as *bully-bully* (noun) recorded in English dictionaries. The plural, *bullies*, has a different meaning from *buli-buli* in Malay. Below is the entry for *buli* as recorded in KD (Kamus Dewan 1970, p. 140):

buli; buli-buli 1. *botol (guchi) kechil: ~ dakwat; 2. bahagian (alat) yg menyerupai hal lampu: ~ jangka suhu; 3. pundi (gelembung) dalam tubuh manusia (binatang dll) tempat udara (ayer, saraf, dll);*

~ kencing gelembong kencing dlm tubuh; ~ madu pundi yg mengandungi madu pd bunga; ~ udara gelembung tenggorok (pundi yg berisi udara dlm paru-paru).

Translated into English these entries read as follows:

bully; bully-bully 1. *small bottle (ceramic container): ink ~; 2. the part (tool) resembling the matter of a lamp: thermometer ~; 3. sacculle (air-filled cavity) in the body of a human being (or animal, etc) for air (water, nerve, etc);*

urinary ~ urinary bladder in the body; honey ~ the sacculle containing honey in flowers; air ~ bronchial sacculle (air-filled sac in the lungs).

Clearly, there is no correspondence with these first entries to the concept of bullying in the English language.

In 1979, DBP published the first bilingual dictionary of English and Malay words; this book is known as ‘Kamus Dwibahasa Bahasa Inggeris-Bahasa Malaysia’. The entries in Kamus Dwibahasa were produced based on the English dictionaries and then translated into the Malay language. The purpose of Kamus Dwibahasa was to aid students and scholars to better understand and learn English. Referring to Kamus Dwibahasa, the word *bully* was translated into *buli* with two different word classes, this entry being the first recording of the word *bully* (verb) in the Malay language. Below is the entry *bully* as recorded in Kamus Dwibahasa Bahasa Inggeris-Bahasa Malaysia (1979, p. 146), followed by the translation in English:

bully (buli) kn orang yang menggunakan kekuatan atau kuasanya utk mencederakan atau menakutkan orang lain yang lebih lemah; bully (buli) kk menggunakan kekuatan atau kuasa utk menakutkan (mencederakan atau menganiyai orang yang lebih lemah).

bully (noun) person who uses his strength or power to hurt or to frighten a weaker person; bully (verb) using strength or power to intimidate (to hurt or to abuse a weaker person).

In year 1992, marked the birth of another bilingual English-Malay dictionary by DBP called ‘Kamus Inggeris-Melayu Dewan (KIMD)’. KIMD (1992) and its’ later version reprinted in 2002 both recorded a revised meaning of *bully* as shown below (Kamus Inggeris-Melayu Dewan 1992, p. 203; Kamus Inggeris-Melayu Dewan 2002, p. 203):

bully interj (sl); ~ for/you, him/, baguslah!; n (orang yg) suka/mengerasi, membuli/orang lain, buli;

vi & vt mengerasi, membuli: he bullied the smaller boys, dia mengerasi budak-budak yg lebih kecil; to ~ so. into doing st, mengerasi sso supaya membuat sst.

Below is the translation in English:

bully (interjection, classical literature); ~ for/you, him!, that’s good!;(noun) (person who likes to/bulldoze or force, abuse others, bully;

(intransitive verb & transitive verb) bulldoze or force, bully: he bullied the smaller boys; to ~ someone into doing something.

In these later versions of KIMD, both *buli* (noun) and *buli* (verb) were recorded in the dictionary. Additionally, when used as a verb, *buli* was further described as functioning both as an intransitive verb and a transitive verb. Subsequent editions of Kamus Dewan (KD3 in 1994 and KD4 in 2010) have included many more words that have been added to the language. Both KD3 and KD4 contained amendments to the meaning of *buli* and referred to the act of bullying and of being a perpetrator (Kamus Dewan Edisi Ketiga 1994, p. 186; Kamus Dewan Edisi Keempat 2010, p. 218) as shown below in Malay and English:

buli 1. Perbuatan mendera, mempermainkan seseorang supaya dapat menyesuaikan diri dgn suasana yg baru; 2. = membuli mempermain-mainkan orang, biasanya orang yang lemah, dgn tujuan utk mengertak, mencederakan, menakutkan orang yg berkenaan dsb;

pembuli orang yang membuli orang lain

bully 1. act of abusing, intimidating a person so that they can adapt to a new environment; 2. = bullying intimidating a person, normally those who are weaker, with the purpose to frighten or to scare the person; perpetrator, a person who bullies others.

'*Bully*' is thus recorded in Malay as a verb (to bully) and as a noun (a bully). These meanings highlight that bullying entails the use of force or coercion to abuse or intimidate others; it may also entail the use of physical strength and power by a perpetrator toward victims who are weaker.

To date, apart from the dictionary definitions there is no single definitive term that best describes workplace bullying. From the stand point of Occupational Health and Safety, bullying is considered a form of psychological violence and been described as "*a form of psychological harassment consisting of persecutory behavior through vindictive, cruel, or malicious attempts to humiliate or undermine an a person from social contacts and gossiping or spreading false information*" (as written in 'Guidance for the Prevention of Stress and Violence at the Workplace': DOSH 2001, p. 17). DOSH (2001) also describes '*psychological violence*' as repeated, unwelcome, unreciprocated, and imposed action which may have a devastating effect on the victim; it is often perpetrated through repeated behavior of a type which, by itself, may be relatively minor but over time it can be cumulatively damaging. This latter definition comprises the repetition and harm elements of Western workplace bullying conceptual understanding.

Although workplace bullying is currently emerging as a priority concern regarding psychological violence in organisations, there is still a lack of information in guidance materials about the duration, bullying behaviors, legislation, and situations involved in bullying. Although many decades have passed since this emerged as an issue, bullying is still rife despite research detailing bullying and despite efforts to address it. Therefore, it is important to understand the meaning and definition of workplace bullying in order to prevent it from continuing.

9.7 Case Study

9.7.1 *Lay Beliefs of Workplace Bullying in the Malaysian Context: A Qualitative Study*

Our recent research in Malaysia is the focus of this chapter. Through 13 semi-structured interviews, we explored how workplace bullying occurs in the Malaysian context and sought to uncover attitudes to bullying. The interview data revealed six lay beliefs of workplace bullying and 19 lay beliefs of bullying behaviors. From the analysis, we developed a definition of bullying from the Malaysian perspective.

9.7.2 *Method*

9.7.2.1 *Participants and Procedure*

Ethical approval was obtained from the University of South Australia's Human Research Ethics Committee. A total of 20 employees (which represented the point

of data saturation) from various occupational settings from Sabah, Malaysia, participated in the study. They were recruited via email flyers to employees on the researcher's networking list. Half were employed in the private sector and half in the government sector, in the following occupations: administrative support staff ($n = 8$, 40 %), executives ($n = 3$, 15 %), academic staff ($n = 2$, 10 %), teachers ($n = 2$, 10 %) and one each (5 %) from the following professions: tutor, non-executive, specialist, manager, and academic staff. The sample comprised 13 women (65 %) and 7 (35 %) men. Their average age was 32 years ($SD = 7.4$), ranging from 23 to 53 years. All participants reported having come into contact with cases of workplace bullying as a current target ($n = 6$, 30 %), current witness ($n = 2$, 10 %), former target and witness ($n = 7$, 35 %), former target ($n = 1$, 5 %), and former witness ($n = 4$, 20 %).

9.7.3 Interviews

The first author conducted all interviews individually at times convenient to the participants. A written consent form and an information sheet explaining the study were issued to participants prior to interview to ensure that the study was fully understood. Interviews centered around 13 semi-structured questions with supplementary questions based on the responses of the participants are as below:

1. Have you ever felt distressed at work? Please tell me about what coworker or management do that makes you feel upset in the organisation.
2. What does the term 'workplace bullying' mean to you?
3. Are there any bullying behaviors occurring in your organisation?
4. Why do you think workplace bullying happens in the organisation?
5. Who is normally affected by workplace bullying?
6. Have you ever experienced or witnessed bullying behaviors in your organisation?
7. What do you see as the negative effects of workplace bullying?
8. How do you deal with workplace bullying? Why are these strategies used?
9. Do you think those strategies work? Why and why not? How do they work?
10. Is there any guideline, procedure and policy that implemented in the organisation? What are they?
11. How is workplace bullying dealt with in your organisation? Do you see these strategies as effective?
12. What reactions have you observed by co-workers who are aware of/who have experienced/witnessed bullying behaviors at work?
13. Do you see any positive effects after dealing with bullying behaviors successfully? Will it affect your growth?

The interviews allowed for free descriptions of bullying experiences which focused on lay beliefs of worksite bullying behaviors. The interviews, which lasted an average of one hour, were audio-recorded with the permission of participants.

Table 9.2 Lay beliefs of workplace bullying

| Lay beliefs | No. of respondents | No. of statements |
|--|--------------------|-------------------|
| Bullying is a common or typical experience within the organisation | 9 | 13 |
| Bullying occurs in a continuous cycle from more senior to newer or more junior employees | 3 | 4 |
| Bullying is embedded within the organisational culture | 3 | 5 |
| Bullying can be seen as a challenge or opportunity | 3 | 6 |
| In some cases, bullying can be viewed as acceptable to individual workers | 2 | 6 |
| Total | 20 | 34 |

They were initially transcribed in Malaysian dialects and then translated into English by the first author. To protect participants' identities, codes denote the participant and the sentence within the transcript (e.g., P1-12 refers to the first participant and sentence twelve of his/her transcript).

9.7.4 Analysis

In qualitative studies, data analysis is on-going throughout the research process. We used Grounded Theory Methodology (Glaser and Strauss 1967) to analyze the data. Content analysis identified the main themes that emerged during the interviews (Kinman and Jones 2005), on a 'key points' basis (Allan 2003) that allowed formulation of concepts. This process was repeated until all key points were taken into account, after which the concepts were then grouped into themes (see Glaser 1992). The resulting summary of bullying behaviors was then used to develop a definition of workplace bullying in the Malaysian context.

9.7.5 Results

9.7.5.1 General Lay Beliefs of Workplace Bullying

The first aim of this inquiry was to investigate how Malaysian workers generally perceive workplace bullying. The interviews yielded six main categories. These are shown in Table 9.2 together with the number of respondents and number of statements for each category.

Almost half of the participants ($n = 9, 45\%$) said that workplace bullying is common or normal in their organisation. Two participants made the following statements: "*Bullying is normal in the workplace*" (P17-14) and "*Bullying is quite common*" (P19-11). It is evident that bullying is viewed as common or normal because it happens to everyone, and especially to workers of lower grade, to juniors,

and to new staff. One interviewee commented: *“My colleagues asked me to be patient and comforted me by saying that we were still new and that bullying was common”* (P1-62). Another said that *“Because my working experiences were just two years, I categorized bullying as being normal”* (P8-52).

According to three ($n = 3$) participants, bullying follows a cyclical pattern that is, bullying is experienced by new, junior, and lower-grade workers, but when they, in turn, become more senior they will bully workers who are new or junior. One participant stated that *“The bullying scenario is recycled”* (P9-16) and another stressed that *“Bullying follows a cycle because after they (the perpetrators) become seniors they repeat the bullying behaviors against junior or new staff”* (P20-11). When bullying becomes cyclic it is also perceived as a feature of the organisation’s culture, a point made by three participants ($n = 3$). For example, *“Employees viewed bullying is an organisation culture”* (P9-18), and *“The negative ways seniors treat juniors have become the culture of the organisation”* (P16-39). In a similar vein, another participant stated, *“The effect was when juniors became seniors; they will do the same thing to juniors, following what their seniors did to them and applied to the next juniors. It is a culture in the organisation”* (P21-3).

Interestingly, three of the participants ($n = 3$) perceived workplace bullying in a positive way. For two, bullying was perceived as a challenge to improve themselves within the organisation. For example, *“I know it is bullying but I see it as a challenge”* (P8-43) and *“Even bullying seems to be a burden but I see it as a challenge to finish the work”* (P18-15). The other participant perceived bullying as an opportunity to improve her skills: *“I perceive bullying differently; a chance to learn more. I didn’t see it as bullying but an opportunity to improve skills”* (P18-8). Two other participants expressed a different view, describing bullying as acceptable if the organisation compensated them with extra pay or a higher annual appraisal after encountering bullying behavior. One interviewee explained: *“For me, bullying is fine because management gave a high mark in my appraisal. I was satisfied with my mark so I accept bullying when it happened to me”* (P5-55). Another participant mentioned having received additional pay: *“They bullied me by asking me to do additional work but they paid me overtime, so it was still acceptable”* (P15-7). This situation is rare and it relies on the compensation received by victims for tolerating bullying. Given what we know about the effects of bullying, this situation is unsustainable and likely to eventually have a serious impact on the employee’s health and well-being.

9.7.5.2 Lay Beliefs Regarding Bullying Behaviors

The second aim of our study was to investigate lay beliefs about the different behaviors that comprise workplace bullying as perceived by employees in Malaysia. Our interview data identified 19 lay beliefs in the Malaysian context. Twelve of these (63 %) relate to work (see Table 9.3), while the other seven (37 %) can be considered of a personal nature (see Table 9.4).

Table 9.3 Lay beliefs regarding work-related bullying behaviors from the Malaysian context

| Work-related bullying behaviours | No. of respondents | No. of statements | Illustrative quotes |
|---|--------------------|-------------------|---|
| 1. Being requested to do work which is out of the job scope | 5 | 5 | <p>“I did work which was not in my job scope” (P1-21)</p> <p>“Seniors requested us to do work that outside our job scope” (P9-1)</p> <p>“Managers liked to ask workers to work outside their job scope” (P4-2)</p> <p>“I was given a job beyond my ability” (P14-4)</p> <p>“Senior asked me & colleagues did her work which was beyond our ability” (P11-6)</p> <p>“The co-ordinator requested me to teach subject that out of our field” (P4-4)</p> <p>“I drove my supervisor here and there sometimes, which was out necessary” (P7-20)</p> <p>“They had to do something that was not necessary” (P20-1)</p> <p>“Senior bullied new staffs by giving tasks that weren't necessary to them” (P20-7)</p> |
| 2. Being requested to do work that is not within one's ability | 4 | 5 | |
| 3. Being requested to do unnecessary work which is not relevant to the job description | 2 | 4 | |
| 4. Being requested to do an excessive amount of work | 4 | 5 | <p>“Upper position gave more tasks to the workers in lower position” (P11-2)</p> <p>“I got pressure from the senior because she gave me more works” (P13-31)</p> <p>“My work was overloaded” (P14-13)</p> <p>“I had a lot of OTs (Work-overtime), a few times monthly” (P8-16)</p> <p>“They wanted me to work overtime in the office but they didn't give replacement day off or paid my OT” (P15-53)</p> <p>“I stayed back and worked until 8.00 at night almost every day” (P14-13).</p> <p>“The senior lecturers helped the coordinator to do his work” (P4-56)</p> <p>“She liked to pass her works to the lower position staffs when the department asked report from the higher position staffs” (P1-53)</p> |
| 5. Being requested to do work overtime without pay | 5 | 5 | |
| 6. Being requested to do work which is supposed to be done by other co-workers | 2 | 2 | |
| 7. Being asked to do work alone without assistance | 4 | 5 | <p>“She just wanted the person to do the whole task from beginning to end” (P1-17)</p> <p>“I was asked to handle job by myself without assistance from him” (P6-4)</p> <p>“You have to explore by yourself and the senior won't tell you all” (P8-41)</p> <p>“Someone instructed me to do work but didn't guide me” (P14-3)</p> <p>“They always instructed people to do work without guidance” (P12-2)</p> <p>“When she wanted to pass her job to me, she usually gave instructions but didn't help me” (P1-74)</p> |
| 8. Being instructed to do work without guidance | 4 | 5 | |

(continued)

Table 9.3 (continued)

| Work-related bullying behaviours | No. of respondents | No. of statements | Illustrative quotes |
|--|--------------------|-------------------|--|
| 9. Being forced to do work | 3 | 5 | <p>“Seniors forced my colleagues to do work and got what they wanted” (P3-3)</p> <p>“Supervisor forced me to do something” (P6-3)</p> <p>“Supervisor forced her to get the job done” (P9-4)</p> <p>“Boss always rushed me to do work with deadline” (P14-5)</p> <p>“Colleagues rushed to meet deadline and we didn’t have enough time to finish our work” (P18-18)</p> <p>“Senior kept asking the progress of work and wanted to make sure I fulfilled all the requirement” (P13-32)</p> |
| 10. Being forced to do work to meet deadlines | 4 | 5 | <p>“After I completed the work, I passed to her, she edited it and passed it to upper management claiming the job was done by her” (P1-7)</p> <p>“Coordinator wanted to get the credit so he promised other coordinator to take over the task but instead he passed it to us” (P4-10)</p> |
| 11. Having credit for the work taken by someone else | 3 | 5 | <p>“When lower position did a good work, the upper position would take the credit” (P11-1)</p> <p>“The way of higher position delivered work instructions was threatening us” (P16-3)</p> <p>“When the senior disliked him, she would threaten him to do work” (P10-3)</p> <p>“She always threaten them to do work” (P19-5)</p> |
| 12. Being coerced or threaten to do work | 3 | 5 | |

Table 9.4 Lay beliefs regarding personal-nature bullying behaviors from the Malaysian context

| Bullying behaviours of a personal nature | No. of respondents | No. of statements | Illustrative quotes |
|---|--------------------|-------------------|---|
| 13. Being threatened that privileges will be taken away by someone else | 1 | 2 | <p>“She likes to take away privileges” (P18-1)</p> <p>“If I didn’t do the extra work, I couldn’t get the privileges” (P18-2)</p> |
| 14. Being wrongly blamed if something is wrong | 5 | 5 | <p>“She liked to blame us for any wrongdoing” (P1-63)</p> <p>“We were the one who blamed for any wrongdoing” (P14-9)</p> <p>“If any mistake made, I was expected to take full responsibility” (P6-4)</p> |
| 15. Being taken advantage of | 2 | 5 | <p>“The person took advantage of others to settle his or her thing smoothly” (P7-10)</p> <p>“I felt that she took advantage on me” (P7-20)</p> <p>“Take advantage of other workers is consider as bullying” (P5-2)</p> |
| 16. Being scolded without relevant reason | 2 | 5 | <p>“Seniors scolded us via email or through meeting” (P10-31)</p> <p>“Boss scolded staff about small matters” (P10-36)</p> <p>“I was new and so supervisor scolded me badly” (P14-5)</p> |
| 17. Being make fun of | 1 | 1 | <p>“Seniors tried to make fun of you- they tried to make you scolded by your boss” (P19-11)</p> |
| 18. Being talked about behind one’s back | 3 | 3 | <p>“He liked to talk behind one’s back” (P6-20)</p> <p>“He was nice in front of us during meeting but ‘back-stabbed’ us” (P10-23)</p> <p>“I had submitted my work, someone said that I didn’t complete it but they didn’t tell me directly, they told other colleagues and I knew this from other people” (P13-3)</p> |
| 19. Having rumors spread about oneself | 1 | 3 | <p>“Rumours spread which weren’t true” (P6-20)</p> <p>“Gossip happens continuously” (P6-30)</p> |

According to the interviewees, bullying is mainly about work: for instance, being requested to do work outside the scope of normal duties. This includes working on matters beyond the employee’s ability, being given an excessive amount of work, working overtime, and working without adequate guidance. However, some bullying took the form of direct victimization and included being threatened, being wrongly blamed, being taken advantage of, being reprimanded unjustly, or being ridiculed. Indirect victimization took the form of being talked about behind one’s back, and being the subject of malicious rumors.

9.7.5.3 Definition of Workplace Bullying

We then developed a definition of workplace bullying based on the analysis from the Malaysian perspectives. The majority of participants ($n = 12$, 60 %) reported that bullying occurred in many situations and at many levels. Some reported that bullying occurred monthly ($n = 4$, 20 %) and periodically ($n = 4$, 20 %) depending on the circumstances such as the beginning of a new semester, a new work project, the commencement of employment, and during periods of close supervision. Some interviewees encountered bullying occasionally ($n = 2$, 10 %). In the light of these responses, we defined workplace bullying as follows, noting that the harmful behavior and power imbalance elements are included, but not the frequency or duration features seen in the Western context:

Workplace bullying is intimidating, persecuting, or offending behavior with the intention to harm and victimize someone due to a power imbalance; this behavior causes physical and psychological distress to the target of the bullying.

9.8 Discussion

9.8.1 Perceptions of Workplace Bullying in the East and West

In this chapter, we outlined that Malaysian and Western employees differ in the ways that they perceive workplace bullying. Most Western research studies conclude that bullying is unacceptable in the organisation. In contrast, this chapter revealed that most Malaysians perceive workplace bullying as something which is common and forms part of the organisational culture. Malaysia is an eastern Asian country that is high on the collectivism dimension, which has also traditionally adopted the teachings of Confucianism (Ong 2013) and the Confucian tradition of loyalty to superiors (Rarick 2009). When these elements combine, workplace bullying is seen to be unavoidable. Power et al. (2013) examined the impact of culture on the acceptability of workplace bullying in six continents: South Asia, Anglo, Latin America, Sub-Saharan Africa, Eastern Europe, and Confucian Asia. They also found that employees in Confucian Asian societies are more likely to tolerate workplace bullying relative to workers from other cultures. Confucian epitomizes the Eastern belief of hierarchy and order in society which is very important to all Asian societies (Silverthorne 2005). Bullying may represent one way of maintaining hierarchy and order, especially within Eastern organisations due to cultural influence in an organisation. Employees feel acquiescent to the bullying situation because they think that they need to follow the dominant culture. They perceived that bullying is one of the dominant cultures at workplace and they have lost control in dealing with workplace bullying. Workers know these bullying behaviors should not be maintained and tolerated because bullying indirectly

influences their psychological health and well-being at work but they are powerless to decline because bullying involves power in the organisation. Similar condition was also found in some of the Asian countries such as India whereby workplace bullying is common among trainee doctors and usually the bullying issue goes unreported (Bairy et al. 2007). A study in Pakistan showed that majority of psychiatry trainees experienced at least one bullying behavior and the consultants were the most likely being the perpetrators of the bullying behaviors (Ahmer et al. 2009). Study also suggested that the Chinese-based cultures (such as in China and Taiwan) which practices the hierarchical and autocratic relationships between managers and subordinates also lead to workplace bullying (McCormack et al. 2009). In Taiwan, victims who have experienced workplace bullying face increased levels of physical, psychological and social distress which may result in suicidal thoughts due to malfunctions in workplace organisational and cultural related antecedents (Ma et al. 2011).

Further, bullying signifies an imbalance of power in the worksite. The power imbalance may be based on the respective organisational positions of the victim and the perpetrator (i.e., formal hierarchical power) or because of differences in knowledge, experience, or differing social dynamics of the work environment (Zapf and Einarsen 2005). When power distance is high workers tend to accept marked power imbalances in the organisation. This condition is supported in a cross-cultural research between Australians and Singaporeans (Loh et al. 2010) which indicated workers from societies (such as Australia) characterized by low power distance are less inclined to accept broad power differential between employees and will respond to workplace bullying more negatively than workers from cultures that accept high power distance such as Singapore. The reverse of this inequality is to make victims feel powerless to respond due to power distance and entrenchment. Further, if the perpetrators are someone from higher position such as managers, supervisors and seniors at work. Yildrin and Yildrim (2007) reported most bullying pretreated by managers one or more times within the 12 months. Additionally, bullying by managers occurred with the purpose to control employee behaviour in order to create a more productive workforce (Hoel and Beale 2006), as a tool to maintain order, and as a way to reinforce existing power structures (Hutchinson et al. 2006). Within such a power distance environment, workers may feel afraid to report bullying when the perpetrator holds a higher positions because they do not want to be sacked or they fear the loss of privileges, thus, employees tend to remain silent and tolerate the ill-treatment.

9.8.2 Lay Beliefs of Bullying Behavior and Defining Workplace Bullying

In this chapter, we showed that in Malaysian workplace, bullying does not take the form of physical intimidation or violence. An instrument namely the revised Negative Acts Questionnaire-Revised (NAQ-R) which originality from the Negative Acts

Questionnaire (NAQ; Einarsen and Raknes 1997) has been used to measure exposure to bullying at work. The NAQ-R consists of 22 items is used widely in most of workplace bullying studies in the Eastern countries (e.g., Abe and Henly 2010; McCormack et al. 2009; Takaki et al. 2010a, b; Tsuno et al. 2010) even it has been developed from Western country with Caucasian samples. This instrument has high reliability (.90) with three underlying factors: personal bullying, work-related bullying and physically intimidating forms of bullying (Einarsenet al. 2009). However, in Malaysia, any physical threat within an organisation is considered to be physical violence (DOSH 2001). Workplace violence is described in the publication, Guidance for the Prevention of Stress and Violence in the Workplace, as any “incidents where employees are abused, threatened, assaulted or subject to other offensive behaviour in circumstances related to their work” and it can take the forms of physical violence and psychological violence (DOSH 2001, p. 7). Therefore, it is understandable that physically-intimating behaviors is not listed as bullying because physical violence is considered as something separate from workplace bullying. The existence of physical violence at work has been recognized previously whereas psychological violence (bullying) has long been under-estimated and is only now receiving public attention. Thus, workplace bullying has become an emerging concept in Malaysia.

This chapter also contributes to the knowledge base regarding the definition of workplace bullying. Since there is no single agreed-upon definition of workplace bullying, we developed a definition of workplace bullying within the Malaysian context regardless of duration or frequency of the behavior. Bullying behaviors can occur in any circumstances and can be a single event, not necessarily a prolonged behavior or an exposure to long-lasting bullying. Workplace bullying can happen anytime as long as there is an imbalance power between the victim and the perpetrator in the organisation. Although there is agreement that for behavior to be considered as bullying, it must occur frequently and for a long period of time (Lutgen-Sandvik et al. 2007; Notelaers et al. 2006) and the victim experiencing at least two negative acts weekly for six or more months (Lutgen-Sandvik et al. 2007). However, if there is a power distance between the perpetrator and victim, that behavior is regarded as bullying even if it is a single event, and it can occur at any time. Workplace bullying might occur at the commencement of employment; it might be between a new worker and a senior person, and it is common that the victimized worker later becomes the perpetrator when he/she becomes more senior. These conditions are also similar to other Eastern countries. For example, Japan where the word *ijime* is equivalent to bullying and is described as harassment of colleagues by dominant workers of a group (Morita et al. 1999). This situation can be considered as a violent situation which may include social manipulation (Giorgi et al. 2008). In Korea, *wang-tta* refers to bullying and is defined as a group act (Seo et al. 2012). As a collectivist country, Korean society places great importance on group benefits and entails strong social bonds; consequently, strong social discrimination may be implemented against any ‘out-group’ (Seo et al. 2012). In summary, bullying behaviors experienced by employees in a collectivist country are viewed rather differently from those reported in Western societies, those differences being due largely to culture and traditions.

9.9 Challenges and Future Directions

Although this chapter provides the first exploratory investigation of workplace bullying in Malaysia but the understanding of bullying may not be generalized across nations. Therefore, more exploratory and empirical studies need to be conducted to investigate the meaning, causes and impacts of workplace bullying from different culture perspectives. Further, the changing of global economy may influence many factors (education, organisational environment or employment) that revolve around culture which will indirectly influence the ways of how workplace bullying is perceived by employees.

In conclusion, workplace bullying has been identified as a different construct within the Malaysian context. Research on workplace bullying has progressed in leaps and bounds by similarly examining the bullying concept in various countries. However, still more studies are needed in terms of building the theoretical framework and proposing universal constructs about workplace bullying incorporating both Eastern and Western perspectives. Although workplace bullying is an issue which is tied to a dominant hierarchical collectivist culture of Malaysia, its occurrence cannot continuously remain in the organisation because, as we have uncovered here, workplace bullying has severe negative impacts not only on the individual victims but also to the whole organisation. Based on this study, bullying is perhaps seen as natural and inevitable in the Malaysian culture as the status quo which should be eliminated at any costs. Any organisation that put their faith on human capital for organisational growth must tackle this issue head on or risk losing their workers to avoidable psychological pressure. Most workers do not know what to do or how to get out of this distressing situation as they are deeply entrenched in the collectivist culture. The challenge now is how to convince both the employees and the organisation to get involved with praxis in order to get out of the cycle. Bullying can become a prolonged issue as it is a tool of oppression and domination in the organisation.

Would workers, and employers, tackle the problem with more information-having the know-how and the education to do something about the dominant culture which is sustained by the bullying? Thus, a future challenge is to educate the Eastern employers and employees to assertively say 'No' to power distance and be aware of and reject the continuous cycle of bullying behaviors. Culture is an element that may be valued and remembered but cannot be used to dominate and oppress; bullying seemingly only benefits the perpetrator while the victims suffer in silence.

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Chapter 10

Australian and Japanese Differences in Predispositions to Anger: Looking at Targets of Interpersonal Anger in the Workplace

Sarven S. McLinton and Maureen F. Dollard

10.1 Background and Outline

Interpersonal anger is anger that is directed towards other individuals in our social environment but is not necessarily expressed overtly (McLinton and Dollard 2013). Interpersonal anger does not, for example, include overt acts of interpersonal aggression, but rather the internal cognitions and feelings of anger. Interpersonal anger may be considered as a psychosocial factor in the workplace, as it has been shown that unexpressed anger can lead to diverse negative outcomes, including work stress (Hoggan and Dollard 2007; McLinton and Dollard 2010) and increased risk-taking behavior (West et al. 1993; Wyatt 1998). In order to maintain safe and healthy workplaces it is important to be aware of the predispositions to anger towards others. The MIDAI is a new measure that permits a researcher to generate an ‘interpersonal anger profile’ for any given individual or group (McLinton and Dollard 2013). This profile can elucidate differences in an individual’s predisposition to anger towards others according to their relative relationship and position, either within or outside the workplace (for example, whether the target of their anger is superior or subordinate to them within the workplace hierarchy).

Australia and Japan have a strong working relationship in both business and leisure, which promotes mutually beneficial cultural exchange. Their working environments are very different, however, and Japan has a rich cultural history with traditional customs that have been retained in the modern workplace, such as loyalty and the strong bonds that forge the work-family unit (Giorgi et al. 2008; Giorgi and Majer 2009). For the current investigation of interpersonal anger in Asia Pacific workplaces, Japan is viewed as a nation that upholds a collectivist values orientation (Ralston et al. 1997). In contrast, Australia is a young nation with a

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predominantly western, individualist cultural orientation. Cross-cultural research is important in the Asia-Pacific region to promote understanding and to reinforce international ties.

This chapter will discuss the nature of the working environment in Japan as well as sociocultural factors that may influence the nature of interpersonal anger in that country. These factors are compared with those influencing Australian workers, in order to better understand the interpersonal anger profiles for both countries. Two short case studies present results from analyses in Japanese and Australian random stratified community samples. A discussion of cultural differences in anger underlines the importance of understanding the wide variety of cultures in the Asia Pacific region.

10.2 The Modern Japanese Workplace

Since the collapse of its economy in 1991, Japan has experienced a prolonged economic recession (Kanai 2009; Kawakami and Haratani 1999). As a result, employees have experienced a significant reduction in their job security, along with unprecedented levels of unemployment due to major downsizing and outsourcing, the result of wide-scale restructuring in an effort to improve the economic situation (Tsutsumi et al. 2001a; Ministry of Health Labor and Welfare 2007). With the implementation of western styles of employment, there has been a significant change from Japan's traditional seniority-based wage systems to merit-based pay (Clegg and Kono 2002; Kanai 2009). Hence, life-long employment is being replaced by temporary contracts, part-time, and lease employment (Goto 2006), increasing workers' insecurity. Understandably, these changes have taken their toll on Japanese workers, with an unprecedented level of overworking (Kanai 2009), "death by overwork" (*karoshi*; Kanai 2006), "suicide by overwork" (*karojisatsu*; Amagasa et al. 2005), hypertension (Tsutsumi et al. 2001b), fatigue (Kumashiro and Nagae 1984), anxiety (Irie et al. 1997), psychological strain (Liu et al. 2007), dissatisfaction with work (de Frank et al. 1988), and depression (Iwata et al. 1989). This accumulating evidence underlies Japan's reputation as one of the most stressful workplaces in the world.

10.2.1 Workplace Hierarchy in Japan

A notable difference between Japanese and Western workplaces is the emphasis on the strict hierarchical structure of the work environment, or "*jo-ge kankei*", which is based on unspoken rules for how to interact with superiors, and the strict delineation of one's own social rank and responsibilities (Matsumoto 2000). These rules often lead employees to work many hours of unpaid overtime, which is an additional stressor to the strain and tension they experience while in the presence of superiors in such a strongly hierarchical culture (Hadley 1999). The strict

hierarchical structure of the Japanese workplace opens the way for *ijime* or “workplace bullying” (Meek 2004; Trembl 2001), where superiors feel a sense of entitlement to demonstrate their higher rank over others and engage in unfair treatment of subordinates. Surveys indicate that *ijime* is a commonly experienced and widely accepted aspect of working life in Japan, and is a major factor in the high suicide rate for men and women of working age (Giorgi et al. 2008; Tanaka 2001). Japanese people are more prone to tolerating workplace bullying because they hold the view that it will “work out” if they are simply patient. Accordingly, they cultivate the spirit of *gaman*, or “endurance of personal hardship” (Giorgi 2010). The Japanese believe that their society has developed in the face of much adversity, and the ability to endure through hardship is regarded as a positive character trait, despite the disproportionately serious nature of the situation and the relative ease with which it could be changed. Furthermore, Japanese workers are reluctant to challenge injustice, as their culture is defined by strong conformity to implicit rules and tradition (Giorgi et al. 2008). Japanese tradition engenders identification with the group culture and strong loyalty to the in-group (Giorgi and Majer 2009). Japanese workers are unwilling to request support from others in the workplace for fear that their actions could disrupt the in-group harmony (Taylor et al. 2004). In other countries, bullying, mistreatment, inequality and abuse of power have all been shown to lead to anger (Einarsen and Mikkelsen 2003; Neuman and Baron 1998). From the evidence presented, the Japanese working environment is an important setting in which to investigate the nature of the interpersonal anger experience.

10.2.2 Anger in Japanese Culture

The growing phenomenon of workplace anger has serious consequences for individuals and organisations. These consequences include reduced levels of engagement and cognitive performance amongst employees, increased frequency of counterproductive behavior, errors in judgment, and risk taking (Idris and Dollard 2011; Mann 1992; West et al. 1993). Japan is well known for its stressful working conditions, and anger management plans have been implemented to curb anger in the workplace (Jones et al. 2003; Kawakami and Haratani 1999). In a rational culture like Japan, people are not inclined to express emotion (Bhagat and Steers 2009). In fact, withholding overt anger is a natural method of avoiding the negative consequences that would arise were it to be expressed (Averill 1982). Further, in the case of bullying, Japanese people are likely to follow the generally observed practice of withholding anger towards others of a higher social rank (Allan and Gilbert 2001). Nevertheless, the absence of overt expression of anger does not mean that anger is not felt. Previous work by McLinton and Dollard (2010) on driving-related anger has shown that this kind of anger does indeed exist in a Japanese sample, albeit at a slightly lower level than is reported among western samples. Rather than the measurement of overt anger and aggression, a better indicator of

anger in such cultures may be self-reports of unexpressed anger. Anger as an internal and personal experience can only be measured via self-report, and evidence suggests that any self-report measure will be affected by social desirability, leading to an under-reporting of actual anger levels (Arnold and Feldman 1981). However, despite concerns for social desirability and a standing belief that Japanese cultural influences would lead to underreporting of emotions and negative workplace conditions, Tsutsumi and colleagues (Tsutsumi et al. 2001a) found that in response to a questionnaire on work stress among Japanese workers, a significant number of participants were willing to express anxiety over pay rates and job security.

In a culture with such strict hierarchical rules, we expect that anger-eliciting behavior of others in the workplace to provoke different levels of anger from Japanese workers according to the perpetrator's relative social level (superior, co-worker or subordinate). Further, the anger experience in Japan could be compared with that of another country which has more relaxed social rules for workplace behavior, such as Australia. Due to the existence of differences between Australian and Japanese work environments, we expect to see significant differences in the levels of anger towards superiors, co-workers, and subordinates at work between Japanese and Australian samples.

Anger towards different people in one's social environment can be measured by the recently developed McLinton Interpersonal Domain-specific Anger Instrument (MIDAI; McLinton and Dollard 2013). Interpersonal anger is defined as "anger felt towards others. An individual's predisposition for interpersonal anger is not universal, as levels differ according to the relative social role of the target of that anger." (McLinton and Dollard 2013, p. 7). The MIDAI consists of five scales, one for each of five target groups: family members; superiors at work; co-workers; subordinates; and strangers (i.e., anger towards recently encountered individuals with no established family, work or hierarchical relation). Each scale is concerned with interpersonal anger related to the behavior of individuals within that target group. Each 12-item scale contains six core items which are identical across each target in order to permit comparison (these core 6-item measures are the MIDAI short form). For example, each MIDAI short form, regardless of the target, contains the item "*How much anger would I feel when a [family member; superior at work; co-worker; subordinate, or; stranger] behaves in an unnecessarily aggressive manner toward me?*"

10.3 Interpersonal Anger: Theoretical Framework

The development of the interpersonal anger construct was assisted by an expert panel of international anger researchers (see McLinton and Dollard 2013). The fundamentals of interpersonal anger theory lie in social psychology, which uses a variety of social and cognitive theories to explain the nature of human social interaction (Allport 1985). A conceptual model of interpersonal anger along with its evolution in to the MIDAI scales for anger profiles is presented in Fig. 10.1.

Some factors that influence feelings of anger toward others in one's social environment:

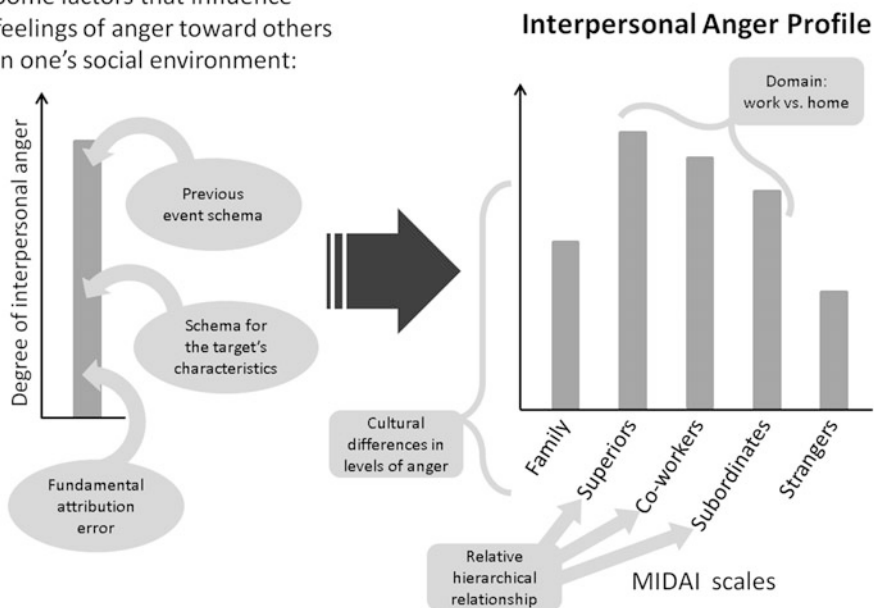


Fig. 10.1 Conceptual model of interpersonal anger and its measurement via the MIDAI as an interpersonal anger profile

Social psychology suggests that how we evaluate the causes of others' behavior is influenced by biases that affect the way we perceive the world and social relationships with the people around us (Heider 1958). Likewise, other people in our social environment affect us through their presence and behavior (Allport 1985). Two significant theories considered in the development of the interpersonal anger construct were attribution theory and schemata theory. The former suggests how one explains the behavior of others in their social environment (Kelley and Michela 1980). According to the fundamental attribution error, people are more likely to make an internal (dispositional) attribution for the negative behaviors of others. Without considering the influence of the environment on that individual's actions, one instead assumes that they are internally motivated; thus the individual is perceived to have more responsibility and is to blame for the intent behind the action (Ross 1977). By this reasoning, Interpersonal Anger theory proposes that people have more potential to anger at others' behavior when they believe that negative behavior towards them is internally motivated. For example, consideration of the statement "How much anger would I feel if a superior at work: . . . causes significant delays when I have a schedule to keep." (MIDAI superiors scale: Item 8) is likely to result in the respondent attributing significant delays due to the disorganized personality of the supervisor or perhaps even intentional spiteful behavior, rather than bearing in mind that their superior is also under significant pressures from higher up, or even that they might have experienced some personal situation that has resulted in the behavior.

The other notable influence on interpersonal anger is schema theory, which suggests that people develop stable patterns of viewing the world based on their previous events and experiences (Axelrod 1973). In this case, a person will have a schema established for how all superiors at work act towards them based on the way all superiors have treated them in the past, and likewise a schema for co-workers, subordinates, family members, and so on. These schemas lead to biases in the perception of those individuals in the future (Taylor and Crocker 1981), so in Interpersonal Anger theory one would posit that a person who has been bullied or harassed by their boss in the past might attribute higher levels of anger when any kind of provocations or frustrating behaviors are engaged in by people in a superior position at work. Schema theory supports the notion that in Interpersonal Anger a person considers relevant characteristics of the target and how they fit into their existing schema when appraising the behavior of others. So the degree of anger felt towards the target depends on how that target's characteristics fit in existing schema, thus accounting for biases towards gender, relative relationship, attractiveness, group membership, and so on.

As a general proposition, Interpersonal Anger consists of a number of trait predispositions to anger towards different people. This is where our instrument differs from existing measures of anger; "interpersonal anger" is an overarching term given to several independent constructs that, whilst correlated, are different aspects of the anger experience and capture anger towards targets in the social environment with very clearly delineated differences. Individuals differ on the MIDAI scales in the amount of anger directed to each target, so a person may feel more anger towards a superior at work for the exact same behavior that a family member might engage in. The differing propensity to anger according to each target on the MIDAI scales is used to generate an interpersonal anger profile (as per Figs. 10.1, 10.2 and 10.3). Interpersonal anger profiles gathered in different countries permits comparison of the divergent predispositions to anger, which may provide insight in to cross-cultural factors in the experience of anger towards others (McLinton and Dollard 2013).

10.4 Case Studies

The following two case studies were generated using population data obtained from random stratified community sampling in both Australia and Japan (McLinton and Dollard 2013). This data collection method is detailed in the aforementioned publication. The MIDAI was administered to residents in metropolitan Nagoya, Aichi-prefecture (Japan) and metropolitan Adelaide, South Australia. Sample statistics are covered briefly in the case studies (for further detail, see McLinton and Dollard 2013).

Both case studies measure interpersonal anger with the MIDAI scales for: interpersonal anger towards family members (MIDAI family scale: 12 items), interpersonal anger towards superiors at work (MIDAI superiors scale: 12 items),

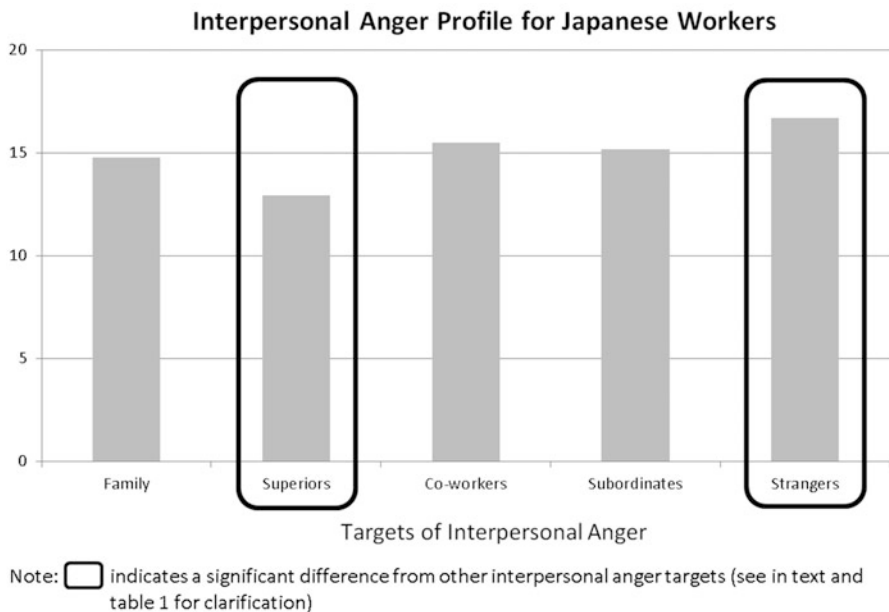


Fig. 10.2 Interpersonal anger profile for Japanese workers (6-item MIDAI short form of identical items, used to permit direct comparison of anger targets)

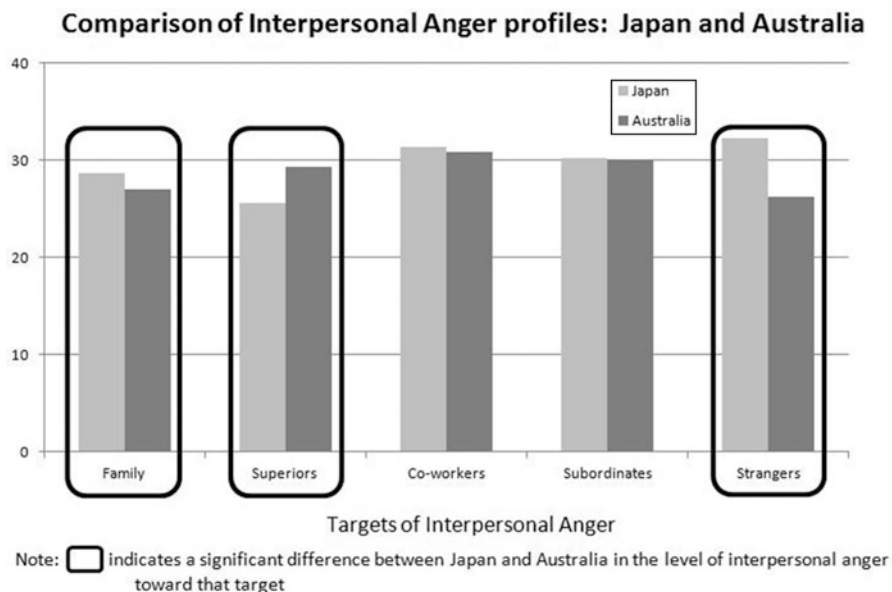


Fig. 10.3 Comparison of interpersonal anger profiles: Japan and Australia (12-item MIDAI scales)

interpersonal anger towards co-workers (MIDAI co-worker scale: 12 items), interpersonal anger towards subordinates at work (MIDAI subordinate scale: 12 items), and interpersonal anger towards strangers, i.e., anger towards recently met individuals with no family, work or hierarchical relation (MIDAI stranger scale: 12 items). To enable a fair comparison of interpersonal anger towards different targets, each MIDAI scale contains six identical items general enough to apply to any situation (referred to as the MIDAI Short Form). When comparing anger between MIDAI scales, these common items should be used to ensure that certain domain scales do not consistently elicit significantly higher anger in comparison to others simply because they refer to more aggravating situations.

Throughout all of the MIDAI scales, participants are asked to rate *how much anger* the hypothetical situation would elicit from them on a 5-point Likert scale ranging from 0 (none at all) to 4 (very much). Also included is a measure of the *frequency* of each anger-eliciting behavior experienced, answered on a 7-point Likert scale ranging from 0 (less than once a year) to 6 (everyday). Each scale has a differing number of items common to all scales and unique items relevant to the individual in question or the domain in which it might occur (e.g. the workplace). The short form is used when making comparisons between anger towards different targets, whereas the full 12-item scale can be used when making between group comparisons (such as samples from different cultures) on their anger towards the same target, e.g. their own superiors at work.

10.4.1 Case Study 1: An Interpersonal Anger Profile for Japanese Workers

The sample consisted of 300 adults (119 males, 181 females) currently engaged in full-time employment, representing a response rate of 78 % of the original number approached. A similar number of participants from low ($n = 109$), middle ($n = 96$), and high ($n = 95$) socio-economic areas was obtained forming a random stratified community sample. The mean age was 43 years ($SD = 16$; range min. 18, max. 89).

The interpersonal anger profile for Japanese workers is presented in Fig. 10.2. Analysis revealed significant differences in the propensity to anger towards others in the workplace, according to the relative social status of the anger target. Japan is renowned for its strict hierarchical work environment and *jo-ge kankei*, wherein the lines of relative social status are clearly delineated and strongly influence social communication.

Comparison is made with the MIDAI Short Forms, which consist of six items that are identical across all MIDAI scales in order to permit direct comparisons. As highlighted in Fig. 10.2, Japanese workers report significantly less anger towards their superiors in the workplace, as opposed to their co-workers, $t(288) = -12.63$, $p < .001$, and subordinates, $t(284) = -10.63$, $p < .001$. In essence, superiors engaging in identical behavior to non-superiors will actually elicit lower levels of

anger from a Japanese worker. This is in spite of the evidence in the literature suggesting that superiors might be inclined to victimize employees of lower social rank in Japanese workplaces. The full MIDAI short form item results as well as significant paired *t*-test comparisons (with Bonferroni adjustment) are presented in Table 10.1 overleaf.

Participants were not only asked to rate the levels of anger towards individuals and their behavior, but also to report the actual frequency with which they were the victim of such behaviors. To further investigate the phenomenon of reduced anger towards superiors in Japan, we compared the reported frequency of the anger-eliciting situation with the anger level elicited. In fact, Japanese workers reported that their superiors actually engage in these frustrating anger-eliciting behaviors more frequently than any other individual (co-workers, subordinates, family members, and strangers).

Several factors may be at play here, including the nature of Japanese *jo-ge kankei* being tied to the loyalty held to one's lord (*jukyo*) mitigating the anger towards a superior or justifying the behavior in the eyes of the worker. Alternately, the high frequency of these anger-eliciting behaviors may have led to a learned helplessness scenario or pose a challenge for the worker to *gaman* and endure the behaviors of superiors (such as *ijime*) in order to triumph in the face of hardship. These concepts are discussed further in Cultural Considerations.

10.4.2 Case Study 2: Anger Profile Differences Between Japanese and Australian Workers

The Australian sample was similar to the Japanese sample, and consisted of 301 participants (128 males, 173 females) engaged in full-time employment (67 % response rate). The random stratified community sample consisted of a roughly even spread of participants from low ($n = 112$), middle ($n = 91$), and high ($n = 98$) socio-economic areas, and the mean age was 42 years ($SD = 17$; range min. 18, max. 82).

Despite being geographically situated in the Asia Pacific, Japan and Australia are characterized by vastly different sociocultural climates. Unlike Japan, the influence of a social hierarchy is not strong in the Australian workplace, with previous analyses indicating that, in response to an interpersonal anger-provoking incident involving a colleague, Australian workers expect to experience similar levels of anger toward that colleague, regardless of whether his/her position in the organisation is superior, equal (co-worker) or subordinate to their own (McLinton and Dollard 2013). Further, a comparison between Australian and Japanese samples identified no significant group differences in anger toward co-workers and subordinates. The interpersonal anger profile at work did however differ in terms of superiors, with Japanese workers reporting significantly lower anger levels toward their "bosses" than Australians, $t(560) = 4.56, p < .001$.

Table 10.1 Comparison of means and SD for MIDAI short form items and scales in Japanese workers

| | Self-reported anger on the MIDAI items | | | | | | | | | | | | | | |
|---|--|------|-------|-----------|-------|---------|------------|-------------|-------|--------------|----|---|-----------|---|----|
| | Family | | | Superiors | | | Co-workers | | | Subordinates | | | Strangers | | |
| | M | SD | M | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD |
| “How much anger would I feel if a (family member, superior, etc.)...” | | | | | | | | | | | | | | | |
| Item 7: Behaves in an unnecessarily aggressive manner toward me | 2.59 | 1.11 | 2.44 | 0.97 | 2.88 | 0.97 | 2.80 | 1.06 | 3.10 | 1.10 | | | | | |
| Item 8: Causes significant delay when I have a schedule to keep | 2.26 | 1.04 | 1.80 | 1.03 | 2.23 | 0.88 | 2.22 | 0.86 | 2.65 | 0.87 | | | | | |
| Item 9: Insults me on purpose | 2.59 | 1.21 | 2.41 | 1.07 | 2.82 | 1.06 | 2.82 | 1.02 | 3.13 | 1.11 | | | | | |
| Item 10: Refuses to acknowledge my point of view | 2.39 | 0.98 | 1.78 | 0.93 | 2.20 | 0.89 | 2.18 | 0.82 | 2.23 | 1.21 | | | | | |
| Item 11: Yells at me | 2.54 | 1.14 | 2.60 | 1.06 | 2.84 | 1.13 | 2.84 | 1.10 | 3.14 | 1.15 | | | | | |
| Item 12: Doesn't give me the respect I deserve | 2.40 | 0.93 | 1.89 | 1.04 | 2.50 | 0.93 | 2.30 | 0.97 | 2.46 | 1.01 | | | | | |
| Cronbach's alpha (6 items) | .81 | | .84 | | .88 | | .88 | | .87 | | | | | | |
| Core Item Total Score | 14.77 | 4.62 | 12.91 | 4.55 | 15.47 | 4.61 | 15.15 | 4.60 | 16.70 | 5.05 | | | | | |
| Paired t-test: Family (6-item) | | | | 7.75** | | -2.76** | | -1.20, n.s. | | | | | | | |
| Paired t-test: Superiors (6-item) | | | | | | | | | | | | | | | |
| Paired t-test: Co-workers (6-items) | | | | | | | | | | | | | | | |
| Paired t-test: Subordinates (6-item) | | | | | | | | | | | | | | | |

Note. * $p < .05$; ** $p < .01$

The profiles also revealed differences in interpersonal anger outside the workplace, with Japanese participants reporting significantly higher anger toward strangers than Australians, $t(590) = 7.41, p < .001$. There are several possible explanations for this, including the in-group and out-group processes that are strongly woven in to Japanese culture. Further, when a stranger engages in anger-eliciting behavior, there is also the likelihood that such behavior breaks the social norm or is a violation of common courtesy. The roles and expectations of others may not be as clearly defined in Australian society, which unlike Japan, is not well-known for politeness as a social custom.

10.5 Cultural Considerations

There is strong value in accounting for cultural dimensions in the anger experience, as can be seen in the significant differences in interpersonal anger between two very divergent cultures, Japan and Australia (see Fig. 10.3). As seen in the first case study, Japanese participants displayed significant differences in their anger profile at work, underlining that the anger experience is indeed different according to the characteristics of or relationship with the perceived perpetrator of the anger-eliciting behavior. Anger toward superiors at work was reported as significantly lower than toward hierarchically equal or subordinate employees (Fig. 10.2). This finding seems counterintuitive when Japan has been recognized in research as one of the most stressful and harshest work environments in the world, one which strongly features workplace bullying (which is fundamentally driven by those in superior positions in the organisation), pressure to work overtime, and record suicide rates due to pressures from superiors (Amagasa et al. 2005; Kanai 2009; Giorgi et al. 2008; Tanaka 2001). Contrary to expectations, Japanese people actually report less anger toward superiors at work.

The most obvious conclusion that could be drawn is that social desirability has masked honest anger reporting. However, the use of multiple scales in the MIDAI means that social desirability is less of a factor when it is likely to apply to all other scales in the comparison. We can assume that if the effect of social desirability is relatively constant, Japanese people will report lower anger toward superiors in comparison to co-workers, subordinates, family members and strangers. This is an interesting finding considering that the negative behaviors of superiors were most frequent in comparison to the others targets, with anger-eliciting behaviors such as the superior “refuses to acknowledge my point of view” (Item 10) occurring on average more than once per month, and “doesn’t give me the respect I deserve” (Item 12) occurring on average a few times per month. The increased prevalence of superiors engaging in anger-eliciting behaviors is understandable in the socio-cultural context of *ijime* and *jo-ge kankei*, but anger directed at them for such actions is significantly lower than toward other people. Perhaps a reduction of attribution of blame to people in a superior role might alleviate the levels of anger they direct toward the superior despite the frequency with which the

superior engages in the negative behaviors. Instead, it might simply be the sense of hopelessness that the hierarchical system of the Japanese workplace allows such behavior, and that there is no use fighting what has been established over centuries, a culturally inherited learned helplessness. Even the notion that eventually, when promoted to a similar position of management they in turn will fulfil the role of a superior might reduce the level of blame. Alternately a positive viewpoint on this reduced anger would be the sense of loyalty to the superior, much like the Confucian principle of *jukyo*, which has evolved from its traditional roots to adapt to the modern workplace family.

In the second case study, anger on the MIDAI scales reported by Japanese people differed significantly from the Australian sample (Fig. 10.3). Japanese have a higher proclivity to anger toward the actions of strangers, but were less likely to anger toward superiors. We must accept that social desirability may reduce the level of reporting anger overall based on cultural predispositions, meaning the reduced anger toward superiors in Japan may not be as pronounced in comparison with Australians. Nevertheless, a possible explanation for the reduced anger toward superiors in Japanese workplaces could be the expectation of role fulfilment and the cultural understanding of *gaman* or “enduring personal hardship”. Japanese employees may simply expect superiors to engage in such anger-eliciting behavior because that is their role, as they have seen repeated in workplaces across the country. It is an unavoidable state of affairs and instead they are expected to endure the situation if they are to be seen as having the favorable cultural trait of endurance.

In comparison to Australians, Japanese participants consistently rated the anger they felt toward behavior of strangers to be significantly more infuriating (Fig. 10.3). This is a particularly interesting finding, and we suggest that it is linked to Japan’s implicit and explicit societal customs for courtesy that have set an expectation for all other strangers to uphold, and create a harmonious environment. These unspoken rules of etiquette are intimately woven into the fabric of Japanese culture, where one is expected to conduct themselves in a manner that avoids any intrusion into the lives of strangers. Perhaps violation of these customs is particularly anger provoking for Japanese people.

10.6 Challenges and Future Directions

The difference in interpersonal anger profiles of Australian and Japanese workers underlines the importance of understanding cross-cultural differences in interpersonal relationships in the Asia-Pacific region. Numerous factors need to be considered when conducting work in the region, either visiting or receiving potential business associates. For example, as previously mentioned, Japan’s strong cultural rules may provide a succinct explanation for stronger feelings of anger toward strangers when they act in a hostile or disrespectful manner. Whilst Australian businessmen may have a predisposition to treat the actions of strangers lightly, they must be aware of how their actions may be perceived by recently-met business

associates in Japan. Understanding on both sides is important when conducting business between members of different cultural backgrounds.

Whilst we have identified the differences in interpersonal anger profiles for Japanese and Australian workers, the explanations thereof are only suggestions. The actual underlying socio-cultural processes at work could be any combination of *jo-ge kankei*, *jukyo*, *gaman*, and in-group-out-group processes, however as it stands it is difficult to elucidate the specific causes and relative importance of each. It presents us with an opportunity to further investigate whether the actual influence of each process on the MIDAI can be tested in isolation.

If interpersonal anger is a risk factor for stress and spillover just like other anger measures, then the study of interpersonal anger is important in order to increase awareness in understanding worker psychosocial wellbeing. Further investigation will also be made into how anger toward the three targets in the workplace domain relates to existing measures of work stress. For example, Effort-Reward Imbalance (ERI) could be related to anger toward superiors because of the violation of reciprocal rewards for their perceived efforts at work. Perhaps co-workers and subordinates are less likely to be involved in a perceived effort-reward imbalance. The MIDAI may also be used to observe interpersonal anger over time; whether it is a relatively stable trait, and whether work stress variables have an influence as work environments change. Further, whilst clear differences by country were found and this grouping method is common in research, cultural identification may actually be categorized in ways other than simply geographic representation. Evidence suggests that variable traits can be used to operationalize culture in the field of emotion research such as individualism and power distance (Matsumoto 1989), dimensions that display a vast cultural divide between East and West. This could be employed in future research, which may also see the study replicated in other countries to not only provide baseline cross-cultural data, but also to facilitate further cultural comparison in the nature of the world-wide interpersonal anger experience.

10.7 Conclusion

This chapter has helped illuminate the nature of the interpersonal anger experience and differences between the workplace cultures of two countries within the Asia Pacific region. Avenues have been opened into cross-cultural anger research with the MIDAI demonstrating its transnational relevance and again reinforcing that one's propensity to anger does differ according to the relationship to the target. Further, the discovery of differences in the interpersonal anger profiles of Japanese and Australian workers indicates that our proclivity to anger toward others may be influenced by numerous socio-cultural variables, presenting interesting paths for future cross-cultural research.

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Chapter 11

Work Addiction in Japanese Workers

Nobuko Matsuoka and Akihito Shimazu

11.1 Introduction

In recent years, working conditions have rapidly been changing. For instance, clear role expectations at work do not exist anymore and the boundaries between work and personal life are becoming more blurred (Jones et al. 2006). In addition, with the advancement of technology (e.g., internet and telecommunication), more and more employees are able to work outside the traditional office and beyond traditional work hours (Ng et al. 2007). Japan has been involved in this trend as well as other countries. Under the circumstance, some employees tend to start working a large amount of time with compulsion they have to do so, which is work addiction or workaholism. These changes of work conditions call for a better understanding of how employees work (i.e., individual attitude towards work) as well as where they work (i.e., job characteristics).

This chapter focus on workaholism and its impacts on employees' well-being. First of all, we describe the definition of workaholism. There have been some discussions whether workaholism is desirable or not. Second, we go into working condition in Japan. In particular, working hours is focused on. Third, the impacts of workaholism on Japanese employees are clarified. We describe the influences both on employee themselves and their partners. At last, challenge, future directions and conclusions are discussed.

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11.2 Definition of Workaholism

The origin of workaholism can trace back to Oates' writing (1971): "...compulsion or uncontrollable need to work excessively." Since then, workaholism has been a popular topic among lay publications while this concept has not been treated scholarly very much. In fact, Ng et al. (2007) gained 291,000 hits as a result of their searching the word "workaholism" on Google on the internet, while there were merely 131 academic publications found in the scientific business articles. Moreover, Shimazu, Kubota, and Bakker tried to identify how workaholism was treated on publications through internet search (July 2013). On the basis of their PsychINFO search, 297 literatures were identified, but among these articles only 147 publications included the word "workaholism" in their titles.

11.2.1 *The Discrepancy Between Lay and Scholarly Publications on Workaholism*

According to Shimazu and Schaufeli (2009, p. 495), "For the lay public workaholism seems synonymous with working extremely hard". "However, conceiving workaholism exclusively in terms of the number of working hours is misleading because it neglects its addictive nature (Shimazu and Schaufeli 2009, p. 495–496)". If we adopted the definition of workaholism popular among lay people, we would reach a very confusing point. Historically, workaholism has been basically and usually perceived as a negative phenomenon in the aspect of the similarities between workaholism and alcoholism. The mutuality of both alcoholism and workaholism was that people with these addictions were negatively affected by the behaviour, the intake of alcohol and work, and they cannot stop the behaviour by their will.

However, this attitude toward work has been occasionally regarded as a preferable state. For instance, there was an opinion that workaholism is good since workaholic employees are high performers (Scott et al. 1997). Workaholic employees are likely to work very hard even though they do not want to work, when non-workaholic individuals usually stop working. This workaholic tendency may be more preferable for enterprises to pursuit maximum profits. This view was generated by the vague definition of workaholism. If workaholism is defined by hours employees actually work regardless of its addictive nature, this kind of confusion is likely to occur.

11.2.2 *The Core Components of Workaholism*

Addictive nature is the essential component of workaholism. According to McMillan et al. (2001), the factor of this difference between lay and scholarly publications may be generated from the ambiguity of this concept's definition and

measurement. In order to solve this problem in both definition and measurement, several researches were carried out.

Despite the ambiguity, a research revealed that workaholism may include three kinds of features (Scott et al. 1997). First characteristic was that workaholics work excessively. That is, they tended to work for long hours if they could have a freedom to do so. Second characteristic was that they work compulsively, that is, workaholics often thought about work even though they were not working. Third feature was that employees with work addiction work beyond needs they had to meet, such as, pressure from supervisors, financial requirement, career orientation, and poor marriage. This seemed to be the combination of first and second characteristics above. More concretely, workaholic individuals were prone to create more work and make tasks more complicated simply because their inner drive to work excessively. In sum, workaholics were inclined to work excessively hard in compulsive manner.

In more recent years, Schaufeli et al. (2008) tried to define workaholism means of a conceptual analysis. They defined workaholism as the tendency to work excessively hard, that is, the behavioural domain, and to be obsessed with work, that is, working compulsively, which is the cognitive domain.

11.2.3 The Measurement of Workaholism

On the basis of the definition, a tool for measuring workaholism, which was called as the Dutch Work Addiction Scale (DUWAS), was developed by Schaufeli and his colleagues (2009). DUWAS consists of two components, working excessively and working compulsively. In addition to it, more recently, the Bergen Work Addiction Scale (BWAS) was invented from the clinical view of addiction (Andreassen et al. 2012). In BWAS, workaholism was defined as being overly worried about work, being driven by an uncontrollable motivation, and spending a large amount of energy and endeavour, which disturbs employees to function in private relationships, spare-time activities and health. BWAS reflects seven essential components of addiction, such as salience, mood modification, tolerance, withdrawal, conflict, relapses, and problems.

11.3 Working Conditions in Japan

Japan presents specific characteristics in working condition different from other countries. In particular, the circumstances have been changing since the bubble economy collapsed in 1991. In this section, we first overview the brief history related to working conditions. Then, we move to how working hours in Japanese employees have changed and unchanged from the view of bipolarization by employment types, age, and, gender.

Table 11.1 Average annual hours actually worked per employee (Reproduced from The Japan Institute for Labour Policy and Training, 2012)

| Year | 1990 | 2000 | 2005 | 2009 | 2010 | 2011 |
|----------------------|-------|-------|-------|-------|-------|-------|
| Japan ^a | – | 1,853 | 1,802 | 1,733 | 1,754 | 1,747 |
| U.S.A | 1,833 | 1,836 | 1,801 | 1,776 | 1,787 | 1,797 |
| France ^b | 1,533 | 1,427 | 1,409 | 1,391 | 1,395 | 1,394 |
| Germany ^c | 1,490 | 1,375 | 1,341 | 1,296 | 1,323 | 1,330 |
| U.K | 1,700 | 1,680 | 1,648 | 1,637 | 1,632 | 1,611 |

Source: OECD Database

Note:

^aEstablishment size for Japan is five or more employees

^bThe value for 2011 is an estimated figure

^cThe figures for 1990 represent those for former West Germany

11.3.1 *Economy and Working Hours in Japan*

Although the economy in Japan had been growing until 1980s, this growing economy (called as bubble economy) collapsed in 1991. Since then, working conditions have changed according to the sluggish economy. In more recent years, working hours in Japan have been almost the same as ones in USA and Canada (Table 11.1) (Ministry of Health and Welfare 2012a) although Japan used to be notorious for its' long work hours before 1992 when the law limiting work hours was introduced (Kanai 2007). The explanations of the long working hours can be explained in the following way. Japanese evaluate working hard better than working smart. In addition, Japan had lacked the legal limitation of working hours until 1992. According to Ministry of Health, Labour and Welfare (2013), the total working hours including all employment types, age, and gender in Japan have been steadily decreasing. Both of the annual actual and non-scheduled work hours have decreased.

11.3.2 *Bipolarization in Working Hours*

After the bubble economy collapsed in 1991, working hours in Japan have been decreasing in total. Nevertheless, in fact, some employees work long, and the others work short when the number of working hours is examined by subcategories (employment types, age groups, and genders). First, regular employees tend to work long compared to their non-regular counterparts. The rate of non-regular employees has been enhancing while the one of regular workers has been decreasing (Ministry of Health and Welfare 2012b). The problem is that workers started to work longer or shorter based on their employment types as before (Kanai 2007). Regular employees working for 60 h and over per week have increased, and ones working for less than 60 h per week have decreased, while non-regular counterparts working for less than 50 h per have particularly increased. It is important since the risk that the employee onsets cerebral diseases and mental disorders, which results

in *Karoshi* rises, when an individual excessively work 80 h as non-scheduled working hours per month on average of 2–6 months, and 100 non-scheduled working hours and over per month.

Karoshi

The condition of being permanently unable to work or dead due to acutely attacking ischemic heart disease such as myocardial infraction, or acute heart failure caused by cerebral hemorrhage, subarachnoid hemorrhage and cerebral infraction, because inherent health problems such as hypertension and arteriosclerosis are deteriorated by excessive work overload (Hosokawa et al. 1982).

Second, this bipolar phenomenon of working time exists in age groups. Male workers in their late 20s, 30s, and 40s have been to tend to work longer than young and senior counterparts (Cabinet Office 2007; Kanai 2007). A newspaper article informed us that 20 % of young fathers put in 60-and-over working hours per week. “Nearly twenty percent of male employees in their 30s work more than 60 h a week (The Japan Times 2013)”. Male workers in their late 20s, 30s and 40s seem to compensate for the decreased amount of working hours by younger and senior employees. For them, long working hours has not changed as before.

In sum, the total working hours in Japan has been decreasing with the influence of the economy and the help of the law. At a glance, this seems to be the improvement of problematic long working hours in Japan. In fact, however, the long working hours has been maintained by three kinds of bipolarization; employment types, age groups, and gender. Regular male employees in their late 20s, 30s, and early 40s, still work long compared to non-regular, younger, and female counterparts. Thus, the improvement of working condition has been not achieved yet when seeing the detail. Japanese working hours is characterized by dualism, and therefore, it can be said that long working hours among Japanese employees seems to be difficult to be found compared to the past.

11.4 Impacts on Well-Being

There have been some studies focusing on the influences of workaholism and work addictions on well-being among Japanese employees. In this section, we introduce empirical studies which examine the impacts of workaholism on employees’ as well as their families’ well-being.

11.4.1 Kanai et al. (1996), Kanai and Wakabayashi (2001)

In a research targeting 1,072 Japanese industrial workers (Kanai et al. 1996), workaholics presented the highest scores on job stress, nondelegation, and health

complaints than non-workaholic employees did. In the more detail, the score of workaholics was particularly the highest in the areas of driven to work, which is the core component of workaholism. In particular, driven dimension was positively correlated to time commitment, job involvement, job stress, perfectionism, nondelegation, and health complaints. Workaholism could be a state of adjustment to work overload because workaholism was observed the most among assistant managers, who had a large amount of workload compared to employees with other positions.

Also, Kanai and Wakabayashi (2001) conducted a research to examine workaholic tendencies in 4,621 employees at Japanese automobile companies. The increase of work overload in quantity and quality led to workaholism, which results in adverse effects on job stress and health complaints among Japanese male employees. In the more detail, this research revealed that it is likely that age and job type might play key roles in workaholism as well. Work overload quantity and quality was positively associated with Driven and had little or no associations with Enjoyment of work. In particular, this tendency was more prominent in employees over 35 years old. Concerning age and workaholism, the associations between Driven and Enjoyment of work were differently seen by age groups. The employees under 34 years old increased the degree of Driven and Enjoyment of work by work overload while their colleagues over 35 years old increased Driven and decreased Enjoyment of work by work overload. This may mean that controlling the level of workload in quantity and quality is important for employees over 35 years old, while the adequate level of work overload may enhance interest and values in work.

As for job types and workaholism, blue-collar employees were less workaholic compared to their white-collar counterparts particularly in sales division. This result might be derived from the characteristics of jobs which the blue collar-employees engaged in. The blue-collar workforces in the research worked for automobile factory with structured jobs and had comparatively low job stress. Job involvement was positively associated to both Driven and Enjoyment of work. Also, family involvement was positively associated to Driven while negatively associated to Enjoyment of work. This result might be viewed that a breadwinner who highly cares about his family tends to work hard for supporting his family financially. With this responsibility, the employee feels less enjoyment in work.

11.4.2 Shimazu and Schaufeli (2009), Shimazu et al. (2012)

Shimazu and Schaufeli (2009) revealed that workaholic employees had a tendency to suffer from ill-health, low family and job satisfaction, and low job performance through their research targeted on 776 Japanese workers of a construction company. In this study, ill-health consisted of psychological distress including fatigue, anxiety, and depression, and physical complaints. The positive association between workaholism and ill health seems to be very important since some people think

workaholic employees are preferable (Schafeli et al. 2006). However, in fact, there is a “bad” workaholism impacting negatively on employees’ health.

A negative association between workaholism and job performance was found, even though this association was weaker than the positive association between workaholism and ill-health. This result was inconsistent with the finding by Schaufeli et al. (2006) that workaholism was slightly associated with job performance. There is a discrepancy between these outcomes—positive and negative. The results of a negative association between workaholism and job performance may be able to be interpreted in the following way. Some workaholic employees reported that they were good in job performance. Nevertheless, these employees may actually have answered as for extra-role performance rather than in-role performance which were reasonably expected. This could be explained by the characteristics of workaholics. Workaholic employees are often inclined to generate extra work by the workaholics themselves even when they do not have financial and organisational pressure, career-oriented needs, and so forth.

Concerning the predictability of impact on well-being caused by workaholism, Shimazu et al. (2012) conducted the two-wave-longitudinal survey with the interval of approximately 6 months. In this survey, 1,967 employees working at the various sectors of a single organisation replied to questionnaire on workaholism, work engagement, ill-health, life satisfaction, job performance, and other demographic characteristics (e.g., age, gender, and education) through internet. As a result, it was found that workaholism tended to escalate ill-health and to impair life satisfaction although the impairment of job performance was not predictable by workaholism. In other words, future unwell-being would be predictable by workaholism, and workaholism was associated with the increase of ill-health and the decrease of life satisfaction.

11.4.3 Kubota et al. (2010, 2012, 2014)

Concerning the relationships between workaholism and sleep, Kubota and his colleagues (2010, 2012) in Japanese nurses revealed that workaholic nurses experienced more sleep problems such as subjective sleep insufficiency in Japanese nurses. In more detail, workaholic nurses experienced more excessive daytime sleepiness at work, difficulty awakening in the morning, and feeling tired when waking up in the morning than non-workaholic nurses (Kubota et al. 2010). This unwell-being may have resulted from two characteristics of workaholics. First, a tendency to spend a large amount of time for work may have generated additional work. Consequently, nurses with workaholism may have not been able to recover from excessive endeavor and fatigue during their limited time off work. Second, more importantly because of workaholics’ irresistible inner drive to work excessively (work compulsively) was more strongly associated with difficulty in awakening and tiredness upon awakening in the morning, a workaholic tendency to think persistently and frequently about work may have increased the level of arousal and

emotional distress among the research participants. Thus, a strong inner drive may be the most harmful component of workaholic, according to the researchers.

On the basis of the study above on workaholism and sleep among nurses, a longitudinal study was conducted in order to examine causal relationships between workaholism and sleep problems (Kubota et al. 2014). 1,683 participants were surveyed twice at 7 months intervals on the web. The research participants were divided into three groups, high-, middle-, and low-workaholics, based on the score of the Japanese version of work addiction scale (DUWAS), which measured both working excessively and working compulsively. As a consequence, at the time of 7 months after the first survey, workaholic employees had more sleep problems in two aspects. First, workaholics needed more time to fall asleep after they went to bed than non-workaholic counterparts, independent of the demographic characteristics, sleep latency at the first survey, and job characteristics. Second, daytime function was significantly disturbed among the high-workaholic group compared to the low-workaholic employees regardless of the demographic characteristics, daytime dysfunction at the first survey, and job characteristics. The former result was caused by the tendency of workaholic employees on thoughts about their work. Workaholics are inclined to think about work persistently and frequently even when they do not work. This thinking style might bring workaholic employees to sympathetic arousal even after they got in bed. This arousal might prolong sleep latency among workaholic employees. In addition to this, since workaholic is one of the risk factors for burnout, burnout brought by workaholism may disturb the adequate function of the HPA axis. As a result, this disturbance may bring about long sleep latency prevailed among workaholic employees. On the other hand, the latter finding was able to be explained by hesitation for workaholic employees to delegate work to their colleagues and to engage in activities other than work. This tendency among workaholic persons may not have time enough to recover from the fatigue generated by their tremendous time investment on work with strong inner drive to do so. Therefore, employees with workaholic tendencies may present dysfunction at work with the low level of their energy. Thus, workaholism is likely to have adverse impact on employees' well-being as for sleep.

11.4.4 Matsuoka (2013)

In addition to workaholism research on nurses and other broad range of occupations, there is research on workaholism among another helping occupation—teaching at school. On workaholism among school teachers, Matsuoka (2013) conducted a study in order to explore the associations of workaholism, job stressors, stress responses, and sickness presenteeism. This occupation can be one of the risky occupations in terms of mental health since the rate of sick leave due to mental illnesses was more than 60 % of all sick leaves, and the rate has been almost continually increasing since 1992. Questionnaires were distributed to 173 teachers working at three public high schools. 79 participants returned the questionnaires, and the

usable data was 62. Examination of the associations between job stressors (e.g., quantitative workload, interpersonal conflicts, person-job fit, etc.) and workaholism consisting of working hard and working compulsively, sickness presenteeism, stress responses (e.g., fatigue, anxiety, etc.) was conducted. Consequently, it was found that quantitative workload was associated to working compulsively. Besides, working compulsively had positive associations with irritation and sickness presenteeism (i.e., the phenomenon that people, despite complaints and ill-health that should prompt them to rest and take sick leave, go to work in any case: Aronsson and Gustafsson 2005, p. 958). Because workaholic employees are likely to present ill-health, people working compulsively might go to work even though they felt they should take a day off work because of their feeling sick. They might not be able to judge adequately when they should take day off from work since they are already in ill-health in daily lives. Thus, workaholism might lead workers to sickness presenteeism. In addition, workaholic individuals tend to decide to quit job in a day on the basis of their judgment of their work is enough to quit, not of their tiredness. This might have explained that workaholics were inclined to feel irritation.

11.4.5 Shimazu et al. (2011)

Shimazu and his colleagues tried to clarify how workaholism impact on one's and one partner's well-being among 994 Japanese dual earner couples (Shimazu et al. 2011). On the basis of matched responses from each member of couples, they revealed that workaholic individuals tended to experience more work-to-family conflict and psychological distress than relaxed counterparts. Since workaholics are inclined to work longer and persistently and frequently think about work even when they are not working, this situation may consume the employees' energy for family lives both in quantity and quality. Thus, workaholics may tend to suffer from more work-to-family conflict than non-workaholic employees. In addition, coping may have associations with this result. Workaholic individuals are likely to express negative feelings to other people, because their aim of working hard in a compulsive manner is avoiding negative feelings. However, by workaholic people's expressing negative feelings, their family may be tired, and as a result, the family of workaholics may lessen support for their partners.

On the other hand, workaholism has adverse effects on family-work conflict and psychological distress among employees' partners as well. Workaholics tend to take work home and think about work at home for much time at home. This may be likely to increase the partners' responsibilities for housework and childcare. This may lead the partners to family-to-work conflict. However, there are gender differences. The husbands whose wives were workaholic were likely to experience more family-to-work conflict than the husbands whose wives were not workaholic. This finding might have resulted from that wives whose husbands were workaholic adopted the idea of men's having to be breadwinners, and therefore to work long. As a result, these wives had no adverse impact by their husbands' workaholism. On the contrary, since husbands whose wives were not likely to have such an idea that wives of whose husbands were workaholics, they may have been

adversely affected by their partners' workaholism. Besides, these differences in workaholism's impact on partners may have derived from gender differences in coping. Women tend to express verbally their negative feelings as coping against stressors (Tamres et al. 2002), while men are not likely to do so. Based on this, the probability of men whose female partners are workaholic may be exposed to more negative verbal expressions at home than male workers whose wives are not workaholic. In conclusion, workaholism may have adverse effect on workaholics' partners' well-being.

In sum, workaholism had positive associations between job stress, nondelegation, health complaints, ill-health, sleep problems, irritation, sickness presenteeism, work-to-family conflict, and psychological distress on the one hand, and negative associations with job and family satisfaction on the other hand in terms of well-being among employees themselves. As for well-being among employees' partners, workaholism was positively associated with family-to-work conflict and psychological distress.

Cultural Characteristics in Workaholism Among Japanese Employees

Although this is somewhat deviate from the theme of this section, understanding cultural characteristics is likely to be important when comparing the discrepancy between employees in Japan and ones in the other countries as for workaholism.

In the research of creating the Japanese version of Workaholism Scales, some differences between Japanese and American employees were found (Kanai et al. 1996). The questionnaires were distributed to 1,225 employees in 10 private corporations in Japan. The usable answers were 1,072. Cultural gaps were found. Driven, which is characterized by feeling "driven or compelled to work by inner pressures" according to Spence and Robins (1992), and Enjoyment of work, which is measured by items such as "My job is so interesting that it often doesn't seem like work (Kanai et al. 1996)" were correlated among Japanese male employees although ones among the U.S. counterparts were not correlated. This discrepancy might be explained by that highly valued working hard in Japan had escalated for the time of economic growth until 1991, and in such a circumstance, the state of being driven to work but enjoy work might have increased. Driven to work while enjoying work might a state of adjustment for Japanese male employees in a collective Japanese corporate culture. Japanese employees are likely to work long for not only financial demands, for instance, demands imposed by their employers in order to survive increasing competitive situations, but also socio-economic reasons (Snir and Harpaz 2006). Komai (1989) asserted that for Japanese workers working itself is an aim and a thing defines each individual him or herself. Moreover, according to Hebrigg and Palumbo (1994), how long employees exist at their workplaces is inclined to be regarded as an evidence for the individual's loyalty for the organisation, which often lead to minimizing the attention to job performance and productivity.

11.5 Challenges, Future Directions, and Conclusion

In this chapter, the impacts of workaholism on both employees themselves and their partners were clarified. We can conclude that workaholism results in adverse health, lower job and family satisfaction, and poor performance. In addition, it leads to one's own and one partner's poor work-family balance.

11.5.1 *Challenges and Future Directions*

There are several suggestions as for future studies. First, future research should examine long-term effects of workaholism. Cross-sectional studies have not clarified the causal relationships between workaholic tendencies and associated adverse health, low job and life satisfaction, and poor performance. For example, however, quantitative workloads may lead employees to workaholism. However, a workaholic's tendency to make their work more complicate may lead to the increase of workloads. Cross-sectional research cannot clarify this causal relationship.

Second, the outcomes in previous research need to be examined with objective indicators (e.g., blood pressure, objective performance, sleep indices). Through this kind of research, the connection between workaholism and objective health will be revealed. According to McMillan et al. (2001), type A personality, a similar concept to workaholism, influence the fight-or-flight response. Resistance to central catecholamine depletion, increased peripheral catecholamine availability, increased beta-receptor sensitivity, and suppression of cortisol responses are led by the fight-or-flight response (Richard 1989; Weiss et al. 1975). If workaholic employees accompany fight-or-flight response, as individuals with type A personality do, such physiological responses may be observed.

Third, future research should develop intervention programs to decrease workaholism. In previous studies, there are some trainings for workaholic employees to benefit from. Van Wijhe et al. (2010) clarified that among workaholic people, taking more work than they can manage and undertaking further work although they still have uncompleted tasks are pervasive. Therefore, in order to improve this situation, training programs for employees at the high risk of workaholics should contain prioritization, time management, and problem solving skills (Van Wijhe et al. 2010). In addition, to solve perfectionism and improve support-seeking behaviour. The tendency and lack of the behaviour have been often observed among workaholics. Thus, they are likely to benefit from Rational Emotive Behavioral Therapy (REBT; Ellis 1993, 2000), in which they challenge their own irrational belief and from social skills training. Also, because a coping strategy which workaholics tend to use is emotional discharge under the stressful situations (Shimazu et al. 2010), a training targeting regulating negative emotion will be beneficial for workaholic participants (Schabracq 2005).

11.5.2 Conclusion

In conclusion, workaholism has harmful impact on Japanese employees engaging in various occupations. Furthermore, this adverse effect of workaholism prevails on workaholic employees' partners as well. The improvement of workaholism may lead workers and their families to better well-being in the future. Further research is expected to achieve this challenging task.

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Chapter 12

Mental Health of the Unemployed in Japan

Miho Takahashi and Anthony H. Winefield

12.1 Introduction

The impact of unemployment is a complex issue because people experience multiple difficulties in multiple spheres—financial, social and psychological. Studies of unemployment have been done worldwide since the 1930s. Many of these studies found that unemployment negatively influences mental health (McKee-Ryan et al. 2005; Paul and Moser 2009). Previous studies indicate that factors affecting an unemployed person's mental health include age, sex (Jackson and Warr 1984), educational background (Kaufman 1982), and economic hardship (Broman et al. 1990; Kessler et al. 1987). Other studies stressed the importance of factors such as previous unemployment experiences (Jackson and Warr 1984), social support (Gore 1987) and the relationship with the family (Liem and Liem 1990). See Winefield (1995) for a comprehensive review. These factors have been supported by research in various countries.

These results suggest that unemployment has universal effects, but it is also important to take into consideration social and cultural differences. This means the impact of unemployment will also depend on culture and country, as each has its own particular character and values. Studies of unemployment used to be conducted primarily in western countries such as the United States and the United Kingdom. Studies accumulated, but over the years unemployment has become a problem common to many countries. Unemployment research has begun to be conducted in many countries, and these studies are contributing to the resolution of local difficulties characteristic to their regions which could not be explained through a

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universal theory. Studies focusing on the local characteristics of unemployment will be significant to understanding and solving the problems of a specific area.

What is the cause of dissimilarity in unemployment situations? Variations must be due to local differences in social welfare and social policy, as well as the overall unemployment rate of each country. Additionally, beliefs about the value of work might also differ from place to place. Therefore, in the future it will be important to conduct studies concerning the cultural and social background of the unemployed to understand the unique experience and the psychological impact of unemployment in each country.

In the late 1990's, Japan began to experience a rapid rise in unemployment rate which created a variety of problems for Japanese society. Solutions to these problems were desperately needed, but studies from the perspective of clinical psychology were lacking. While unemployment is universally troublesome, there exist some aspects of the issue particular to Japan. These differences should be taken into consideration when creating treatment and public policy.

12.2 The Unemployment Problem in the Asia Pacific Region – Focusing on Japan

12.2.1 Looking Back on the Historical Progression of Unemployment in Japan

Japan kept a low rate of unemployment until the early 1990s—around 2.0 %. This low figure is most likely related to the unique employment culture and personnel management style apparent in the days of high economic growth which lasted from the 1950s until the 1970s. American economist Abegglen and Stalk (1985) named three “sacred treasures” in Japanese-style business management: lifetime employment, the seniority system and labor unions inside the company. In particular, the lifetime employment system gave employees a psychological commitment to the company. Employees believed they were in a stable relationship with their company and that they could stay with a single employer until their retirement.

However, with the burst of the bubble economy in the early 1990s and the subsequent decline of the economic situation, Japanese companies were forced to begin a process of *ristra*—from the English term “restructuring”—in the late 1990s which significantly altered the “sacred treasures” of Japanese company life. Accordingly, the rate of unemployment rose to over 5.0 %. It declined briefly once because of an expansion in the employment of non-regular workers, but rose again due to the Lehman Shock in 2008 (Ministry of Public Management, Home Affairs, Posts and Telecommunications 2013, Fig. 12.1).

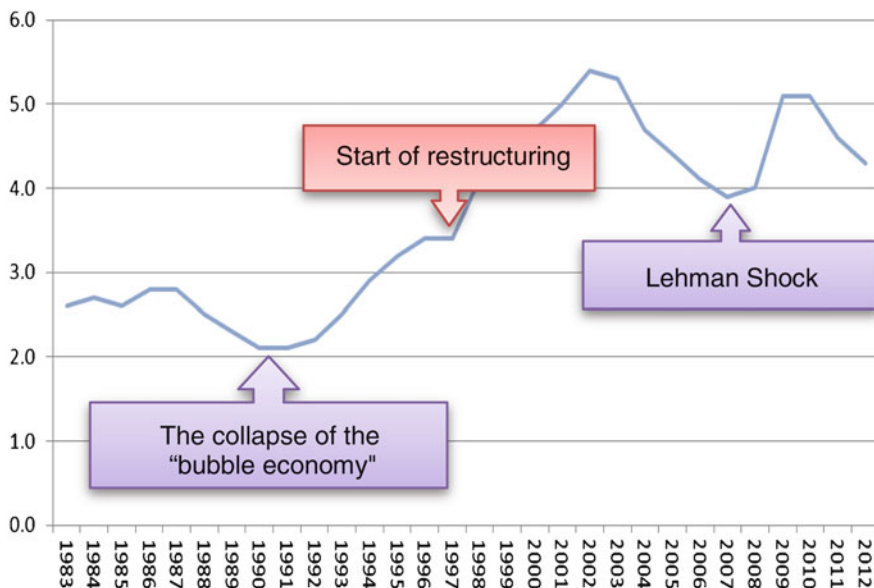


Fig. 12.1 Unemployment rate in Japan (%)

12.2.2 Characteristics of the Japanese Unemployment Problem

As with other countries, young people suffer the highest rate of unemployment in Japan. One must keep in mind that there are two types of unemployment—voluntary and involuntary. Usually an increase in involuntary unemployment corresponds to economic depression. Involuntary unemployment includes those who leave their company reluctantly due to *ristra* of the company. When we focused on involuntary unemployment, we found the number of the involuntarily unemployed is highest among middle-aged people, especially men. Figure 12.2 suggests that the generation most affected by *ristra* is people between the ages of 55–64, followed by 35–44-year olds, then the 45–54 age group (Ministry of Public Management, Home Affairs, Posts and Telecommunications 2013). This demonstrates that the main victims of *ristra* were middle-aged persons.

Previous studies in other countries have suggested a relationship between unemployment and suicide (Platt 1984; Reeves et al. 2012). In 2009—the year after the Lehman shock—1,071 suicides (3.2 % of all suicides) were attributed to unemployment, a 70 % increase over the previous year (National Police Agency 2010). These figures indicate that the economic depression has had a major influence on unemployment-related suicide.

While overall Japan has kept a low level of unemployment compared to other countries, the Japanese suicide rate is quite high compared to other nations (Fig. 12.3). Another piece of statistical data unique to Japan is that the highest

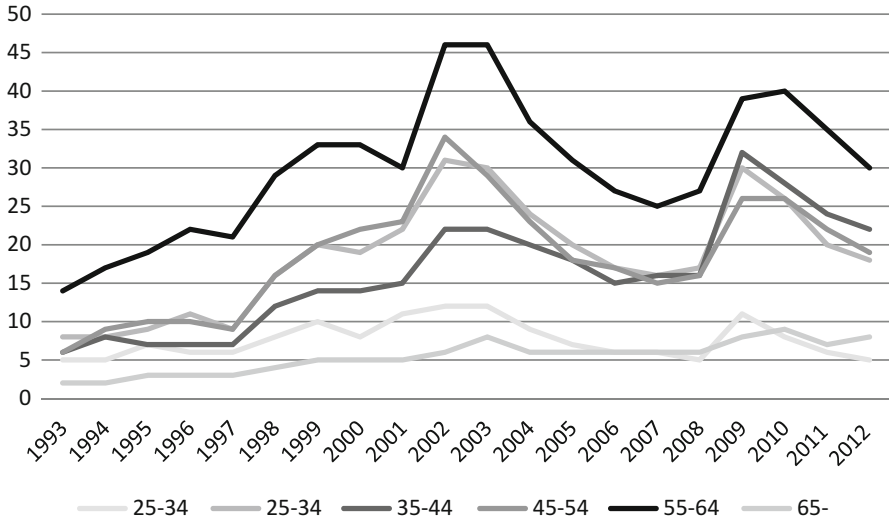


Fig. 12.2 Involuntary unemployment numbers by age (10,000 persons)

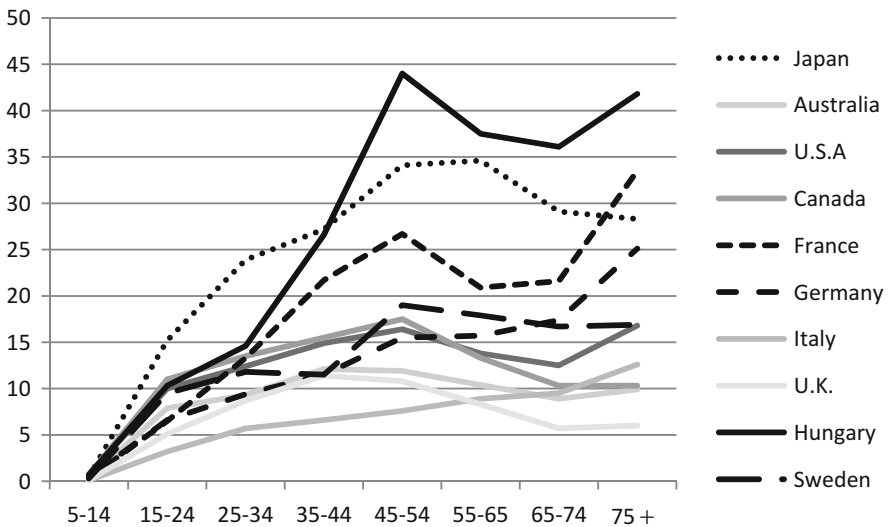


Fig. 12.3 Global comparison of suicide rate (% of 10,000 persons) (WHO 2011)

suicide rate in the country is suffered by middle-aged men. This is possibly related to the fact that the main target of *ristra* was middle-aged men, as indicated above. It is possible to infer that unemployment has an especially severe impact on middle-aged Japanese men. A similar finding was reported in Australia by Broomhall and Winefield (1990).

12.2.3 Support System for the Unemployed in Japan

Official government support for the unemployed consists of various services offered to affected persons. The government supplies information online about life during unemployment, including details about the unemployment insurance system, taxes, etc. (Employment Security Bureau, Ministry of Health, Labour and Welfare 2013; https://www.hellowork.go.jp/member/unemp_guide.html). The Public Employment Security Office (called Hello Work) provides assistance regarding job-seeking, vocational training and unemployment insurance. In cases of discord between the unemployed person and the former employer, the government also provides problem-solving services.

Within the official government support system, mental health support receives just two slight mentions. The government's website recommends consulting with professionals at prefectural health centers. The other option is counseling, offered free of charge by telephone from Rosai Hospital which is managed by the Japan Labour Health and Welfare Organisation. There used to be no mental health care specifically for the unemployed or job-seekers, but recently professional mental health counseling is available at about 30 Hello Work locations.

12.3 Relevant Theoretical Frameworks to Understand Unemployment in Previous Studies

Some theories particular to the study of unemployment were developed in the research presented above. Two representative theories will be taken up here. One concerns "stage models", which describe the psychological progression of the unemployment experience; the other is the Latent Functions Model of Jahoda (1982).

12.3.1 Stage Models

Stage models are a systematic approach to understanding chronological change during unemployment and have been in use in various forms since the 1930s (Fryer and Payne 1986). Some stage models focus on defining the changing reactions to stress during unemployment. After reviewing 112 unemployment studies from the 1930s, Eisenberg and Lazarsfeld (1938) found common tendencies among study participants. "First there is shock, which is followed by an active hunt for a job, during which the individual is still optimistic and unresigned; he still maintains an unbroken attitude. Second, when all efforts fail, the individual becomes pessimistic, anxious, and suffers active distress; this is the most crucial state of all. And third, the individual becomes fatalistic and adapts himself to his new state but with a narrower scope. He now has a broken attitude".

Many other stage models were developed in the following decades (e.g., Hill 1978; Jackson and Warr 1984; Schlossberg and Leibowitz 1980). Winefield and Tiggemann (1990a) called such a change in mental health during unemployment the “curvilinear hypothesis” and cited several supporting studies. Their results revealed that mental health was worst nine months after leaving the company. Winefield and Tiggemann (1990b) carried out follow-up investigations at 2 and 3 years later to examine the effects of prolonged unemployment on mental health. They reported that the aggravation of mental health problems which was not seen after 2 years of unemployment was apparent after 3 years.

However, some researchers have pointed out methodological and theoretical problems in stage models (Fineman 1983; Fryer and Payne 1986). There is the indication this stage model cannot be completely effective as an explanatory framework due to the complexity of the unemployment experience (Ezzy 1993).

12.3.2 Latent Functions Model

One of the greatest contributions to unemployment studies is the Latent Functions Model, a potential function model proposed by Jahoda (1982). This theory explained the impact of unemployment based on a functional understanding of work, distinguishing between the overt function (which a person consciously pursues) and latent functions (which benefit a person regardless of their planning or awareness). The overt function of work is the economic benefit of employment. Jahoda (1981) describes the potential functions as follows: “First, employment imposes a time structure on the waking day; second, employment implies regularly shared experiences and contacts with others outside the nuclear family; third, employment links to goals and purposes that transcend their own; fourth, employment defines aspects of personal status and identity; and finally, employment enforces activity”.

Jahoda’s model received criticism from Fryer and Payne (1986), who said the Latent Functions Model paid attention to the *deprivation* of the function of work and therefore would more properly be considered a deprivation theory. Jahoda’s Latent Functions Model seems to overlook the negative aspects of employment, such as the stress that comes with working. Fryer (1986) instead proposed an Agency Restriction Model that paid attention to the independent agency of the unemployed person. In his model, Fryer insisted that stress increases with unemployment because the overt economic profit of regular income is not provided. Many unemployment studies support this conclusion by showing that financial strain is a significant factor in the mental health of the unemployed person (Feather 1990).

Comparing both theories, Jahoda assumed a sociologically objective viewpoint in which human being are passively affected by a social system and other external pressures. In contrast, Fryer’s model emphasized the independence and free will of the unemployed person from a perspective of psychological subjectivity. The root cause of the argument about these theories is found in the difference between points

of emphasis, rather than fundamental disagreements. Therefore, recent mental health scholarship that addresses unemployment seeks to unify both Jahoda's and Fryer's theories (Creed and Macintyre 2001). Empirical studies concerning the latent and overt function of work have been conducted in various forms, most notably the LAMB (Latent and Manifest Benefits) scale developed by Muller et al. (2005). The LAMB scale measures both latent and overt functions at the same time. It has been used in thirteen studies so far, involving a total of 5,692 participants in Australia and Germany (Muller and Waters 2012).

The LAMB scale is used in these studies as both a dependent variable and also as an explanation for mental health, uneasiness and quality of life. In a study that used the LAMB scale as a dependent variable, it was revealed that the overt function—that is, financial strain—could be an influential factor in mental health (Hassall et al. 2004). Another study suggested the influence of various potential functions such as social contact, time structure and collective purpose (Creed and Bartrum 2008; Paul and Batinic 2010). Most studies have generally suggested the influence of time structure, social contact and financial strain on mental health (Hoare and Machin 2010; Muller et al. 2004).

12.4 Studies

As mentioned above, although the rate of unemployment in Japan has rose rapidly from the end of the 1990's, mental health support for the unemployed is insufficient, and little research has been done regarding unemployment from the perspective of clinical psychology. Further study is needed to understand the experience of unemployment particular to Japanese society. Since the late 1990s, the first author has made a series of studies on this topic, some of which are described below. The first study focuses on the progression of the unemployment experience, developing a stage theory to accord with unemployment characteristics specific to Japan. The second study focuses on mental health and its influencing factors using the LAMB theory.

12.4.1 *Study 1: Qualitative Research – Characteristics of the Experience and Impact of Unemployment*

12.4.1.1 Purpose

More surveys of the unemployed in Japan are needed to understand their experience and perspective, so a qualitative research study was conducted to discover the progression of their experience during unemployment. This study focused on middle-aged men, because this age group probably suffers more stress during unemployment than other generations, as we overviewed above.

Table 12.1 Demographic data on informants

| Analysis steps | Number of data | Info. | Age (Ave 58.9) | Reason to leave | The length of time since losing job (Ave 4.7) | Present situation |
|----------------|----------------|-----------------------------|----------------|------------------|---|-------------------|
| Step 1 | 3 | Info.1 | 50s | Bankruptcy | 6 years | Part time |
| 1-1 | | Info.2 | 60s | Bankruptcy | 6 years | Part time |
| | | Info.3 | 60s | Bankruptcy | 6 years | Part time |
| 1-2 | 5 | Info.4 | 60s | Early retirement | 6 years | Part time |
| | | Info.5 | 50s | Early retirement | 4 years | Contract worker |
| 1-3 | 8 | Info.6 | 60s | Voluntary | 6 years | Full time |
| | | Info.7 | 50s | Voluntary | 2 years | Part time |
| | | Info.8 | 50s | Cut section | 2 years | Part time |
| 1-4 | 10 | Info.9 | 50s | Discharge | 3 years | Full time |
| | | Info.10 | 60s | Discharge | 6 years | Part time |
| Step 2 | 20 | Info.1-Info.10 | | | | |
| Step 3 | 26 | Group interview (6 persons) | | | | |

12.4.1.2 Method

A qualitative study was conducted from August 2005 to May 2006 using the Modified Grounded Theory approach (M-GTA). Details of the study participants are shown in Table 12.1. All had experienced leaving the company involuntarily, regardless of the manifest reason. Participants were recruited at the NPO group which provide social support for the unemployed. All of them were men with an average age of 58.9 years (51–64) at the time of the interview, an average age of 54.4 years (48–58) when leaving the company, and an average length of 4.7 years since losing prominent job.

The researcher interviewed them about their experience from the time of employment to the present. As a first step, we conducted semi-structured interviews with ten individuals. Next, we re-interviewed the same informants. Lastly, we conducted a group interview with six of them. The researcher analysed all 26 data focusing on the process of loss of connection with the company and society. First, concepts which represent interview contents significant to the analysis theme were produced. Then similar concepts were gathered into general categories, and the relationship between the categories was examined.

12.4.1.3 Results

We found five apparent stages from the time of employment at the previous company to eventual reemployment or another lifestyle alternative (Fig. 12.4). Each stage is explained below with reference to the examples in Table 12.2.

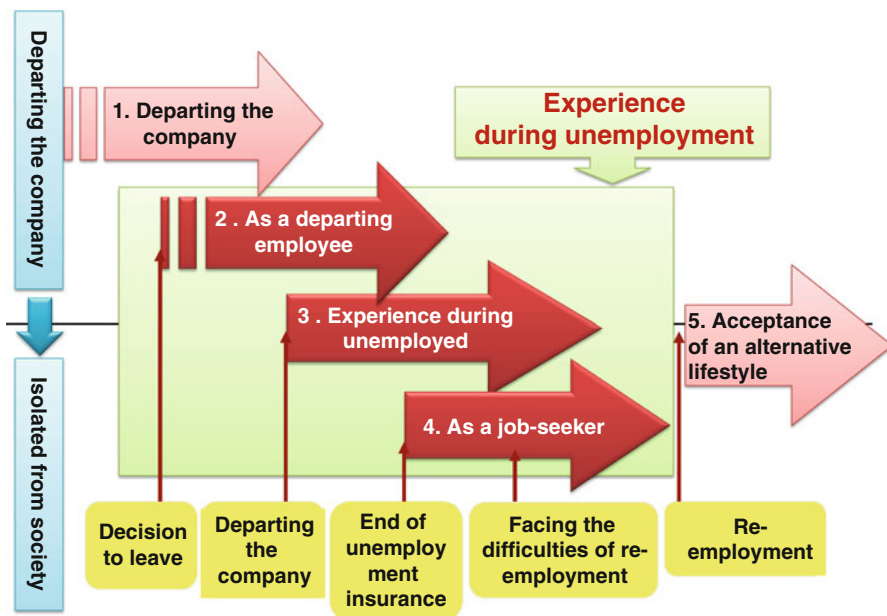


Fig. 12.4 Progression model of the unemployed's experience

【Stage1】 Departing the company

Most employees enter a company as a matter of course, assuming lifetime employment. They become deeply attached to the family-like atmosphere and devote their whole life to their work. This leads to feelings of deep trust and attachment to the company.

【Stage2】 As a departing employee

When forced to leave the company as part of *ristra*, some departing employees remain attached to the company, even though they feel betrayal at having been dismissed. This leads to ambivalence about how to view the company.

【Stage3】 Experience during unemployed

Beginning a new life outside the company, the unemployed person begins to feel isolated, which sometimes leads to feeling discarded by society. Others feel guilty for not working.

【Stage4】 As a job-seeker

The task of job-seeking leads many to an abrupt realization of the severity of the labor market. Job-seekers experience failure at obtaining a new position and realize they lack the skills necessary for effective job-seeking. Emotionally, some hold fast to the pride of their former position, but their work experience at the previous company is not effective to re-employment.

【Stage5】 Accepting of an alternative lifestyle

As the period of unemployment grows longer, people come to the realization that they have a connection not only to the company, but also to society as a whole. They begin to accept the situation and redesign their life to fit the present context, connecting to society in ways different from the previous style.

Table 12.2 Examples of each stage

| Stage | Concept | Examples |
|---|--------------------------------------|---|
| 【Stage 1】 Departing the company | Commitment to work or company | “I had been working hard, you know, like a company soldier.” “We, the company men, carry the company’s billboard on our backs.” |
| | Trust in the company | “We had taken it for granted we would be able to work at the company for our whole work-life. We looked down on homeless people and shouted, ‘What are you doing? Work hard!!’.” |
| 【Stage 2】 As a departing employee | Maintaining feelings of attachment | “When the company went bankrupt, I protected the billboard from liquidation. . . I really have more loyalty to the company than any other person.” |
| | Feeling betrayed by the company | “We must have contributed to the company, but they told us that our role had finished. I was really resentful of the fact that people who had been working so hard for the company should be dealt with in such a cruel way.” |
| 【Stage 3】 Experience during unemployed | Isolation | “Once we leave the company, we become individuals . . . so I don’t know where to ask for advice. Then I kept my worries to myself and became depressed.” |
| | Guilt | “I became ashamed of myself. Unlike in western countries, we Japanese are not individualists.” |
| 【Stage 4】 As a Job-seeker | Pride in the past | “I spoke about my ‘golden age’ of work to the job interviewer because I was really proud of those days. But I was rejected by the job interviewer, who said, ‘You are not the right type of person to work with us.’.” |
| | Lack of skills | “Once we leave the company, the skills which had been useful are no longer effective.” |
| 【Stage 5】 Accepting of an alternative lifestyle | Resignation to the current situation | “I used to wonder what I should do from now on. My situation was settled when I realized how to proceed. Though there were many alternatives, I was sure of my choice.” |
| | Connection to society | “The experience of unemployment led me to think about the meanings of hobbies, volunteering, work and family have for me. I was awakened to the fact that all these activities should balance each other in life.” |

12.4.1.4 Discussion

Through this study, we found five distinct stages in the progression of the experience of unemployment. Each stage has its own difficulties, but people do not progress seamlessly from one stage to the next. Problems experienced in one stage do not disappear as a person moves on to the next stage, but instead form layers so that an unemployed person might experience multiple difficulties at the same time.

We found the unemployed have multiple experiences of loss that gradually appear after being dismissed from their job. Before *ristra*, they feel a warm

connection with their company, and through the company with society. After *ristra*, they experience a series of losses as follows: (1) loss of emotional connection and support from the company at *ristra*, (2) loss of physical connection to the company at the termination of employment, (3) loss of an economic connection to society with the end of governmental financial support, and (4) loss of psychological connection with society as they fail to find a new job that fits their skills and previous work experience.

The aggregate effect of these losses is the experience of disconnection not only from the company, but from society as a whole. It shows that by acting as a type of community, the company has a special and significant meaning for Japanese employees. This also suggests that attachment to the former company, loss of the office community and social stigma strongly influence psychological impact. Such a series of difficulties and loss experiences during unemployment may lead to mental health problems.

The sense of being isolated from the community or discarded by society results in feelings of shame and guilt. The unemployed feel shame upon realizing their loss of positive social standing and guilt as they cannot live up to the societal imperative to work. Some unemployed people avoid contact with others due to these feelings and seclude themselves at home. This reaction strengthens the feelings of shame and guilt, adversely affecting mental health. Such feelings have been discussed outside of Japan in the context of social stigma, and it has been suggested that stigma affects the mental health and daily activity of the unemployed person. Benedict (1954) pointed out the strong existence of the shame characteristic in Japan, and Inoue (1977) suggested that Japanese people tend to be more conscious of public appearance and anxious about social perception. Additionally, work is highly valued in Japanese culture, to the extent that employment is considered a virtue and sign of respectability. This undoubtedly leads to a negative perception of the unemployed. Therefore, it is especially important to take social stigma into consideration when surveying the unemployed within the Japanese cultural context.

12.4.2 Study 2: Quantitative Research – Mental Health Issues of the Unemployed in Japan

This section presents a study conducted to understand the mental health of the unemployed using quantitative data.

12.4.2.1 Purpose

Many studies have been conducted worldwide on the effects of unemployment on mental health. A few of these studies focusing on mental health among the unemployed were initiated in Japan (e.g. Hisata and Takahashi 2003; Ishitake et al. 2000), and most revealed the negative effects of unemployment on mental

health. However, these data needed to be comparing data from employed people. Additionally, the data remained insufficient because no study had focused on the loss of the functions of work as described by the LAMB scale.

Accordingly, a study was designed to examine the actual mental health situation of unemployed people compared with that of employed people. Stigma was also included as an influencing factor, which was pointed out in Study 1 above. As to stigmatization of the unemployed, some researchers suggested the existence of an unemployed stigma (Goffman 1963), and a few empirical surveys have been conducted (Blau et al. 2013). In Japan, we had already developed a reliable scale through qualitative and quantitative surveys of university students, employed persons and unemployed persons. This allowed us to grasp the situation of stigma in the unemployed and employed, and to examine its effects on their mental health.

12.4.2.2 Method

This research was conducted through an online survey distributed by an internet survey company. Registered research monitors were contacted through e-mail and asked for their participation in this survey. The participants numbered as follows: 573 workers (299 men, 274 women; mean age = 44.76 years, $SD = 13.44$) and 623 unemployed persons (311 men, 312 women; mean age = 42.80 years, $SD = 15.25$).

Concerning the reason for leaving the company, 342 left voluntarily (54.9 %) and 281 left involuntarily (45.1 %). Prior experiences of unemployment were: first experience of unemployment—173 people (27.8 %), second—141 people (22.6 %), third—81 people (13.0 %), fourth—21 people (3.4 %), five or more experiences of unemployment—33 people (5.3 %), unidentified—146 people (23.4 %). Unemployment periods were: less than one month—47 people (7.5 %), 2–3 months—57 people (9.1 %), 4–6 months—61 people (9.8 %), 7–9 months—32 people (5.1 %), 10–12 months—66 people (10.6 %), 13–18 months—45 people (7.2 %), 19–24 months—33 people (5.3 %), over 25 months—282 people (45.3 %).

Three measures were used in this study. The first was the “Mental Health Questionnaire” developed by Niiro and Mori (2001) based on the General Health Questionnaire (Goldberg 1972) and used to measure a person’s mental health situation. This scale consists of a total of twelve items divided evenly between two scales: ‘anxiety/depression’ and ‘disturbance of activity’. Examples of anxiety/depression items were “Have you felt down or depressed?”, and “Have you felt happier than usual?”, those examples of the disturbance of activity items were “Have you been enjoying your everyday life more than usual?”, and “Have you felt that what you are doing for your purpose in life is more than normal?”. Responses were scored on a Likert-type scale from one to four, with four indicating the highest degree of mental illness. The possible range of scores was 0–24 for each subscale. The score therefore suggests the extent of ill mental health.

The second measure was a Japanese version of the LAMB scale (LAMB-J), based on the LAMB scale developed by Muller et al. (2005). This scale includes six factors; time constitution, collective purpose, social contact, social approval,

activity and economical poverty; each of which consisted of six items. The original scale was translated into Japanese, confirmed by back translation, and finally also confirmed by the original developer. Responses were scored on a Likert-type scale from one to six. The original LAMB standard comprises six factors similar to those above, but it was not clear whether a Japanese edition should even be divided into such similar factors. Therefore a confirmatory factor analysis was conducted using the data of this study to make a Japanese edition of the LAMB standard (LAMB-J).

A scale to rank stigmatization towards the unemployed was developed by Takahashi et al. (2012). This scale consists of four factors and twenty-two items: subscale 1—“stigma regarding overall value” (9 items; $\alpha = 0.86$), subscale 2—“stigma regarding ability and motivation” (6 items; $\alpha = 0.82$), subscale 3—“stigma regarding mental illness” (4 items; $\alpha = 0.87$) and Subscales 4—“stigma regarding attitude toward life” (3 items; $\alpha = 0.77$). The reliability of each subscale was confirmed to be sufficient. In this study, “stigma regarding overall value” was adopted as the stigma measure. Responses were scored on a Likert-type scale from one to four.

In addition, demographic data were included as follows; age, number of experiences of unemployment, unemployment period and the reason for leaving previous employer.

12.4.2.3 Results 1 The Actual Mental Health Situation According to Variables of the Unemployed

The means, standard deviations and α coefficients for all scales are shown in Table 12.3. A t-test was conducted to examine the differences between the unemployed and employed concerning all variables. As a result, significant differences were confirmed in all variables (time structure: $t(1,194) = 16.31, p < .01, d = .93$, social contact: $t(1,194) = 15.73, p < .01, d = .91$, collective purpose: $t(1,194) = 15.93, p < .01, d = .92$, activity: $t(1,194) = 10.28, p < .01, d = .59$, status: $t(1,194) = 10.15, p < .01, d = .59$, financial strain: $t(1,194) = 13.72, p < .01, d = .80$; stigmatization towards the unemployed person: $t(1,194) = 8.38, p < .01, d = .53$, anxiety and depression: $t(1,194) = 44.91, p < .01, d = .53$, disturbance of activity: $t(1,194) = 23.62, p < .01, d = .39$). Additionally, Cohen's d , indicated large effects (.80–.93) for time structure, social contact, collective purpose and financial strain; moderate effects (.53–.59) for activity, status, stigmatization towards the unemployed, and anxiety and depression, and a small effect (.39) for disturbance of activity.

12.4.2.4 Results 2 Influencing Factors on the Mental Health of the Unemployed Person

A multiple regression analysis was conducted using anxiety and depression and disturbance of activity as dependent variables to examine influencing factors on the

Table 12.3 Comparison of mental health in the unemployed and the employed

| | | | α | N | M | SD | t value | | d |
|---------------|---------------------------------------|------------|----------|-----|-------|------|---------|-----|------|
| Mental health | Anxiety/depression | Employed | 0.89 | 573 | 13.51 | 3.95 | 44.91 | *** | 0.53 |
| | | Unemployed | 0.90 | 623 | 15.70 | 4.28 | | | |
| | Disturbance of activity | Employed | 0.82 | 573 | 12.74 | 2.77 | 23.62 | *** | 0.39 |
| | | Unemployed | 0.88 | 623 | 14.00 | 3.66 | | | |
| LAMB-J | Time structure | Employed | 0.8 | 573 | 3.88 | 0.84 | 16.31 | *** | 0.93 |
| | | Unemployed | 0.85 | 623 | 3.02 | 0.99 | | | |
| | Social contact | Employed | 0.93 | 573 | 3.97 | 1.19 | 15.73 | *** | 0.91 |
| | | Unemployed | 0.95 | 623 | 2.86 | 1.25 | | | |
| | Collective purpose | Employed | 0.95 | 573 | 3.90 | 1.15 | 15.93 | *** | 0.92 |
| | | Unemployed | 0.95 | 623 | 2.83 | 1.18 | | | |
| | Activity | Employed | 0.9 | 573 | 4.19 | 0.93 | 10.23 | *** | 0.59 |
| | | Unemployed | 0.9 | 623 | 3.61 | 1.04 | | | |
| | Status | Employed | 0.93 | 573 | 4.24 | 0.91 | 10.15 | *** | 0.59 |
| | | Unemployed | 0.93 | 623 | 3.64 | 1.10 | | | |
| | Financial strain | Employed | 0.91 | 573 | 3.69 | 1.02 | 13.72 | *** | 0.80 |
| | | Unemployed | 0.93 | 623 | 4.54 | 1.11 | | | |
| Stigma | Stigmatization towards the unemployed | Employed | 0.91 | 573 | 18.61 | 5.35 | 8.38 | *** | 0.53 |
| | | Unemployed | 0.93 | 623 | 21.45 | 6.35 | | | |

*** $p < .001$

mental health of the unemployed person. In this analysis, collective purpose, activity, status and financial strain from LAMB-J, plus stigmatization were used as independent variables because they showed relatively high correlation with mental health in Pearson's coefficient of correlation. Reason for leaving was used as an independent factor because it was proven to be an important factor for mental health in research overseas (Fineman 1983). Results are shown in Table 12.4. As for anxiety and depression, Adjusted R^2 was 0.31 ($p < .001$). Financial strain ($\beta = 0.29, p < .001$) and stigma ($\beta = 0.17, p < .001$) signified a positive standard partial regression coefficient, and activity ($\beta = -0.35, p < .001$) signified a negative standard partial regression coefficient. For activity, the Adjusted R^2 was 0.29 ($p < .001$). Reason for leaving ($\beta = 0.08, p < .05$) and financial strain ($\beta = 0.30, p < .001$) signified a positive partial regression coefficient, and disturbance of activity ($\beta = -0.36, p < .001$) signified a negative partial regression coefficient.

12.4.2.5 Discussion

When comparing the unemployed with the employed concerning stigma and mental health, significant differences were found between the groups. Results demonstrate that the mental health of the unemployed was worse than that of the employed and that unemployed people showed stronger stigma towards the unemployed than people who are employed do. These results correspond to the findings of previous studies that indicated poorer mental health in unemployed persons.

Table 12.4 Multiple regression analysis with mental health as the dependent variable

| | Unemployed | | Employed | |
|--|------------------------|----------------------------|------------------------|----------------------------|
| | Anxiety/ depression | Disturbance of activity | Anxiety/ depression | Disturbance of activity |
| Collective purpose | 0.01 | -0.03 | -0.02 | -0.10 |
| Activity | -0.35 *** | -0.36 *** | -0.33 *** | -0.17 *** |
| Status | -0.05 | -0.04 | 0.03 | -0.12 * |
| Financial strain | 0.29 *** | 0.30 *** | 0.15 *** | 0.22 *** |
| Stigmatization towards the unemployed | 0.17 *** | 0.07 | 0.13 *** | 0.03 |
| Reason for leaving | 0.04 | 0.08 * | - | - |
| Adjusted R^2 | 0.31 *** | 0.29 *** | 0.18 *** | 0.19 *** |

*** $p < .001$; * $p < .05$

In this study, a Japanese version of the LAMB scale (Muller et al. 2005) was developed. A confirmatory factor analysis showed that LAMB-J had the same factor structure as the original version with a sufficient coefficient of reliability for each factor. Comparing the LAMB-J scores of the unemployed with employees, the unemployed had lower scores for “time structure”, “social contact”, “collective purpose”, “activity” and “status”, but higher scores for “financial strain” with an especially a big difference seen in “time structure”, “social contact”, “collective purpose” and “financial strain”. These results support previous findings in Australia and Germany, showing that job loss affects the unemployed in Japan and abroad similarly, depriving them of some of the function of work.

The study also suggests various aspects of the work/mental health relationship that are peculiar to Japan. Strong stigma and high financial strain, plus lower activity led to a worsening of anxiety and depression. In cases of involuntary leaving and high financial strain, low daily activity aggravated the overall level of disturbance of activity.

This study showed that the mental health of the unemployed is worse than that of the employed. The results also suggest that activity and financial strain are related to mental health (both to anxiety and depression and to disturbance of activity) not only for the unemployed but also for the employed. It means that activity and financial strain are factors significant to mental health, regardless of employment situation. Such factors might have a common, fundamental influence on all human beings, but in the case of the unemployed, these influences are stronger than on employed persons because the deprivation of the functions of working is greater.

Other differences included the reasons behind disturbance of activity, though activity and financial strain were common for both employment situations, status influenced the activity of employees, the reason for leaving influenced the activity of the unemployed. Status signifies the approval of society, and involuntary unemployment signifies social deviation. It could be suggested that societal approval has a strong impact on activity regardless of the employment situation. This is connected to the relationship of social perception and the Japanese experience of shame as discussed above.

To discover the influence of cultural characteristics specific to Japan more directly, the influence of social stigma towards the unemployed was also examined. Analysis showed that stigma had a significant influence on the level of anxiety and depression for each employment situation. However, stigma proved to be a more important influencing factor for the unemployed. Table 12.3 showed that the unemployed had a stronger tendency to stigmatize unemployment than did the employed. Such a self-stigma might represent another negative influencing factor for the unemployed. Furthermore, the unemployed experienced stigma as an additional negative effect of unemployment, whereas the other functions of work were regarded in terms of loss.

12.5 Challenges and Future Directions

Through our first study, we were able to develop a different type of stage theory which focuses on the change in one's position in society due to unemployment. In our model, each stage corresponded with a specific difficulty and loss in relation to a person's connection to society. Our second study suggested that stigma can be a significant factor in the severity of anxiety and depression in the unemployed.

These studies do not allow us to discuss the uniqueness of Japan's unemployment situation because we did not compare the Japanese experience with that of other countries. However we can explain the experience of Japanese people within a Japanese context. This section will therefore reflect on the influence of Japanese characteristics in various contexts, discuss the challenges these characteristics pose, and look at possible future directions.

12.5.1 Individualized Context

In the first study that focused on the experience of Japanese middle-aged men, we discovered the strong attachment Japanese employees have to their employer. It was originally observed as a deep commitment to the company. This commitment was based on a belief in the high stability of company life due to the former lifetime employment system. Most employees had formed a life plan based on the assumption of a fixed seniority system. Some felt the company was like a family. However in the experience of Japanese middle-aged men, psychological commitment also translated into long working hours. Such a working style led to a work-centered existence and devotion of one's whole life to the company. As a result, the unemployed felt as if they had lost their entire life upon leaving the company.

The experience of *ristra* has forced newly unemployed individuals into a fundamental re-examination of underlying values and ways of thinking. It has provided the individual with the opportunity to redesign a more flexible lifestyle that can adjust to changes in the company system and in society. Since the collapse of the bubble

economy, work life in Japan has continued to change rapidly. It is getting more and more difficult to find regular employment. The rate of non-regular workers in the labor market was 18.3 % in 1988, but increased to 35.2 % by 2012 (Ministry of Public Management, Home Affairs, Posts and Telecommunications 2013). Employment as a non-regular worker makes it more difficult for employees to form an attachment to their company. The employee/company relationship is changing accordingly. Maintaining a moderate psychological distance from the company will help employees who leave the company. To prevent mental health issues, independence from the company should be encouraged. Employed people should seek social associations outside their company so that job loss will not amount to a complete loss of community.

12.5.2 Social Context

Another thing to consider is the role of work as a traditional Japanese virtue. The traditional work ethic itself is not necessarily a problem because it also leads to industriousness, a positive characteristic that the Japanese take pride in. However, traditional ideas about the virtue of work also turn into disdain for non-working people, leading to stigmatization towards the unemployed. From the standpoint of the unemployed, loss of the virtue of work leads to a sense of shame. Japan's collectivistic way of thinking assumes all the people should contribute to society. Unemployment induces feelings of shame and guilt due to an uncontrollable deviance from the societal norm.

In spite of the intense stigma towards unemployment in Japan, it is possible stigmatization would decline if people better understood the situation of unemployment. Because the unemployment rate is currently increasing in Japan, the experience of unemployment is becoming more common: it is a personal possibility, not merely a problem for other people. Increased familiarity with alternative life experiences is also linked to the acceptance of diversity and minority populations in Japan. The dissemination of such knowledge might also be effective for a better relationship between employed and unemployed people. The unemployed need to understand their own experience from the perspective of social change and adjust their mind-sets and lifestyle to the present situations.

12.5.3 Family Contexts

Another area for consideration is the family context, especially when the unemployed person is the head of a household. Pressure from family members is one additional burden during unemployment. The traditional family model centers on family income. Until recently, it has been taken for granted that the father/husband should be the main earner of the family. Some married women work, but for most their job is peripheral. These days, the number of female workers is increasing,

so roles inside the family are also changing. If a family sticks to the traditional role without any adaptations, the unemployed father/husband feels a heavier burden during unemployment.

The modern Japanese family is supported by surrounding systems such as the local community and governmental organisations, as well as the company. The company system supports families by offering fringe benefits and stable upward mobility (with corresponding wage increases) through the seniority system. These advantages are beneficial not only to employees, but also to their family members. This support system makes the whole family dependent on the company, so the reach of unemployment is wider and its magnitude stronger. This is changing somewhat nowadays because the poor economic situation prevents companies from offering many fringe benefits and ensuring income increases.

12.5.4 Political Context

Families not only receive support from the company, but also from governmental systems. The Japanese government shapes the family via tax policy. By law, the head of household is the only bread-winner, so if another family member also earns a significant income, taxation increases accordingly. This discourages the spouse of the primary earner to work more than a token, part-time position. This could be a control strategy used by the government to exert its vision of the ideal family lifestyle. However, due to this taxation policy, if the householder should become unemployed, the entire family loses its principle means of livelihood.

Recently, the Japanese family unit has been changing. The percentage of people who never marry is increasing. Familial bonds can act as a support system in crisis, but sometimes the deep connection causes the whole family to fall apart when a single member experiences problems. Support for the unemployed is therefore better provided individually, rather than by a strategy that includes the family.

Other changes in Japanese society make it difficult for middle-aged men to find re-employment, as indicated above. The government's support system from the 1990s was ineffective then, and remains ineffective for this purpose. The government should shift from mainly offering information about unemployment to addressing the need for practical support in the unemployment insurance system, as well as re-employment support. The area of job training should be an area of special concern, since many of the newly unemployed realize they lack the up-to-date skills needed to find a job in contemporary society.

12.6 Conclusion

In this chapter, we overviewed Japan's unemployment problems in an area where research has only recently been conducted. The implications were the existence of culturally specific reasons that the unemployed face difficulties. An area of

particular importance is the strong effect stigmatization towards the unemployed has on the mental health of the jobless. We suggested that stigma originates in individual mind-sets, such as attachment to the company and the virtue of work. Some unemployed people become isolated from society because communal ties were only formed within the company. The company functioned as a community that gave employees the feeling of being accepted in society. Because of their deep attachment to the company and the resulting positive social identity, the unemployed felt as if they had been discarded psychologically after leaving their work life. We were able to understand this phenomenon in the light of Japanese social and cultural characteristics.

For a complete discussion about the uniqueness of the Japanese unemployment experience, in the future we will have to compare data from Japan with those from other countries. In the meantime, it is clear that further studies which focus on cultural and regional differences are necessary. Research should be conducted in Asian Pacific countries as well, not only in Europe and the United States.

From the standpoint of social context, the Japanese economic situation changed remarkably over the last 20 years. Because unemployment was unfamiliar to the Japanese before the 1990s, stigmatization towards the unemployed developed. As unemployment becomes more common in our society, the impact on joblessness on the unemployed will change accordingly. Some characteristics will endure into the future, but some might change over time. As these changes occur, the family system and governmental policies should adapt, providing appropriate support that fits the changing times. This will require future research.

Furthermore, present-day Japan has seen an increase the number of cases of job loss due to mental illness, as well as an increase in mental illness due to the shock of involuntary unemployment. Mental disorders are also associated with the strenuous working conditions of the company system. Mental disease represents yet another barrier to re-employment, so we need to develop techniques that companies themselves can use to prevent over-working and its subsequent psychological problems. Further studies focusing on the transition from company life to life outside the company will reveal how best to support unemployed people suffering mental illness.

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Part IV
Physical Health Risks at Work

Chapter 13

Using Evidence to Improve the Management Work-Related Musculoskeletal Disorders

Jodi Oakman

13.1 Introduction

13.1.1 Nature and Extent of the Problem

Work-related musculoskeletal disorders (WMSDs) are a diverse group of injuries and disorders which in a workplace context are sometimes referred to as repetitive strain injuries, cumulative trauma disorders, or occupational overuse syndrome (Australian Safety and Compensation Council 2006). Australia and most other OECD countries report WMSDs as the largest and most costly occupational health and safety (OHS) problem (Marras et al. 2009; Nelson et al. 2005; Safe Work Australia 2010).

It has been estimated that “37 percent of all back pain worldwide is attributable to work, resulting in an estimated 800,000 disability adjusted life years lost, a significant loss of time from work, at a high economic cost” (Nelson et al. 2005). In Australia, WMSDs are responsible for over 40 % of all compensation claims for serious work-related injuries or diseases (Safe Work Australia 2012), and a similar situation prevails in Europe (European Agency for Safety and Health at Work 2010).

High prevalence of WMSDs across Australia and similar countries continues despite the large body of research on work-related causes of WMSDs and significant efforts targeted at reducing their incidence. An extensive evidence base supports the importance of psychosocial and physical hazards in relation to the development of WMSDs (Bongers et al. 2006; Eatough et al. 2012; National Research Council 2001).

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Currently, the evidence supporting the importance of managing psychosocial hazards is not translated into workplace risk reduction strategies for WMSDs. The focus is almost entirely on the physical aspects of work and this impedes progress on reducing the numbers of WMSDs (Oakman et al. 2013b). An ongoing issue is the absence of good quality hazard surveillance data, which could be used to inform development of more targeted risk management strategies.

In Australia, undue focus on physical hazards is fostered by widespread use of the term: “manual-handling injuries”, and at a more fundamental level by conventional “western” social constructions of health and illness, in which there is a fairly clear divide between “physical” and “mental” health problems (Foucault 1973; Jackson 2005). Consequently, most people are likely to focus on just the most physically obvious and “heavy” aspects of the work being performed at the time the injury is reported (National Occupational Health and Safety Commission 2003). In the case of WMSDs, as will be described in this chapter, the point in time at which the injury occurs may not be due to the most relevant hazard or set of hazards. More likely, is a complex set of interacting hazards, which results in the development of a WMSD. Psychosocial hazards are linked to a range of work-related health complaints (other than WMSDs) at the individual and organisational level (Cox et al. 2000) and a range of occupational health indices that include: absenteeism, sickness absence, productivity, job satisfaction and intention to quit (see Leka and Jain 2010).

This chapter will outline the complex nature of WMSD development and briefly review the substantial evidence base, which supports the role of psychosocial and physical hazards in WMSD development. Prevalence of WMSDs in the Asia Pacific is outlined along with the difficulties with obtaining data from many countries due to the absence of formalized compensation schemes.

A number of conceptual frameworks, which demonstrate the multifactorial nature of WMSD development, will be introduced and these will be used to propose a more comprehensive approach to effective risk management of this large OHS problem. In addition, discussion in relation to the limitations of current WMSD prevention efforts will be undertaken, including some of the barriers to change that need to be addressed.

13.2 WMSDs in the Asia Pacific Region

The WHO Workers’ health: Global plan of action of 2008–2017 (World Health Organisation 2007) states that:

despite the availability of effective interventions to prevent occupational hazards and to protect and promote health at the workplace, large gaps exist between and within countries with regard to the health status of workers and their exposure to occupational risks.

A significant barrier to addressing health issues such as WMSDs is access to information regarding prevalence of such disorders. In much of the Asia Pacific workers’ compensation schemes are non-existent and as such workplace injury

data—which includes WMSDs—is not readily available. In OECD countries where workers' compensation systems are in place, these can serve as a proxy for injury surveillance schemes; statistics are more accessible and might provide a basis for planning accurately targeted strategies. In developing countries this data mostly does not exist. One of the largest widely accessible multicenter studies is the Community Oriented Program for the control of rheumatic diseases (COPCORD) (Naidoo and Atiqul Haq 2008). This group of studies has provided some indicative prevalence data for the developing Middle East and Asian countries. However, few of the studies report on occupational exposures. Some cross sectional prevalence surveys have, for example, reported incidence of WMSD pain as higher in Philipino farmers than non farmers, and in Bangladesh higher reported rates of knee osteoarthritis in rickshaw pullers, earth diggers and village based weavers (Naidoo and Atiqul Haq 2008) than in other occupations.

Industrialization in South East Asia has seen the rapid development of some industries similar to those in more developed countries. However, the high levels of worker protection, more readily available in countries such as Australia or New Zealand are often absent. One example is the relocation of Australian call centres to countries where labour is less expensive; other examples include manufacturing of garments and vehicles. Exposures to the psychosocial and physical hazards remain but compared to workers in Australia or New Zealand, workers in less developed countries are even less well equipped to demand changes to working environments. Recent tragic events Bangladeshi garment factories producing clothing for western clothing companies have resulted in over 1,100 deaths, with poor building conditions cited as a major cause (ILO 2013).

More recently, research from countries including Thailand, Vietnam, and Malaysia have highlighted some of the issues relating to WMSDs (Das and Gangopadhyay 2012; Hanklang et al. 2014; Henry et al. 2013; Naidoo and Atiqul Haq 2008). At this stage, WMSD risk management is not yet widely implemented—with much work very physically demanding—the primary focus has been directed at reducing hazards relating to manual handling. Although, some studies mentioned psychosocial hazards, these have not been comprehensively measured and controlled. However, taking into account the rapid changes in the types of work undertaken across the Asia Pacific, moving from traditional work practices to manufacturing and technology orientated, more work is needed to manage all types of risks—psychosocial and physical—associated with WMSDs. One key issue for many countries in the Asia Pacific relates to the cost of interventions and this needs to be carefully considered as part of a comprehensive risk management approach.

13.3 Models of WMSD Causation

A number of different models exist which summarize the state of evidence concerning causal pathways of WMSDs (see Kuorinka and Forcier 1995; Macdonald and Evans 2006; National Research Council 2001). These models are based on

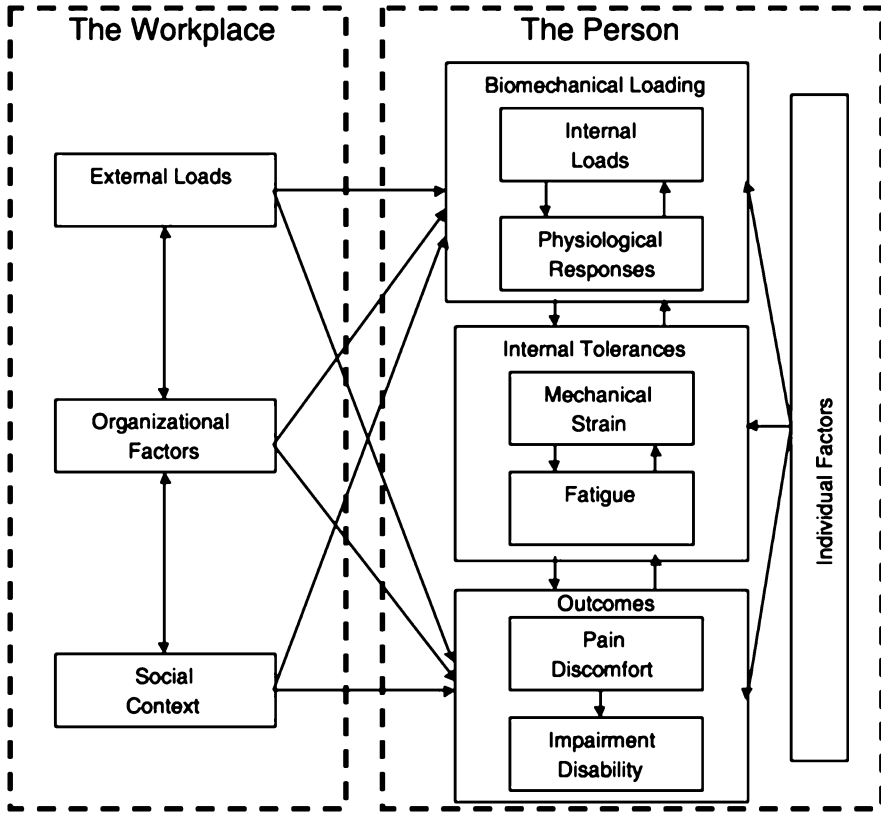


Fig. 13.1 Conceptual model of factors influencing MSD risk (NRC 2001, p. 353)

empirical evidence and share many common elements but highlight different aspects of relationships and pathways and how these influence WMSD risk. Unconditional support for the complex multifactorial nature of WMSD causation underpins the development of these models.

Whilst the overall set of information contained in the models is similar, the way different factors are subdivided is different. The 2001 (see Fig. 13.1) US National Research Council framework summarizes the efforts of an expert panel, which examined current evidence relating to hazard and risk factors for WMSDs. In this model whilst not explicitly mentioned psychosocial hazards are labeled organisational factors and social context.

In many cases in the literature and in practice “psychosocial” refers to anything that is not a labeled a “physical” hazard. Macdonald’s composite model (see Fig. 13.2) distinguishes between different sub categories of psychosocial hazards, and she argues that for effective workplace risk management this is of critical importance. This model will be explained in detail as it informs the subsequent development of risk management processes described later in this chapter.

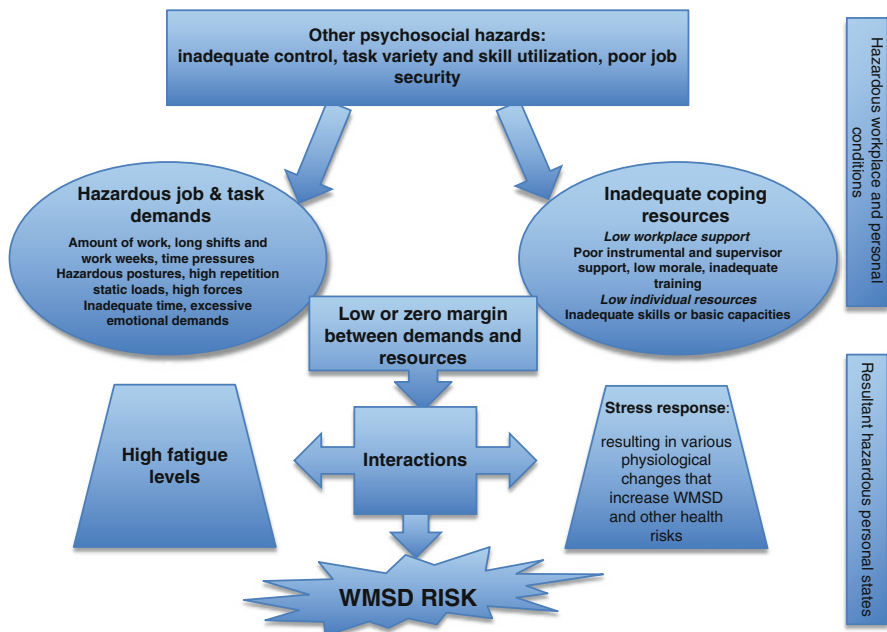


Fig. 13.2 A composite model of work related hazards for WMSDs (Adapted from Macdonald and Evans 2006)

Those in positions responsible for managing risk associated with WMSD need to accurately identify particular sources of harm—as they would for a hazardous chemical or hazardous exposure—in order to be able to develop targeted and effective control measures. In her model, Macdonald and Evans (2006) divides psychosocial hazards into the following categories: workplace demands, coping resources, other work factors, personal states, and hazardous personal states.

13.3.1 Workplace Demands

This includes overall workload, or the total amount of work to be completed within a specified timeframe. Total numbers of hours worked is also included in this category, and is important because this relates to an individual's level of cumulative exposure to all workplace hazards. Total hours worked also relates to time off between work shifts, and recovery time is limited due to the overall length of the working day.

An important distinction to overall job demands is that of task-specific demands, physical or mental. Physical aspects are related to force, repetition and vibration for example. Task-specific mental demands can be both perceptual/cognitive and emotional.

13.3.2 Coping Resources

Higher levels of workplace demands are not necessarily hazardous; it is the match, which is important, between these demands and an individual's coping resources. Jobs with very high demands have been linked with higher risks of stress-related illnesses and disorders including WMSDs (Bernard 1997; Bongers et al. 1993).

The model shown here separates resources into those that stem from the workplace and those from the individuals own coping resources. This can be considered as instrumental support—accessible information or appropriate equipment—so that work can be done in reasonable time reducing the rate at which fatigue accumulates.

Support—social, interpersonal or affective—increases available attentional resources (Kahneman 1973). Feedback on work performance can be used to “fine tune” performance strategies, and reduce effort required for completion of tasks without performance degradation. Reducing effort results in an increase in coping resources and a subsequent reduction in WMSD risk (see Fig. 13.2).

Individual resources are the personal attributes that impact an individual's ability to cope with the demands of their work. These can include: physical capacity, job specific knowledge and skills and physical environment (cold and vibration).

13.3.3 Other Psychosocial Hazards

Affects both demands and coping resources and can includes shift design, low control, job insecurity, conflict between work and non-work, and lack of variety.

13.3.4 Resultant Hazardous Personal States

Stress and fatigue are potential by-products of the aforementioned hazards, hence are termed resultant. Often these are considered as hazards per se, causing confusion in terms of appropriate hazard management.

Work demands and coping resources are centrally important to this model. In particular the margin between workplace demands and an individual's coping capacity. Where this gap is small or in some cases negative, individuals are likely to experience high levels of stress and fatigue, linked to increased WMSD risk.

13.4 Mechanisms Linking Stress to WMSD Risk

The stress response is multidimensional, comprising measurable changes in human cognitive and performance characteristics, but also in physiological functioning. A range of credible mechanisms via which elements of the ‘stress response’ can directly increase the risk of WMSDs is shown in Fig. 13.3.

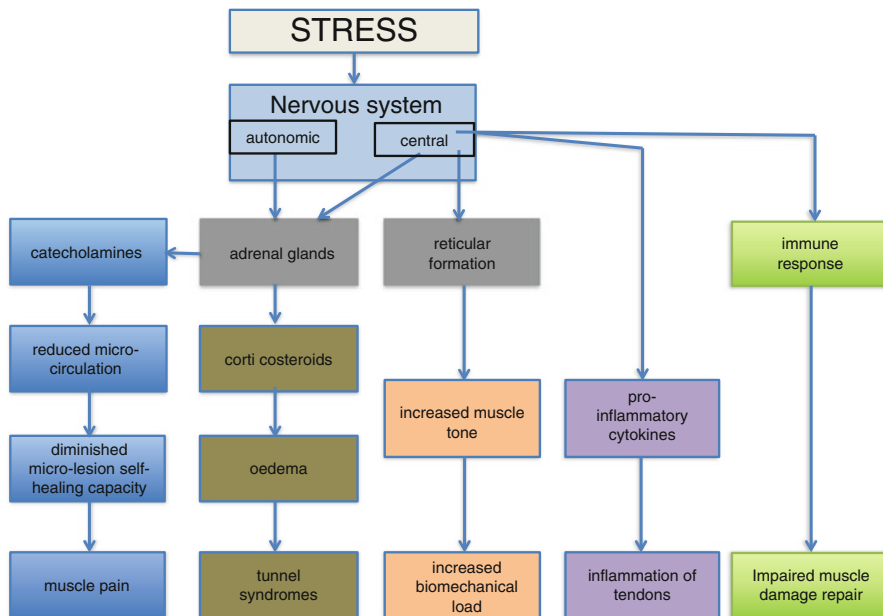


Fig. 13.3 Possible relationships between some physiological components of the stress response and WMSD symptoms (Adapted from Aptel and Cnockaert, in Macdonald and Evans 2006)

Changes within central and autonomic nervous systems, the endocrine system and the immune system mechanism constitute pathways via which a stress response can increase the risk of WMSDs (Macdonald and Oakman 2009).

13.5 How Important Are Psychosocial Hazards Affecting WMSD Risk?

Organisations often view the management of psychosocial hazards in relation to WMSDs as of secondary importance. A review of evidence regarding effect sizes on physical and psychosocial hazards attributable to WMSD development provides a useful basis for consideration of where to target risk management strategies.

Marras et al. (2009) reviewed international evidence in relation to effect sizes. He reported effect sizes for low back injuries between 11 and 80 % attributable to manual-handling factors and 14–63 % attributable to psychosocial factors. For upper limbs, 11–95 % attributable to manual-handling and 28–84 % for psychosocial factors. This huge variation is due to the vastly different occupational settings, types of measurement undertaken, and conceptualization of hazards in each project. As a result of these issues many problems exist in interpreting effect sizes from data collected in occupational settings.

However, despite these issues, the evidence clearly supports the substantial influence that psychosocial hazards have on WMSD risk. Taking this into account WMSD risk reduction strategies must be comprehensive and target physical and psychosocial hazards to be maximally effective (Oakman et al. 2013a).

13.6 Current Practices in Risk Management of WMSDs

To date little published information exists on “real world” WMSD risk management practices. In two Melbourne based studies, risk management practices in seven organisations were reviewed in relation to WMSDs (Oakman et al. 2013a, b). These reviews found a strong focus on controlling risk from hazards associated with physical or “manual- handling” in the seven organisations, however no examples were identified of policies on the identification and control of psychosocial hazards in relation to WMSDs.

Currently, a tendency exists to attribute an injury to the characteristics of work being performed at the time the injury is reported. This is problematic because many WMSDs are cumulative in nature (see Fig. 13.4) and the work undertaken at the time of injury may not be particularly relevant. If risk reduction strategies are wholly focused on injury data, then the key hazards may not be addressed. In the absence of WMSD surveillance data workers’ compensation data is used as a proxy and is a major problem for the reasons outlined above. In addition, not all injuries are reported, as such compensation data is likely to be incomplete, and underestimate true prevalence rates of WMSDs.

The conventional approach to OHS risk management has been to focus on *hazard* management—identifying hazards, assessing risk from each identified hazard, and taking any necessary steps to control risk from each hazard separately. This approach is appropriate for hazard-specific diseases and disorders such as noise-induced hearing loss, or mesothelioma due to asbestos exposure. However, a



Fig. 13.4 Conceptual diagram of WMSD development (Macdonald and Oakman 2009)

more holistic approach is required to achieve effective control of diseases and disorders for which risk is determined by multiple, diverse hazards—as is the case for WMSDs.

For example, a particular posture might be rated as low risk if considered alone, but the risk could be higher for workers who are chronically fatigued or stressed due to long working hours, tight timelines, and supervisors perceived as unsupportive. In other words, risk management must be based on assessment of risk from the *combined* effects of the hazards identified as most relevant in the particular situation, taking account of the hazards' additive and possibly interacting effects (Macdonald and Oakman 2009).

Exposure assessment has often been limited and job title or type of work taken to be a reliable and valid measure of a person's work. Too little information about what a person's job *actually* entails is taken into account when assessing risks for WMSDs. Punnett and Wegman (2004) state: "that observation or measuring physical ergonomics (or physical) stressors in the workplace would seem preferable to asking workers about their estimates of exposures, but both have disadvantages" (p. 16). However, many of the exposure tools only take 'snapshots' of individuals' work and therefore may not identify what are the most hazardous aspects contributing to WMSD risk. Self-report is often disregarded as being unscientific despite considerable evidence to support the efficacy of this type of approach.

In research undertaken by Macdonald and colleagues (2007) where the goal was "to develop a risk assessment method practicable for workplace personnel with minimal training to implement" (p. 155), they argued that more accurate information was attained through self-report than observation. That is, the employees' were the experts in relation to the identifying the most relevant hazard sources to WMSD risk, rather than observers who are often unfamiliar with the inherent requirements of the tasks and overall jobs.

An overreliance on training as a primary control measure for WMSD risk reduction persists, despite a substantial evidence base supporting its ineffectiveness in achieving this goal. A number of comprehensive reviews examining the impact of training have reached similar conclusions. Hignett (2003) reported on a systematic review concerning the handling of patients and concluded that strategies which used technique training as the main method of reducing patient handling risks were unlikely to be effective. Supporting this finding but in a more general population, Haslam and colleagues (2007) found little evidence to support the effectiveness of technique and educational based manual handling training in prevention of low back pain.

More recently a Cochrane review (Verbeek et al. 2011) examined the impact of manual handling training, use of video, back belt or exercise on back pain. Conclusions reached were that moderate quality evidence supports that those who undertook training reported levels of back pain similar to those who received no intervention or video. Cohort studies and RCTs were examined and the results were very similar. The evidence from the last decade is strongly supportive that training is not an effective method to reduce WMSDs.

13.7 Development of a More Comprehensive Approach to the Management of WMSDs

WMSDs include many different clinical diagnoses, but the reliability or consistency of such diagnoses is poor. In a workplace context the specific diagnosis of a WMSDs has few if any practical implications for preventative risk management (Wells 2009). A recent consensus statement by the International Commission on Occupational Health Scientific Committee on Musculoskeletal Disorders concluded that the goal of workplace risk management should simply be to prevent or reduce musculoskeletal discomfort at risk of worsening with work activities, and affecting work ability or quality of life (Hagberg et al. 2012). WMSD risk management should focus on reducing levels of musculoskeletal discomfort and pain regardless of clinical diagnosis (Oakman et al. 2013b).

In order to achieve the above, consideration of what constitutes effective interventions must be taken into account. Research evaluating the effectiveness of various workplace interventions intended to reduce WMSD risk has identified the following three key factors are needed: a multifactorial approach—addressing psychosocial hazards concurrently with manual-handling hazards, together with participation in the development and implementation of the intervention by workers and their representatives, along with other stakeholders including supervisors and key managers, and finally management commitment which includes ensuring that workers have the time needed to participate in risk management processes and that risk controls are implemented as fully as practicable (Dawson et al. 2007; Hignett 2003).

A ‘toolkit’ approach, is one method which is based on the above principles and currently promoted by the World Health Organisation (WHO) to reduce risks of injuries and disease including WMSDs. Whilst the most important intended users of such a toolkit are people in emerging economies and developing nations, and those in small and medium enterprises, one such toolkit is under development for large organisations in Australia.

It is suggested that a toolkit should provide practical tools and strategies for workplace use in identifying hazards and assessing risk, and for developing, implementing and evaluating interventions to reduce risk. The toolkit should assist such users to work through the full risk management cycle within their own workplace, as shown in Fig. 13.5. Training materials and guidance documents to support effective implementation of the risk management process should also be included (Macdonald 2012). Six key steps are involved: getting started, risk and hazard assessment, generation of risk controls, development and implementation of an action and review.

A key requirement in using a toolkit approach is that of worker participation. Evidence supports this to be a very effective method of identifying the most important hazards and the development of appropriate controls (European Agency for Safety and Health at Work 2008; Rivilis et al. 2006; Whysall et al. 2004). An example, used in a recent project, of a participative approach to develop risk

Fig. 13.5 The WHO healthy workplace model (Burton 2010)



controls is outlined in Case study 1. Another key requirement for a toolkit approach is Leadership engagement, which has been demonstrated as critical for effective OHS interventions (Macdonald and Oakman 2013).

A recent series of Australian based projects has developed a draft WMSD risk management toolkit now ready to be customized, implemented and evaluated to ascertain its effectiveness in reducing WMSD risk and subsequently claims (Oakman et al. 2013a, b).

A core component of the toolkit is a survey tool which addresses key hazard areas related to WMSDs. Measures include: demographic data, a 12-item Physical hazards scale, 26 items from the Work Organisation Assessment Questionnaire (WOAQ) (Griffiths et al. 2006), are used as a measure for psychosocial hazards, and a composite measure of discomfort levels (Macdonald et al. 2007). Single-item measures are used for Job satisfaction and Work-life balance. The discomfort score is used as a proxy for WMSD risk and has been discussed elsewhere (Macdonald et al. 2007; Oakman et al. 2013a).

13.8 Barriers to Change

Some key issues exist which are potential barriers to improving the management of WMSDs. One of these issues concerns the currently available guidance materials and tools used by Ergonomists and OHS professionals which has very limited focus on the contribution of psychosocial hazards in relation to WMSDs. Guidance material for psychosocial hazards typically covers bullying/harassment, occupational violence and stress (Johnstone et al. 2011) but it is not integrated with WMSD materials and as a result psychosocial hazards are often managed separately. In cases where psychosocial hazards are mentioned explanation of what they

are and how to manage them is limited (Leka et al. 2011), perpetuating the impression that they are of peripheral importance in relation to physical hazards for WMSDs (Macdonald et al. 2003).

An additional perception relates to the perceived complexity of managing psychosocial hazards. Anecdotal evidence suggests that organisations find the management of developing controls for psychosocial hazards more complex and less well defined than for physical hazards. An important consideration in selecting the WOAQ for use in the draft toolkit outlined earlier in this chapter is the guidance material provided with suggested controls to assist organisations in dealing with this potentially difficult area (EEF 2004).

Furthermore, a developing body of literature is focused on improving the efficacy of organisational interventions through targeted approaches to match stakeholders readiness to change (Whysall et al. 2007). However, these approaches will also need to involve education of practitioners so that the best available evidence is used to inform their practice. A review of ergonomics consultants found that despite knowledge of the importance of psychosocial hazards in WMSD risk, most felt it was outside their remit and continued to focus on reduction of physical hazards (Whysall et al. 2004). A theme emerges from the literature relating to the translation of evidence into practice, suggesting that OHS practitioners need to be actively engaged in research to improve the dissemination of findings into workplace settings (Rothmore et al. 2013).

13.9 Case Studies

13.9.1 Case Study 1: Risk Management in Action: Future Inquiry

A key aspect of the toolkit approach is the development of effective risk controls for WMSDs. One highly participative method of achieving this is called 'Future Inquiry' a workshop process developed by Blewett and Shaw (2008). This method was trialed in a recent project related to the development of a risk management toolkit for the prevention of WMSDs as a method to develop risk controls using survey data collected from employees.

Included in the workshops were key organisational stakeholders, the target occupational groups and work areas involved in the study. Engaging people from across the work areas was critical: to ensure that the interventions proposed were practical and to work consistently with the values and principles that are linked to better WMSD risk control outcomes. The Future Inquiry method (Blewett and Shaw 2008) adapts existing participative planning techniques, building on appreciative inquiry and future search methodologies.

Appreciative Inquiry (Whitney and Cooperrider 1998) aims to examine new directions for action by looking at what works well now, rather than problem solving. A focus on positive stories and ideas generates a respect for what has been done well, identifies the part that individuals play in their organisation, reinforces accepted values and invites an affirmation and expansion of ideas.

Future Search (Weisbord and Janoff 2000) is a collaborative process aimed at hearing and considering the perspectives of all stakeholders in the issue under consideration—the “whole system”. People representing all of the relevant perspectives are brought together to work on a specific and task-focused agenda. It is a collaborative process that encourages creativity, commitment to actions that are grounded in reality, the formation of new working relationships and voluntary cooperation. The process gives participants the opportunity to share leadership and to engage as peers in robust discussion, in an environment focused on the future.

The Future Inquiry Workshop developed from these methodologies engages people in thinking about past ‘problems’ to thinking about the future. The method embodies the principles of participation and respect that underpin effective consultative processes, ensuring that these included from the beginning. The workshop engages a large group of people who are representative of the ‘whole system’ of the organisation or the particular focus of inquiry. The workshop is carefully structured and usually is one day in length. This participative approach is central to effective use of a Toolkit approach to manage WMSDs.

Specifically, the WMSD risk management toolkit workshop focused on the following:

The past: Outlining the findings of the Toolkit project and the identified risk factors for WMSDs in the relevant work areas. This section was informed by the results from the toolkit survey described elsewhere in this chapter.

The present: Identifying the important trends in the internal and external operating environment that impact on prevention of WMSDs in the relevant work areas and current risk control strategies.

The future: Designing an ideal future for preventing WMSDs and preparing a road map for how to get there. A range of effective interventions was identified and the first steps to implementation were planned. Individuals prepared to take responsibility for these first steps were identified and assigned responsibility for taking the relevant actions.

During the workshops participants engaged in various activities, sometimes with peers from their own occupational group and sometimes in mixed groups from their work area. In all workshops, insightful and constructive debates took place with many participants commenting on the energy and quality of the discussions. Although not part of the project reported here, a follow up workshop is suggested to ascertain areas of success, barriers to implementation of changes and any modifications needed to risk controls so that effectiveness of the risk management process is maximized.

13.9.2 Case Study 2: The Power of the Interview in Workplace Research

Qualitative research is at times considered less worthwhile than quantitative research because it is not governed by clear rules. It has been labeled the ‘soft science’ lacking in reliability and validity. However, qualitative research adds understanding to meaning, interpretation and subjective experiences that is not possible with a quantitative approach. Workplace research can be richly informed by the use of qualitative methodologies.

Workplaces are complex and quantitative data is important to identify prevalence, potential causal agents of injuries and diseases and possible trends. However, it does not explore the perceptions, attitudes and relationships that are critical in understanding the psychosocial environment and its impact on employees.

The use of interview or focus group methodology enables further exploration of issues raised in surveys or other quantitative data. Alternatively, it may be used to identify key problems in a workplace that need to be included in a questionnaire. In sum, a mixed methods approach is more likely to capture the full range of issues related to the psychosocial work environment than the use of a single method approach.

In a number of recent projects we have used a range qualitative methods to support data collected through questionnaires. A project aimed at examining the organisational differences between high and low performers in terms of WMSD claims rates, involved the use of semi-structured interviews with supervisors and managers. Results from thematic analysis of the interviews was used in a comprehensive review of survey, organisational and claims data to determine what were key differences between organisations in terms of their WMSD compensation claims rates.

A Malaysian project aimed at examining the prevalence of WMSDs in office workers employed a number of qualitative methods. Firstly, the survey tool to be used in the project had only been validated in Australian workplaces and needed to be pilot tested with a Malaysian population. The survey was translated and back translated to maximize accuracy and consistency (Breslin 1970). A series of focus groups were held where the survey tool was completed and discussed with individuals that were representative of the population groups to whom the survey was targeted. Minor modifications were needed following analysis of focus group responses.

In this Malaysian based study the questionnaire included a range of measures associated with identifying risk from both psychosocial and manual-handling hazards (Macdonald and Evans 2006). Discomfort scores were calculated (see Oakman et al. 2013a) and used a proxy for WMSD risk. Respondents to the survey were asked if they were prepared to participate in an in-depth interview relating to their personal experiences of coping with a WMSD. Given the paucity of research in Malaysia relating to WMSDs the inclusion of in-depth interviews provided an

opportunity to gain insights into organisational support and personal reflections on managing with discomfort beyond the scope of the quantitative data.

The inclusion of qualitative approaches as described in the two examples above enriched the project results and extended potential impacts beyond the scope of the quantitative data. The rich data collected through interviews and focus groups provides researchers with greater insight into the organisational contexts in which survey respondents are operating and ultimately provides a depth that cannot be achieved using only a quantitative approach.

13.10 Challenges and Future Directions

Several challenges exist in moving from the current narrow focus of WMSD risk management to one that takes a more comprehensive approach. An approach that is focused on reduction of all potential hazards—psychosocial and physical—related to increased risk of WMSD development. To ensure successful implementation of strategies decision makers and managers need to be committed, and understanding their concerns is paramount to shifting the focus.

As little published evidence exists in relation to current risk management practice, it is important that we improve our understanding of potential barriers to implementation of new strategies for WMSD risk management. To date this area has not been fully explored and more evidence is needed to support improved uptake and then success of new approaches such as the proposed toolkit.

Modifications to currently available tools and guidance material relating to WMSDs are needed to support an integrated approach that encompasses all relevant hazards. Guidance material exists for physical management of WMSDs and for the management of psychosocial hazards in relation to mental health or bullying but to date this has not been integrated in workplace risk management of WMSDs.

Implementation and evaluation of the Toolkit is needed to ensure effectiveness of reducing WMSDs. Firstly, the process of implementation needs to be evaluated to ensure the process of customization is effective. Secondly, the impact of the toolkit on WMSD claims within specific workplaces needs to be measured, as reduction of workplace injuries is the ultimate goal.

Value on investment (VOI) analysis is not well documented in OHS. Despite perceptions of cost as a barrier to implementation of hazard reduction strategies, very little empirical research has been undertaken in this area. More evidence on VOI would be very useful for practitioners, professionals and researchers in developing cases for funding of risk mitigation strategies.

Lastly, very few workplaces undertake routine hazard surveillance of employees, that includes a wide range of physical and psychosocial hazards, as is outlined in the toolkit described earlier in this chapter. If organisations had access to data about their own employees this could be used to inform development of accurately targeted risk reduction strategies. Further work could be undertaken to

develop benchmarking capability, so that organisations within particular sectors could provide and then access data on hazards and risk controls.

13.11 Conclusions

It is clear that we need to change our approach to the way we manage WMSDs. A mismatch exists between the research evidence and risk management practices and as such the current focus on identification and then control of physical hazards is not resulting in substantial changes to the numbers or WMSDs reported.

The complex nature of WMSD causation requires an approach that is able to capture all relevant hazards and development of appropriate controls. The conceptual frameworks presented in this chapter reinforce this and inform the basis of a proposed methodology to address WMSD risk management in a comprehensive manner. The absence of good quality hazard surveillance data makes the task somewhat more difficult. The toolkit goes some way to addressing this large OHS problem.

Barriers to changes in the way workplaces manage their WMSDs include the current focus of available tools and guidance materials, lack of documented evidence of current risk management practices and beliefs that psychosocial hazards are difficult to manage. Addressing these barriers is an important step in modifying current practice.

Workplace based research can be complex and difficult, but it is highly relevant and important. One certainty exists, that change is needed to the way we currently manage work-related musculoskeletal disorders, if we are to seriously reduce the severity and overall numbers of this group of injuries.

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Chapter 14

Psychosocial Influences on Occupational Health and Safety Decision Making

Valerie J. O’Keeffe and Michelle R. Tuckey

14.1 Introduction

Social interaction is the vehicle through which work is achieved and is fundamental to developing workers’ understanding of, and response to, risk. Psychosocial factors are inherent in the nature of human interaction, and at work, these factors manifest as job characteristics. Job characteristics significantly affect worker health, safety and welfare (Van den Broeck et al. 2011) through the interaction of job demands and resources (Bakker and Demerouti 2007). Health and safety decision making involves interpreting risks arising through the course of work. However, in responding to the fluid nature of work and risk, contemporary occupational health and safety management adopts a technical, task-based focus, largely devoid of its psychological and social context (Lupton 1999). In this chapter, we argue for the importance of the psychosocial context in influencing occupational health and safety decision making and the consequent risks for physical health and safety. Contemporary workplaces, especially in developing countries are becoming increasingly complex due to the uptake of technology and changes in work design. Functioning effectively in complex technological systems requires a sophisticated approach to health, safety and risk that extends beyond the technical nature of tasks to embrace the broader psychosocial context (Dekker 2011). It is in the psychosocial, and indeed socio-cultural, context that social interactions, and organisational practices, policies and politics are at play, potentially influencing workers’ occupational health and safety practice with direct impacts on their psychological and physical health. It is here that we should seek understanding of how workers build

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resilience in their decision making. The case studies in this chapter demonstrate how, in making such decisions, workers act to optimize both productivity and their own wellbeing as they balance safety and risk.

In Australia, occupational health and safety legislation requires that health and safety decisions be based upon assessment of risk (Bluff and Johnstone 2005). However, inherent in an assessment of risk is the implication that the nature of the decision task allows the worker the time required to collect technical information and deliberate on acceptable solutions. In complex environments, like healthcare, where time pressure is common, workers are more willing to trade off detailed, complicated descriptive information for less accurate but simpler information drawn from experience (Lejarraga 2010). Often risk assessment decisions involve consultation with colleagues, as is mandated by occupational health and safety legislation, acknowledging that there are many perspectives on risk. These perspectives are largely influenced by psychosocial factors such as time pressure, co-worker support and the adequacy of resources to perform the work satisfactorily (Dollard et al. 2007). Workers at the ‘sharp’ end, delivering services, do not always perceive risks in the same way as those at the ‘blunt’ end, whose role it is to manage safety (Dixon-Woods et al. 2009). These differences in perspective and experience may lead to disparities between standards of acceptable safe practice and the reality of achieving the work (Klein 2009). In time-pressured and inadequately resourced environments, risk information is frequently incomplete and uncertain, data may be overwhelming or even conflicting, and the problems may have ill-defined boundaries (Pinto et al. 2011). Due to such work pressures, many of the decision-making situations confronted by workers render normative assessments of risk impractical, and encourage intuitive approaches based on experience. Psychosocial factors, including peer support, time pressure and the ability to communicate freely have been shown to be significant influences on successful decision making regarding safety at work (Barton and Sutcliffe 2009). Despite this, such factors are seldom emphasized in risk management processes.

14.1.1 Health and Safety Decision Making in the Asia Pacific Region

Compliance with legislation is an important influence on occupational health and safety decision making, since legislation establishes the required outcomes and the recommended processes by which these outcomes must be achieved. Occupational health and safety legislation in both Australia and Malaysia is modeled on the British system (Johnstone 1997; Rampal and Mohd Nizam 2006). The legislation comprises an overarching Act that specifies duties, supported by Regulations and Codes of Practice, which describe how to fulfill those duties. Australian legislation is underpinned by the hazard management approach in which hazards must be identified, and risks assessed and controlled (Johnstone 1997). In contrast, Malaysian

legislation provides no overt guidance on risk assessment, although through general duties, employers are obligated to provide a safe workplace in terms of physiological and psychological health and safety (Government of Malaysia 1994).

In terms of physical safety, Australian legislation includes specific requirements for the management of risks arising from manual lifting, handling and moving loads (Safe Work Australia 2011b). The Malaysian system contains no specific codes of practice or guidance on patient handling – or indeed on manual handling in industry more generally. However, risk assessment principles are included in the Malaysian ergonomics guidelines for sitting work, standing work and computer work, emphasizing a highly task-specific approach. Nonetheless, physical and psychosocial factors are included among the work characteristics that must be considered in minimizing worker harm (Ministry of Human Resources Malaysia 2013). In summary, the legislative structures which guide decision making about health and safety in terms of manual handling are largely absent in Malaysia, while in Australia, they lack adequate consideration of psychosocial and cultural factors.

In practice, decisions about health and safety at work are made under time pressure, often leading to strong motivations to proceed with the job in the presence of hazards and risks. In these situations, risk assessments are often done on the basis of experience. Applying experience may lead to a priming effect induced by psychosocial factors such as time pressure, safety culture and perceptions of the relative importance of safety versus production. This priming effect acts to stimulate decisions through which workers aim to balance safety and risk with other priorities. In health care, worker priorities include patient safety and care, which also represents the demand to be productive. Expectations about productivity and patient care are often the drivers of organisational goals. In addition, professional interpretations about what constitutes competency, and personal desires to be safe at work are important influences on workers' decisions about health and safety. Idris and colleagues identified bureaucratic factors and organisational politics as specific job demands that eroded the resilience of Malaysian workers (Idris et al. 2010, 2011). These specific psychosocial factors are likely to exert a significant influence on the health and safety decision making of workers, since they reinforce management expectations that workers be productive. Such expectations can also reinforce workers' own perceptions about professional identity and what it takes to exemplify conscientiousness and efficacy (Fagermoen 1997).

Since organisational culture reflects shared worker perceptions towards the meaning of workplace interactions, the way in which goals and objectives are espoused, enacted and evaluated influences how workers respond to competing work demands. Much research (for example Beus et al. 2010; Clarke 2006; Nahrgang et al. 2008) has highlighted the relationship between safety climate and injury outcomes, rather than identifying and explaining the antecedents of safety climate. Zohar (2010) argues that safety climate arises through social interactions which are imbued with meaning. This meaning is constructed from the cognitive exchanges that take place as participants seek to make sense of their environment by testing information and assimilating cues in an effort to make collective interpretations. Consequently, workers' decisions are affected by their perceptions of management commitment to safety, the attitudes and

behaviors of their work colleagues, the requirements of legislation and the safety management system, and their work demands and resources.

As the workplace becomes increasingly globalized, as exemplified by developing countries such as Malaysia, workers are more likely to be subject to competing demands for productivity and safety. In this environment, workers may become increasingly conflicted in making decisions about safe work practices as they aim to balance risk and reward. Against this background, musculoskeletal disorders can be expected to flourish (Rahman and Atiya 2009). Although musculoskeletal disorders are typically regarded as a physical safety problem, work intensification brings together biomechanical and psychosocial risk factors, exacerbating the risks of physical injury (Moon and Sauter 1996).

14.1.2 Musculoskeletal Disorders and Psychosocial Factors

Musculoskeletal injuries and disorders (MSD) present a huge burden to society in terms of occupational injury and disease (Safe Work Australia 2011a). The risk factors for these disorders are generally managed through re-designing work tasks, work equipment and work stations with the aim of minimizing biomechanical stressors that arise from such work (Macdonald and Oakman 2013). However, a growing body of research is now showing that focusing on physical factors is not sufficient to minimize MSD risk (Leka and Jain 2010; Moon and Sauter 1996). Two pathways are implicated in musculoskeletal disorder causation. In addition to the highly researched and well-documented biomechanical risk factors, psychosocial factors also make a significant contribution (Leka and Jain 2010). Western cultures predominantly conceive of occupational disease as arising through the biomedical model in which disease occurs through biological mechanisms (Sauter and Swanson 1996). This school of thought recognizes that psychosocial factors play a secondary role by suggesting these factors act to produce a stress response, influencing muscle tension (Moon and Sauter 1996). Increasingly, authors contend that it is the interaction between psychosocial risk factors and biomechanical risk factors that gives rise to musculoskeletal disorders (Cioffi 1996; Leka and Jain 2010; Macdonald and Oakman 2013). Time pressure and workload act to increase exposure to physical risk factors, while lack of resources can act to increase the effect of biomechanical stressors (Leka and Jain 2010). Illustrating this with a patient handling example, the absence of lifting equipment or team members to assist with positioning tasks increases worker exposure to the forces required to lift and move human loads.

Psychosocial factors have been proposed as an intermediate factor influencing musculoskeletal pain and discomfort. Using a model that hypothesized psychological strain as a mediator that links the pathway between work stressors and musculoskeletal complaints, Eatough et al. (2012) found that several psychosocial risk factors acted to increase employee strain. High levels of role conflict, low job control and low leadership towards safety were found to be associated with higher

employee strain. This finding provides evidence that inconsistent demands arising from various sources, such as supervisors or clients, can adversely affect worker psychological health. Work strain was associated with increased reports of musculoskeletal symptoms, particularly of the wrist-hand, shoulders and low back. Strain has previously been shown to be a significant upstream factor that influences worker reports of MSD (Hämmig et al. 2011).

Eatough and colleagues (2012) also found that the relationship between job control and discomfort in the lower back was mediated by job strain, suggesting that higher job control may have a protective effect, which operates by reducing the level of strain being experienced. That is, those workers with higher job control are more likely to be able to choose how their work is organized in terms of the pace, sequencing and number of breaks taken. Despite this finding, many jobs in the global economy with high levels of autonomy often also involve high exposures to computer work and its associated biomechanical risk factors. Given the synergistic relationship between psychosocial and biomechanical risk factors, Eatough et al. (2012) suggest that reports of MSD may act as a sentinel for serious underlying safety risks that herald the need for intervention.

There is much variation in the relative contributions that specific job characteristics make to the risk of musculoskeletal disorders; however, the evidence is clear that psychosocial factors exert a significant influence on risk. In reviewing the evidence from epidemiological studies, Marras et al. (2009, p. 16) highlighted that:

between 11 % and 80 % of low-back injuries and 11–95 % of extremity injuries, are attributable to workplace physical factors, whereas, between 14 % and 63 % of injuries to the low back and between 28 % and 84 % of injuries of the upper extremity are attributable to psychosocial factors. . . .

This evidence adds weight to the proposition that it is the *interactions* between psychosocial and physical hazards that significantly influence the risk of MSDs (Bernard 1997; Leka and Jain 2010; Macdonald and Oakman 2013).

14.2 Theoretical Frameworks for Risk Assessment in Safety Management

At its most basic level, risk management can be considered as the cyclic process of identifying, assessing, and controlling risks (Langenhan et al. 2013; Standards Australia 2009). In Australia and developed economies, the management of health and safety risks in organisations is addressed through systematic approaches. Risk management systems are built on policies and procedures which govern the identification, assessment, prioritization, control and evaluation of risks (Frick 2000, 2011), consistent with the following definition of risk management as:

the systematic application of management policies, procedures and practices to the activities of communicating, consulting, establishing the context, and identifying, analyzing, evaluating, treating, monitoring and reviewing risk (Standards Australia 2009 p. 3).

This definition points to a more complex understanding of risk management as a process involving the effectiveness of communication and the importance of context in the process of recognizing and addressing risk factors.

In addition, risk management involves assigning resources to facilitate effective strategies for dealing with threats but also recognizes risk as an opportunity for improving business practices (Langenhan et al. 2013; Standards Australia 2009). Organisations have become more aware of the value of risk management given the potential impact on financial performance and image (Hurrell 2013; Van 2013), seeking to be perceived as responsible employers and sound sources of investment for shareholders. However, working in a globalized and increasingly complex world has led to our understanding of risk necessarily becoming more sophisticated. The emergence of psychosocial risks is a case in point. Legislation requires organisations to manage risks as far as is reasonably practicable (Government of South Australia 2012). In determining what is reasonably practicable, consideration must be given to the knowledge of the risks, the likely severity of the harm that may eventuate, and the costs associated with ameliorating the sources commensurate with the risk.

Assessment is central to making decisions about how to address risk effectively. With regard to musculoskeletal disorders arising from manual tasks, identification involves examining injury statistics for trends and consultation with workers. Assessment involves observing work to determine the presence of biomechanical stressors such as high or sudden forces, repetitive movements and static or awkward postures (Safe Work Australia 2011b). These risk factors are considered to arise from sources such as work design and layout. It is here that work organisation factors such as timing, pace of work and consultation arrangements are identified, drawing the nexus between psychosocial factors and biomechanical factors. Inclusion of specific examples of work organisation risk factors in the legislative instruments is relatively new and remains poorly understood and applied by organisations to manage risk (Langenhan et al. 2013; Macdonald and Oakman 2013).

While conceptions of risk have become more elaborate by incorporating more risk factors, paradoxically, society has tended to simplify the treatment of risk as more individualized in the attribution of sources and responsibilities for control (Lupton 1999). Consequently, it is easy to blame the individuals downstream at the work interface for their failings or misfortunes in succumbing to injuries. The absence of psychosocial factors more generally in the assessment of safety risks exacerbates this simplistic view, with the perception that if physical stressors are managed, the risk of injury is minimized as far as is practicable (Leka and Jain 2010). Despite the inclusion of specific factors such as timing and organisation of work, broader work climate factors such as communication and support often remain unaddressed. In contemporary workplaces, timely communication is central to making effective decisions about safety and risk (Gherardi and Nicolini 2002). In health and safety, decision making is driven by assessment of the environment which is interpreted in the context of experience to make sense of the work (Weick 1995).

14.2.1 Sensemaking and Health and Safety Decisions

Sensemaking theory examines how workers, as social agents, enact their world through their interactions (Weick 1995; Weick et al. 2005). Sensemaking may be defined as: ‘an on-going accomplishment through which people create their situations and actions and attempt to make them rationally accountable to themselves and others’ (Weick 2001, p. 11). Accordingly, sensemaking is considered as the understanding of events, particularly those involving complexity. It is more complex than simply understanding the relationships among discrete stimuli, which forms the basis of much decision making theory (Klein et al. 2006a). Rather, sensemaking involves the coalescence and assimilation of risk cues into meaningful patterns. Sensemaking is a recursive process through which individuals and groups make sense of their shared experience at work. Communication is fundamental to this process, as it is the means through which workers share their knowledge, experience and interpretations of the workplace.

Weick (1995, p. 17) describes sensemaking as a process characterized by seven distinct properties. Fundamentally, the process is grounded in *identity*; it occurs through *social interactions* that are localized and *on-going*; and that are *enacted* through sensible environments. Sensemaking relies on, and is directed by, *extracting cues* from the environment. Making sense of those cues is a *retrospective process* informed by experience and driven by *plausible explanations* in preference to accuracy. Sensemaking, as a theoretical perspective, emphasizes the role of social interactions in interpreting the work environment to inform continued activity. Work, by its nature, consists of purposeful action, and the objective is to provide high standards of production or service and self-protection. Health and safety decision making depends on making realistic assessments of the work environment, which is dynamic and unpredictable. The interpretations derived from sensemaking enable workers to test their explanations of their work, enhancing the credibility of those interpretations; while plausible explanations provide impetus to continued interaction and achievement of work goals.

Underpinning the theory of sensemaking is the idea of ordering cues from the environment (including risk factors) into an organizing knowledge structure from which relationships can be inferred, which Weick (1995) refers to as *frames*. A frame is a knowledge structure that is context dependent and through which people organize their experience to gauge what is happening (Klein et al. 2006b). Through this understanding, frames bias workers toward decisions and action (Benford and Snow 2000). Frames therefore provide the architecture in which cues are noticed, extracted, interpreted and acted upon (Weick 1995). Sensemaking occurs at the individual and group level as a reciprocal process. It is through sharing frames that members of a work group form a common understanding of the work context to guide behaviour. Sharing typically occurs through oral and written communication, and action. Sensemaking is crucial to understanding decision-making processes, as it precedes and shapes decision making (Allard-Poesi 2005). Decisions are both outputs of and inputs to sustained sensemaking (Weick et al. 2005). Understanding

gained through sensemaking clarifies the possible options and directs the actions taken as a result of decisions. Hence, workers consider their options based on their interpretations of their situation and make decisions accordingly.

Psychosocial factors are important in the development of frames since they are dependent on how workers interact as social beings. Communication, worker support, work pressure, and organisational goals and priorities all have a significant influence on shaping workers assessment of their environment and hence their understanding of the risks present within it. In the face of competing goals and priorities, workers often make decisions that favor production over their own safety in an effort to make short-term gains, such as saving time. The following case studies depict health and safety decision making by workers performing care work, first, by nurses delivering patient care and second, by migrant workers providing services in the residential aged care setting.

14.3 Case Studies

14.3.1 Case Study 1: Australian Hospital-Based Nurses’ Health and Safety Decision Making and Manual Handling Outcomes

14.3.1.1 Background

Australian nurses sustain injuries and illnesses at high rates in the course of their work (Australian Safety & Compensation Council 2008). In particular, nurses are susceptible to musculoskeletal disorders, psychological stress, and infections that arise from their close interactions with work tasks, technology, their colleagues, and patients, within an organisational context. Since nurses’ health and safety fundamentally arise from their work, they are products of their decisions about patient care and how that care is provided (Dekker 2011). The decisions nurses make about performing their work are inextricably linked to their decisions about their own health and safety.

Decision making in modern healthcare exists in a complex system, creating dilemmas about goals and priorities which require nurses to reconcile sometimes conflicting priorities, for example, patient needs with organisational and personal goals (Runciman et al. 2007). Thus, the need to intervene to prevent a patient from falling may cause an injury to the nurse. Contemporary models of occupational health and safety risk assessment do not adequately account for the psychosocial context of the work (Langenhan et al. 2013). A wealth of research has demonstrated the connection between psychosocial risk factors and physical health outcomes (e.g. Everson-Rose and Lewis 2005; Hansen et al. 2012; Houtman et al. 1994; Niedhammer et al. 2008). Notwithstanding this, the relationship between psychosocial factors and physical *safety* outcomes has been less well documented. This research contributes to addressing this gap.

14.3.1.2 Aim

This qualitative research aimed to identify the influences on nurses' occupational health and safety decision making during the course of delivering patient care. The research particularly examined the influence of psychosocial factors on the nurses' decision making to protect their own health and safety using the sensemaking model (Weick 1995; Weick et al. 2005).

14.3.1.3 Method

Nurses working in five Australian hospitals participated in this research. Participant observations occurred across 108 shifts covering days, evenings and nights. Seventy-two nurses participated in semi-structured interviews lasting approximately 30 min, examining their experiences of health and safety practice. Nurses were also asked to describe a situation in which they had perceived their safety to be at risk where they had to make a decision to protect themselves. Interviews were transcribed and uploaded to the NVivo 9 software for thematic analysis. Coding was performed inductively using participants' own words to form categories which were aggregated to produce themes (Braun and Clarke 2006). The themes were further integrated to produce meaningful statements in the form of frames.

14.3.1.4 Results

The findings indicated that nurses assimilate risk information from a variety of sources, including the task itself and the context in which the task presents. Work pressures, organisational goals about patient safety, and perceptions of what it is to be a competent and ethical worker, significantly contribute to how nurses develop frames that prime their health and safety decisions. Four frames guided nurses' decisions: *communicating builds our knowledge*, *experience guides our decisions*, *adapting tasks streamlines our work* and *team working promotes safe working*. In regard to manual handling, frames induced nurses to take short cuts, not to use equipment and not to comply with accepted procedures unless the risks to themselves or the patient were considered to outweigh the perceived benefits of saving time and being efficient.

14.3.1.5 Implications

These findings add weight to the argument that holistic risk assessment must include psychosocial and physical risk factors and must examine the social context of the work. This research emphasizes that psychosocial risk factors arise from beyond the work tasks themselves and extend to the socio-political environment. Safety

versus productivity is a perennial problem in occupational health and safety. This research illustrates how nurses work to balance patient safety with their own safety, justifying the need to better integrate psychosocial and socio-political factors into risk assessment in order to more effectively address health and safety risks.

14.3.2 Case Study 2: Migrant Workers’ Experiences of Health and Safety in Aged Care

14.3.2.1 Background

Aged care is a growing industry in both Australia and Malaysia, given the aging of the population and the increasing numbers of older people entering care services (Hugo 2009). Cultural differences also play out in terms of attitudes toward the care of the elderly. In a collectivist society like Malaysia, the elderly are more likely to be cared for as part of the extended family (Abdul Aziz and Yusoff 2012), although this is changing through the effects of globalization where more women are engaged in paid work. As the population ages, there are fewer options to provide care within the family, increasing the need for full-time paid and external care (Poi et al. 2004). The increase in the aging population is a world-wide trend, heightening the demand for workers to provide care services. In Australia, there are insufficient workers to provide the care required, leading to a reliance on migrant workers to fill the void.

Migrant workers are more likely to experience injuries and illnesses arising from their work due to their language difficulties and cultural differences (Trajkovski and Loosemore 2006). Language difficulties inhibit comprehension of instructions, particularly verbal communication, where speed and the use of local and idiomatic language complicate understanding. Cultural differences, such as inhibited communication, may also exacerbate exposures to physical risks and create psychosocial risks, such as stress, isolation and work pressure (Pearson et al. 2007). Reticence – the culturally related reluctance to speak up (Donald 2010; Ferrin et al. 2007; Jackson 2003) or contribute to decision making at work – may leave migrant workers feeling stressed, untrusting and fearful. Conversely, due to miscommunication and cultural misunderstanding, co-workers may perceive migrant workers to be incompetent or lacking in work ethic. There is a dearth of research in health and safety that examines how such cultural factors, largely psychosocial in nature, affect injury occurrence, for example due to manual handling.

14.3.2.2 Aims

This qualitative research aimed to identify factors which influence migrant workers’ perceptions, communication, and participation concerning occupational health and safety practices, as a basis for intervention to minimize risks.

14.3.2.3 Method

This ethnographic research involved participant observations across two residential aged care sites within one organisation in an Australian state capital city. Observational shifts were conducted across day and evening shifts with 24 shifts and 33 shifts being conducted at sites A and B respectively. Fifty-one worker and 22 resident participants engaged in semi-structured interviews. The worker participants consisted of 31 care workers (61 %), 12 licensed nurses (5 registered and 7 enrolled) (24 %) and 8 managers (15 %). Of the participants providing ‘hands-on’ care, that is the nurses and carers, 23 (53 %) were migrant workers. In the sample, 14/51 (28 %) originated from countries in the Asia Pacific region, including India (14 %), the Philippines (4 %), and Korea, Sri Lanka, Vietnam and China (each 2 %). All managers were Australian. Data were transcribed, inductively coded and thematically analyzed using NVivo 10 to identify themes describing worker experiences of communicating about work health and safety (Riessman 2008).

14.3.2.4 Results

With regard to manual handling, workers were mostly compliant with procedures for resident handling, given the high risk nature of the work for both resident and carer. However, psychosocial factors involving communication, perceptions about cultural beliefs, and work pressure impeded teamwork to complete manual handling tasks effectively, leading to greater risks of injury. Culturally based reticence, and the reluctance to speak up to clarify requirements, seek assistance or reinforce safe practices led to misunderstandings, frustration and reduced safety in performing manual handling tasks. Workers whose first language was not English, required processing time to fully interpret work problems and to participate in problem solving. Work pressure exacerbated these difficulties, diminishing communication, support and trust, thereby eroding the foundations of effective co-operation and safe practice.

14.3.2.5 Implications

While this case study reflects work in progress, the findings suggest that safety at work is a relational process wherein successful communication and decision making requires workers to actively participate. Having a supportive climate that fosters communication, problem solving and co-operation is fundamental to identifying and addressing psychosocial and physical risks before injuries occur. For migrant workers these risks are magnified through both cultural and language differences that may impede the building of trusting relationships and hence participation in developing safe practices ‘on the ground’.

14.3.2.6 Challenges and Future Directions

The literature increasingly highlights the role of psychosocial risks in the development of injuries and ill-health. The interest in this relationship is likely to continue as the implications for productivity, performance and costs to organisations are realized. The findings in these case studies challenge our current approaches to risk assessment and risk management which are simplistic. Organisations require guidance on how to adopt a more holistic approach to risk assessment and control that includes psychosocial factors at the task, job and organisational levels. Currently legislative instruments designed to be used at the enterprise level gloss over the importance of broader psychosocial factors such as the setting and measurement of goals and objectives, and the nature of interactions involved in achieving these. Future work should focus on developing an integrated approach that addresses both psychosocial and physical risk factors and acknowledges their interactive effects on health, safety and well-being. Risk needs to be understood in terms of how work is conducted, the decisions involved, and the psychosocial climate in which it occurs (Jain et al. 2011).

The first priority for future research is to achieve greater understanding of the agencies and mechanisms via which physical and psychosocial risk factors interact to cause or exacerbate injury. One way might be to adopt more elaborate research designs and statistical analyses that more closely examine interaction effects (Leka and Jain 2010). Such studies could also be supplemented with qualitative research that examines how workers and managers experience and react to the demands of these aspects of work. This area of research is pertinent to developed and developing countries in the Asia Pacific given the differences currently existing in risk assessment approaches to physical hazards such as manual tasks. There is need to better promote research and integrate findings into policy frameworks so that there is greater alignment between research, policy and practice (Leka et al. 2011).

The second area worthy of future research and application concerns the need to develop and test methods for enhanced communication and positive work relationships in organisations. Potentially beneficial strategies that are used in high reliability organisations include team briefs, task-based and problem-based training, and strategies for building team work (Christianson et al. 2011; Hopkins 2009; Schöbel 2009). Training and strategies aimed at improving intercultural communication will also be warranted given the influence of increasing globalization in bringing workers of different cultural backgrounds together. Further research is needed on the efficacy of such practical measures in real organisations.

14.4 Conclusion

This chapter highlighted the interaction between psychosocial and physical risk factors in producing safety outcomes, particularly related to musculoskeletal disorders arising from manual handling tasks. In particular, the chapter emphasized differences between the risk assessment tools and techniques used to evaluate these

risks in Malaysia and Australia. The two case studies illustrated how nurses and aged care workers performing patient handling tasks make health and safety decisions based on their understandings of broader psychosocial factors such as organisational goals and attitudes and practices toward safety. Communication and co-operation were fundamental to achieving safe work outcomes for both the workers and those for whom they cared. Evident from both case studies is the need to first, better integrate psychosocial and physical safety into the organisation of work and second, develop more sophisticated risk assessment tools that recognize the interactive nature of these risks in producing injury and ill-health. These issues will have increasing relevance to the Asia Pacific as globalization further influences work organisation and a likely increase in psychosocial risks.

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Part V
Work-Life Balance

Chapter 15

Malaysian Model of Work-Family Interface: Similar or Different from the West?

Zaiton Hassan, Maureen F. Dollard, and Anthony H. Winefield

15.1 Introduction

The chapter concentrates on the Malaysian work-family interface and explores how cultural dimensions, demands, and resources (including aspects of religion) influence the interface and its outcomes using longitudinal data. More specifically, the chapter presents the influence of cultural orientations and organisational policy, namely, individualism-collectivism, traditional gender role ideology, monochronic-polychronic time orientation, and organisational family-friendly policies as well as demands and resources from work, family and community domains on the work-family interface. The work-family interface includes both negative (work-family and family-work conflict) and positive (work-family and family-work enrichment) foci. The chapter also examines the outcomes (i.e., satisfaction towards job, family, community and life) of the work-family interface. Finally, the chapter proposes a model of Malaysian work-family interface, describes key implication for organisations, and challenges and future directions for work-family interface research conducted within Eastern cultures.

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15.2 WFI in Western and Eastern Contexts

Interactions between the work and family domains can be both negative (i.e. conflict) and positive (i.e. enrichment). Both conflict and enrichment are bi-directional, that is work can influence family (work-family conflict (WFC) and work-family enrichment (WFE)) and family can influence work (family-work conflict (FWC) and family-work enrichment (FWE)). Work-family conflict and family-work conflict are defined as “a form of inter-role conflict, in which the demands of work and family roles are incompatible in some respect, so that participation in one role is more difficult because of participation in the other role” (Greenhaus and Beutell 1985, p. 77). While, work-family enrichment and family-work enrichment are defined as “the extent to which experiences in one role improve the quality of life in the other role” (Greenhaus and Powell 2006, p. 73).

Most studies in the work-family area have been conducted in Western countries such as the United States, the United Kingdom and Canada, using Anglo middle class samples (Poelman et al. 2003; Spector et al. 2004). To illustrate, 80 % of the published research on work-family conflict and 95 % of work-family enrichment studies dating from 1980 to 2000 were conducted in Western developed countries (Greenhaus and Powell 2006; Karimi 2006). These countries have different cultural values from non-Western countries, particularly Asian countries (Hofstede and Hofstede 2005). Consequently, studies conducted in non-Western contexts have sometimes yielded different findings from those conducted in Western contexts. For instance, Aryee et al. (2005) in their study in India found that parental role overload, work and family support and conflict were not significantly related to each other. Job involvement was negatively (not positively) related to family-work conflict, that is, the more an employee was involved in his/her job, the less FWC the person encountered; this finding was not evident in individualistic Western societies. However, this is not surprising because in collectivist societies such as India, job involvement is considered critical to ensure the material well-being of the family. Furthermore, family demands had a greater effect on work-family conflict in the United States than in China, whereas work demands had a greater effect on WFC in China than in the United States (Yang et al. 2000). Additionally, working hours were positively (not negative) related to work-family enrichment in Iran (Karimi and Nouri 2009). Therefore, the overarching purpose of this chapter is to present work-family conflict and enrichment, its antecedents and outcomes in Malaysia, a South-East Asian country with Islam as its official religion.

Although some studies on the work-family interface in Asian countries are available, most have come from China, Hong Kong, Taiwan, Singapore—countries with Confucian values (Ling and Powell 2001; Luk and Shaffer 2005; Skitmore and Ahmad 2003), or India with Hindu values (Aryee et al. 2005). Few studies have focused on countries and values where religion plays an important role such as Malaysia. In such countries, in all aspects of life, people practicing different religions tend to have different values and norms (Parboteeah et al. 2009). Malaysia has Islam as its official religion, while other religions are allowed to be practiced freely.

Although for the past few decades research on the work-family interface has been abundant (MacDermid 2005; Kossek and Lambert 2005); most of this research has been conducted with cross-sectional designs. For instance, to date, only 15 studies examining both work-family conflict and enrichment (either uni- or bi-directional) could be located and only one study was conducted longitudinally (Innstrand et al. 2008). Only 11 longitudinal studies on WFC could be found (Steinmetz et al. 2008). Thus the causal direction between work-family interface and its antecedents and/or outcomes cannot be determined. As a result, calls have been made for researchers to employ longitudinal designs to rectify this issue (Byron 2005; Kossek and Ozeki 1998; Poelmans et al. 2003). This chapter will present results from both cross sectional and longitudinal data collected in Malaysia.

15.3 Background of Malaysia

Malaysia is classified as an upper-middle income country, and considered as one of the most developed of the developing countries (PriceWaterhouseCoopers 2006) and The World Economic Forum's Global Competitiveness Report 2012–2013 ranks Malaysia in the top 10 Asia-Pacific countries for competitiveness (PWC 2013). There is a similar trend of employment with Western affluent countries, namely, the increasing number of dual earner families and numbers of women in paid work, which have a direct impact on work family interface. In Malaysia, 62.4 % of the work force is married which includes 44.0 % of dual-earner families (Department of Statistics Malaysia 2005). The Malaysian female labor force participation was 46.1% in 2010 (Malaysian Statistics Department 2014).

In terms of national cultural values, Malaysia is relatively high in collectivism (Hofstede and Hofstede 2005) and ranks first in the humane orientation in the Global Leadership and Organisational Behavior Effectiveness (GLOBE) study among 18,000 managers in 62 countries (Javidan and House 2001). Collectivism focuses on group-oriented relationships, activities and goals. A humane orientation emphasizes taking care of other people's needs. These cultural values have profound influences in molding the Malaysian workforce's characteristics, which are group-oriented, valuing group harmony, avoiding confrontations, and respecting the elderly and authority (Abdullah 1996).

15.4 Work-Family Interface Research in Malaysia: Key Limitations

In Malaysia, a few studies on work-family conflict have been conducted (e.g. Ahmad 1996; Noor 1999, 2006; Samad 2006) but with some limitations. First, the studies focused mainly on professional women. Therefore, little is known about work-family

conflict faced by the non-professional Malaysian women who make up the majority of working women and who have fewer resources than professional women (Economic Planning Unit Malaysia 2006). No known studies in Malaysia have examined the experience of work-family conflict among single employees and men. Research in the US observed no significant differences between single, non-parents, married parents and single parents on reported levels of work-family conflict (Grant-Vallone and Donaldson 2001). Therefore, single employees are included in the study. Second, work-family conflict in Malaysian studies (e.g. Ahmad 1996; Noor 1999, 2006) was measured as unidirectional from work-to-family only, which did not capture the bi-directional construct of the conflict appropriately. Third, few empirical studies could be located on work-family enrichment in Malaysia, thus the positive aspects of work-family interaction is largely unexplored (for an exception see Sabil 2013). Fourth, all identified studies have been conducted using cross-sectional designs and may be subject to common method variance.

This chapter presents a more comprehensive model in understanding work-family interface in Malaysia. Data for this chapter were collected by using a heterogeneous sample among six public and private employees in Sarawak, Malaysia, assessing both conflict and enrichment and utilising a two-wave longitudinal data collection with a three month interval between the waves. The first wave data collection produced responses from 506 respondents (50.6 % response rate) and the second wave data produced responses from 306 respondents (60.0 % response rate). Respondents were contacted through their human resource managers and were given two weeks to complete the questionnaires.

Established measures from previous studies were used (for example; work-family conflict scale by Carlson et al. (2000); work-family enrichment scale by Carlson et al. (2006); work demands from Voydanoff (2004), work overload from Foley et al. (2005); and work involvement from Carlson and Perrewe (1999) and Hyman et al. (2005); family time commitment and family overload from Peeters et al. (2005); demands from neighbors and friends were measured using the demands from friends scale – Voydanoff (2004); work resources measures support from supervisors – Voydanoff (2005), co-workers, Voydanoff (2004), usefulness of WF policies – Lambert (2000) and work autonomy Voydanoff (1988)). All measures were found to be reliable. Structural Equation Modelling using AMOS was utilized to analyze the data.

15.5 Integrated Model of Work-Family Conflict

The foundation for the research is Korabik et al. (2003) conceptual model, an integrative model of work-family conflict. This model takes into account the antecedents and outcomes of work-family interaction. In terms of cultural dimension aspects, it is the first model to address the monochronic-polychronic time orientation cultural dimension. In line with previous cross-cultural studies,

individualism-collectivism and gender role ideology were also included as cultural dimension aspects. In addition, social policy at a country level to assist work-family achieving balance was also examined. Moreover both macro (cultural dimension and social policy) and micro-level (organisation and individual) data were analysed to give a more holistic understanding of the work-family interface.

However, some modifications were made to the model. The cultural dimension aspects encompass two components: cultural orientations and organisational family-friendly policies. Second, cultural orientations which were measured at the individual level, that is, individualism-collectivism, gender role ideology and monochronic-polychronic time orientation were included. Third, positive spillover or personal coping was removed from the cultural dimension aspects in Korabik's model and placed in parallel with work-family conflict. Finally, positive spillover was termed enrichment (work-family enrichment and family-work enrichment).

The repositioning of positive spillover in this study model was based on several reasons. First, besides conflict, interaction between work and family could also produce a positive spillover (Frone 2003; Grzywacz and Marks 2000; Hill 2005; Kirchmeyer 1992). Positive spillover (also referred to as work-family facilitation, enhancement, and enrichment) is also bi-directional which can occur from work to family as well as from family to work and these constructs are distinct (Aryee et al. 2005; Grzywacz and Marks 2000; Voydanoff 2005). Thus, it was more appropriate to place positive spillover in parallel with conflict rather than in the cultural dimension aspects.

Second, positive spillover is not commonly recognised as a core cultural dimension in the literature. None of the established cultural dimensions have included positive spillover as one of the dimensions. Other cultural variables in Korabik's model such as individualism-collectivism and gender role ideology can be located in Hofstede (1980), and monochronic-polychronic time orientation can be found in Trompenaars and Hampden's (1998) cultural dimensions. Based on the evidence suggested above, it can be concluded that positive spillover is not a cultural dimension. Thus it not included in the cultural dimension aspects.

Third, positive spillover can be analysed at a micro-level, i.e. at individual and organisation levels, and the findings could be used by managers and workplaces to assist employees in balancing the work-family responsibilities. In contrast, cultural dimension variables are analysed at a macro-level with the purpose of influencing the development and implementation of public policies. Previous research has also analysed positive spillover at a micro-level (e.g. Almeida et al. 2002; Grzywacz and Marks 2000; Ruderman et al. 2002).

In summary, since positive spillover has been identified as a second component of the work-family interface, and not as an established cultural dimension, and can be analysed at the micro level, positive spillover was removed from the cultural dimension variables and included as a new component, known as enrichment, in parallel with conflict. The repositioning of positive spillover in the conceptual framework affects the focus of the model, from work-family conflict to work-family interface.

15.6 Similarities and Differences in Comparison to Western Findings

Based on a modified integrative model of work-family conflict (Korabik et al. 2003), four major variables were identified in this study: namely (1) cultural dimension orientations (individualism – collectivism, traditional gender role ideology, polychronic time orientation and family-friendly policy); (2) demands and resources from work, family and community; (3) work-family interface (WFC, FWC, WFE, FWE); and (4) outcomes (job, family, community and life satisfaction). The community domain and aspects of religion were also investigated. In addition, we believe this is the first longitudinal study to incorporate community domain demands and resources and aspects of religion in the work-family interface in a non-Western context.

In this study, the majority of respondents were male (56 %), non-executives (77 %), had permanent posts (82 %), were in the age group of 35–45 (36 %), were married for an average of 15 years (53 %) with 1–9 children (80 %), and had a working spouse (50 %), 39 % had 11 years of education, while 15 % had a Bachelors degree. The length of time working in the organisations ranged from 1 to 39 years, with a mean of 12.63 years. Nearly half (45 %) were Malay ethnic and 50 % were Muslim, which reflects the Malaysian national population composition.

This study found some similarities with, and some differences from, previous Western findings. To a certain extent, the findings were consistent with prior Western research. With regards to antecedents of the work-family interface:

- Work demands were positively related to work-family conflict longitudinally;
- Traditional gender role ideology was positively related to conflict (WFC and FWC) longitudinally;
- Traditional gender role ideology was negatively related to enrichment (WFE and FWE) longitudinally;
- Polychronic time orientation predicted enrichment (WFE and FWE) positively longitudinally;
- Knowledge on the availability and utilisation of family-friendly policies were negatively related to conflict (WFC and FWC).

Outcomes of the work-family interface, similar to Western findings were:

- Family-work conflict was negatively related to job, family and life satisfaction;
- Work-family enrichment was negatively related to job satisfaction; and
- Family-work enrichment was positively related to family, community and life satisfaction.

In terms of the work-family interface,

- Enrichment was significantly higher than conflict, with family-work enrichment as the most frequently reported;
- Work-family conflict was higher than family-work conflict.

The results provide evidence that the experience of work-family interface (conflict and enrichment), its antecedents and outcomes may not be culture-specific. The results could be expected given the recent changes in Malaysia that are mirroring those in Western developed countries. The changes include stable economic progress, increasing numbers of women and dual earner families in the paid labour market as well as advances in information technology. In short, because of the abundance of knowledge from Western countries, adapting the Western work-family interface model could be a helpful first step in understanding the work-family interface in different cultural contexts. While some similarities with Western findings were found, some differences also emerged. The main differences in this Malaysian study in terms of antecedents of work-family interface were:

- Aspects of religion (the importance of religion and perception of religiousness) were positively related to work-family enrichment and negatively related to work-family conflict longitudinally and cross-sectionally;
- Aspects of religion (the importance of religion and perception of religiousness) were the strongest predictors of work-family interface;
- Community demands and resources predicted work-family interface components better than work and family demands and resources longitudinally;
- Demands and resources from neighbours and friends were the most important components of the community domain in influencing the work-family interface;
- Malaysians in this study reported higher family-work conflict and lower work-family conflict than their Western counterparts; and work-family conflict was positively related to family satisfaction.

The differences found in this study validate the modification of the integrative work-family conflict model (Korabik et al. 2003). Among the modifications of the model included adding the community domain and aspects of religion (importance of religion and perception of religiousness) as well as the repositioning of 'positive spillover'. The inclusion of the community domain was shown to be critical in understanding the work-family interface in a predominantly collectivist society. The incorporation of the local perspective, in this case, the importance of religion and the perception of religiousness in the work-family interface, were shown to be essential in the context of the Malaysian society. The repositioning of the 'positive spillover' from the cultural dimension aspects in Korabik's model to work-family interface components in this study's model has shown that it captures the notion of the work-family interface more completely. The findings have demonstrated the importance of culture, religion and other non-work domains (i.e. community) in understanding the work-family interface. The roles of culture and religion were implied in interpreting the findings in prior non-Western work-family studies (e.g. Aryee et al. 2005; Noor 1999). Components of community were mentioned previously, but have not been specifically investigated (with the exception of

Voydanoff 2004, 2005). Overall, it can be concluded that Western work-family interface models and findings are useful, but they have to be adapted to suit the needs and cultural norms of a particular society.

15.7 Malaysian Model of Work-Family Interface

Based on this study’s findings, we propose the Malaysian model of work-family interface which highlights the similarities with, and differences from, Western findings. Consistent with Western findings, the antecedents of conflict included traditional gender role ideology and work demands; while antecedents of enrichment included traditional gender role ideology and polychronic time orientation. The outcome for work-family conflict was family satisfaction and outcomes for family-work conflict were job, family, and life satisfaction. The outcome for work-family enrichment was job satisfaction and the outcomes for family-work enrichment were family and life satisfaction. Specifically in the Malaysian work-family interface model, antecedents of conflict and enrichment are aspects of religion (importance of religion and perception of religiousness), community demands (friends and relatives) and community resources (neighbours). The outcome for family-work conflict and family-work enrichment are community satisfaction. The bold arrows show unique antecedents and outcomes in Malaysian context (Fig. 15.1).

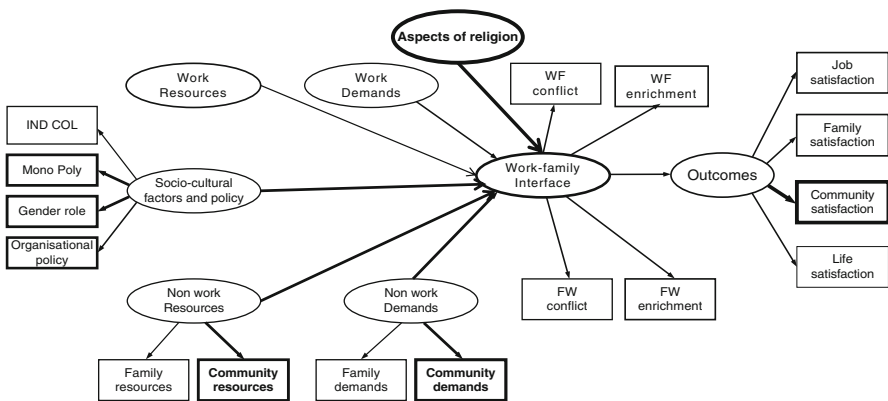


Fig. 15.1 Malaysian model of work-family interface

15.8 Case Studies

15.8.1 Case Study 1: Religiosity and Work Family Conflict (WFC)

Background. A recent study by Shamsudin (2013) aimed to investigate the association between religiosity involvement and dimensions of work family conflict among teachers in Malaysia. Numerous studies have reported that religiosity involvement is highly beneficial in improving the degree of calmness and contributing to the well being of employees. The increase of job stress which contributes to the rising number of mental illness among school teachers that has been reported in Malaysian newspaper recently has prompted this research.

Aims. The study aims to identify the relationship between religiosity involvement and time, strain and behavior based WFC. Religiosity involvement is defined as participation of the individuals in any religious activities such as prayer, reciting the Quran and other spiritual practices such as yoga and meditation.

Method. Teachers from secondary school teachers situated in Kota Bharu, Kelantan, Malaysia were invited to participate in this cross sectional study. The self-administered questionnaires were completed by 148 teachers. Religiosity involvement was measured using nine items from Maltby (1999). WFC was measured using nine items from Carlson et al. (2000). Majority of respondents were female, aged between 36 and 45 years. Most of them were Muslims, married, were degree holders and had been working for 16–25 years as school teachers.

Results. All respondents reported that their schools provided facilities for prayer. More than 90 % of respondents reported their school celebrated Eid, Chinese New Year and/or Diwali, made a prayer before starting work everyday, and engaged and encouraged employees in religious commitment and charitable giving. More than 80 % of the respondents reported their school utilised a religious approach to reduce employees stress (e.g., religious therapy). Finally, 66 % reported their schools provided a specific time to pray. The study found that religiosity involvement was negatively related to all dimensions of work family conflict. In short, increased involvement in religious activity was associated with decrease in time, strain and behavior based WFC among the school teachers in the study.

Implications. The study revealed that religiosity involvement influences work-family conflict experienced by teachers. In the Malaysian context, where religion plays an important role, it was recommended that organisations should encourage their employees to be involved in religious activities by providing appropriate facilities.

15.8.2 Case Study 2: Work-Family Enrichment Dimensions and Satisfaction

Background. A study by Ringgit (2012) aimed to investigate the relationship between dimensions of work family enrichment and job, family, community and life satisfaction among Malaysian employees.

Method. Self-administered questionnaires were completed by 272 employees in three public and three private sector organisations in Sarawak, Malaysia.

(continued)

Results. WFE-capital had a positive significant relationship with job, family, community and life satisfaction. WFE-development had a positive significant relationship with job and life satisfaction while WFE-affect had no significant relationship with satisfaction.

Implications. The study found increased psychological resources (WFE-capital) were important predictors of all facets of satisfaction while increased work competency (WFE-development) was related to job and life satisfaction. Therefore it is important for organisations to invest in activities that deal with self-improvement, besides the usual work-related training.

15.9 Implications for Organisations

In this study, enrichment is experienced more than conflict; with family-work enrichment having the highest score. Family-work enrichment was significantly higher than work-family enrichment, suggesting involvement in family is more beneficial to work than vice versa. Therefore, managers should be informed that non-work, particularly community resources for this Malaysian society, can be an important asset to the work domain. This is because employees who experience enrichment between work and non-work, report benefits such as higher satisfaction to job, family, community and life. Thus, these findings could be used to make managers and organisations' senior management more knowledgeable about the positive aspect of work-family interaction, particularly the positive influence of family on work.

Based on knowledge about interdependency between the work and non-work domain, organisations could support non-work related responsibilities of their employees, thereby creating the experience of enrichment. This study identified antecedents of enrichment: resources (support) from neighbors, applying polychronic time orientation and prioritizing religion in life and practicing religion. All these factors are likely to increase the experience of enrichment of the employees. Therefore, it is recommended that organisations can be involved in neighborhood activities to encourage and foster good relationships among neighbors. At the same time, organisations could sponsor, schedule or participate in religious activities both at the workplace and at the community level. Employees can be encouraged to engage in multiple tasks and to be more relationship oriented – that is, applying polychronic time orientation in their daily tasks without sacrificing productivity. This support will contribute to more satisfied employees, which could then result in greater productivity. Although beyond the scope of this research, it could be anticipated that the strategy of encouraging employees to combine multiple roles (work, family and community) successfully will not only retain the current human capital, but also could be used as a recruitment strategy for potential employees (e.g., Kirrane and Monks 2004).

It is important to create a family/community supportive work environment, in which organisational norms and managers not only acknowledge, but also value and actively support these non-work roles. Therefore, supervisors and managers

need to have the skills to discuss and deal practically with work-family issues. Knowledge and skills to be supportive of work-family issues could be imparted through induction courses, workshops, seminars, bulletins and so on. It is important that managers are aware of employees' family and community situations and that they are approachable for employees in the case of problems in the family or community. It is critical to realize that organisations cannot boost employees' satisfaction without considering non-work domain influences.

15.10 Challenges and Future Research

A few challenges in work-family interface research in Malaysia particularly, and Eastern cultural context generally, have been identified such as the use of cross sectional research designs, gathering data predominantly by questionnaire surveys, use of Western developed measures, moving from conflict and enrichment to balance and the investigation of other domains besides work and family.

Most studies in Eastern cultures have use cross-sectional research designs which are subject to common method variance and cannot identify causal effects (for exception see Lu 2011). Future research is recommended to include longitudinal design and measure all variables at all data collection times (Brough and O'Driscoll 2010; Huang et al. 2004), allowing tests for reverse causation and reciprocal effects.

Besides relying on surveys and self-reporting, other data collection methods should be incorporated in future research. For instance, interviews and diary studies (e.g. Butler et al. 2005; Grzywacz et al. 2007) could validate the survey results. Similarly, data from supervisors, co-workers or spouse/family members could further strengthen the findings (e.g. Grandey et al. 2005; Grant-Vollone and Donaldson 2001) while curbing the single-method bias. No known research in Eastern contexts have used multiple sources of data collection.

Although studies to fill the gap of work-family studies from an Eastern cultural context, have used Western developed measures (for instance, Bhargava and Baral 2009 in India; Oi et al. 2011 in China; Sabil 2013 in Malaysia). Use of these measures was unavoidable because appropriate and validated measures in the work-family field are yet to be specifically established in the Malaysian or Asian context.

Recent studies have examined work-life balance as an individual construct, over and above work-family conflict and enrichment (e.g., Brough and Kalliath 2009; Haar 2009; Kalliath and Brough 2008) and measures of work-life balance are being developed and tested. Thus future studies could examine work- family/life balance as separate constructs, over and above work-family conflict and enrichment. The focus on 'balance' is more 'positivist and constructive' (Haar 2009, p. 40) and it shifts the attention from conflict to balance which may be more useful for organisations and employees.

Prior studies have focused on demands and resources from work and family domains only, as these are the two most important domains for most individuals in individualist Western societies. Future research could investigate community and

aspects of religion as they are important determinants of work-family interface in Eastern cultures as argued in this chapter. Community or the in-group plays a more important role in collectivist societies than in individualist societies. On the other hand, Muslim countries have been categorized as ‘traditional’ in which ‘God is important’ in comparison to secular Western countries (Triandis 2006). Religious faiths with more traditional teachings such as Islam actively uphold a blurring between religion and the external political, social and legal environments. The integration between work and non-work domains is espoused by the religion is also in line with collectivist society values (Yang 2005). To date, few studies have focused on the interrelationship between work, family and community demands and resources simultaneously (for some exceptions, see Voydanoff 2004, 2005 in the US) and no known research studies in Eastern contexts have elaborated on these issues (for exception Seng et al. 2009 on religiosity and WFI).

15.11 Conclusion

The chapter presented the first work-family interface research studies conducted in Malaysia using a longitudinal design that examined cultural dimensions, work-family conflict, enrichment, work, family, community demands and resources as well as aspects of religion and facets of satisfaction. It demonstrates the importance of integrating local culture when investigating the work-family interface. The chapter lays the groundwork for future studies and demonstrates the importance of going beyond the work and family domains in order to understand the work-family interface better. This chapter also provides a basis for further research replications and comparisons in Malaysia and other non-Western countries. Further research must be undertaken to test the robustness of the findings, so that an Eastern model of work-family interface can be fully developed.

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Chapter 16

Work-Family Conflict and Worker Wellbeing in China

Jian Li and Peter Angerer

16.1 Introduction

In China, dramatic social and economic changes have occurred since 1990. The rapid transformation of industrialization and globalization has created substantial challenges in terms of its impact on many aspects of employment and levels of workers' wellbeing (Li and Chen 2011). Under such macro-circumstances, working life in terms of psychosocial factors is accordingly characterized by high flexibility and mobility, by high time pressure, and by increased job insecurity for Chinese workers. Those factors have been observed to be associated with a range of indicators of wellbeing, such as organisational turnover, physical and mental health burden (Li and Jin 2007, Zhang et al. 2010). However, work-family conflict is a phenomenon which has not been well investigated in Chinese research on psychosocial factors at work (Ling and Powell 2001; Lu et al. 2002; Zhang et al. 2006).

For decades, most of the current body of work-family conflict research stems from Western countries (Hammer et al. 2004; Westman and Piotrkowski 1999). As suggested by earlier studies, psychological stress is intricately related to cultural beliefs, values, and norms (Chun et al. 2006; Mazzola et al. 2011). It is reasonable to assume that work-family conflict would be experienced differently across cultures. China represents an interesting setting to conduct research on work-family conflict. Firstly, as a traditionally collectivistic society, China has a strong emphasis on collectivism and family, which focus on the fulfillment of social roles and obligations towards the family in-group (Lai 1995). Secondly, by the end of 2011, the economically active population in China exceeded 1 billion, accounting for one-seventh of the total population globally. More than 90 % of Chinese women participate in formal employment, accounting for 45 % of the total national

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workforce (International Labour Office 2011). Such a high proportion of working women has brought about recent changes in the structures and roles of both work and family. Thirdly, with more than 5,000 years of history, the dominant philosophy, Confucianism, still plays the central role to guide Chinese people's behaviors and norms. For example, Chinese women are still expected to take primary responsibilities for families, even though they are in full-time employment. Consequently, as working women, they have a *double burden* of demands in both the workplace and the home (Leung 2003).

This chapter reviews work-family conflict within the Chinese context, its antecedents and consequences, and gender differences. We also discuss the challenges and future directions of work-family conflict research and include two case studies illustrating Chinese work-family conflict research.

16.2 Work-Family Conflict

Work-family conflict has been defined as “a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respects. That is, participation in the work (family) role is made more difficult by virtue of participation in the family (work) role” (Greenhaus and Beutell 1985, p. 77). It is widely accepted that there are two directions of role interference between work and family, from work to family (work-to-family conflict, WFC) and from family to work (family-to-work conflict, FWC; Frone et al. 1992a; Mesmer-Magnus and Viswesvaran 2005), and the two forms of conflict between work and family are only moderately correlated (0.48; Mesmer-Magnus and Viswesvaran 2005).

16.3 Work-to-Family Conflict (WFC) and Family-to-Work Conflict (FWC)

In general, most studies suggest that work factors are more related to WFC while family factors are more related to FWC (Byron 2005). However, the relative importance of work or family is different within individualistic and collectivist contexts (Spector et al. 2004). In individualistic societies, the meaning of work refers to personal ambition and achievement, and the division of work and family roles is clear (Adams et al. 1996; Schein 1984; Yang et al. 2000). In contrast, in collectivist societies like China, the meaning of work is focused on supporting the family more than self-improvement (Lai 1995; Yang et al. 2000). As a result, overtime work is generally regarded as a self-sacrifice for the benefit of the family, rather than a sacrifice of the family for the selfish pursuit of one's own career (Ngo and Lau 1998; Yang et al. 2000). The family members accept the extra work which interrupts family life temporarily, and they support and even encourage such self-sacrificial behavior for the sake of future benefits (Lai 1995; Lin and Lai 1995).

In addition, a number of social and family factors reducing Chinese family demands should be recognized. The one-child policy has significantly changed Chinese family size and reduced the burden of childcare and housework. In addition, Chinese parents are often willing to assist their married children with household chores and child rearing (Ling and Powell 2001; Lu et al. 2008; Yang et al. 2000).

Nevertheless, across Western to Eastern cultures, work is still the central realm of adulthood (Frone et al. 1992a). Therefore, the level of WFC is higher than FWC (Aryee et al. 1999; Hassan et al. 2010; Hill et al. 2004; Ngo and Lau 1998). Thus the following hypothesis is proposed:

Hypothesis 1: Levels of WFC is higher than levels of FWC.

16.4 Gender Differences in Work-Family Conflict

Historically and internationally, work and family roles are heavily gender-based (Bielby 1992; Pleck 1977), i.e., men's breadwinner role and women's housekeeper role. Men are traditionally expected to gain income to support their family, whereas women are traditionally based at home for managing household chores. In China, Confucianism which has guided people's behaviors and values for thousands of years explicitly regulates different gender roles: men act primarily outside and women act primarily inside (Graham 1990; Leung 2003). As we mentioned above, most Chinese women participate in employment (International Labour Office 2011), but they also continue to undertake the majority of responsibilities for housework and child-rearing (Choi and Chen 2006; Lai 1995). In Chinese culture, the man's success in career implies not only his personal achievement but also his contribution to the honor and fame of his family (Graham 1990; Ngo and Lau 1998; Yang et al. 2000). A man who is not successful at work is criticized as a loser, no matter how good a family member he is (Choi and Chen 2006; Leung 2003; Zuo and Bian 2001). The traditional model for a Chinese woman is a virtuous wife and a good mother (Graham 1990; Leung 2003). A woman who departs from this family role is regarded as unfeminine, no matter how much income she produces from formal employment (Choi and Chen 2006; Zuo and Bian 2001). Many Chinese women sacrifice their professional careers in order to fulfill their family duties (Yi and Chien 2002).

Consequently, gender differences in work-family conflict still occur in China. Work interferes with family more for men because they are more likely than women to take work home and are also more likely to use family time to deal with their stress arising from work. In contrast, family interferes with work more for women because they take more primary responsibilities to manage household chores and family-related stress (Choi and Chen 2006; Pleck 1977). Thus the following hypothesis is proposed:

Hypothesis 2: WFC is higher in men compared to women, and FWC is higher in women compared to men.

16.5 Work-Family Conflict and Wellbeing

Usually, work-family conflict is deemed as one potential source of stress which has negative effects on workers' wellbeing, such as job satisfaction, turnover behaviors, burnout, sick leave, life satisfaction, somatic symptoms, psychological complaints and depression (Canivet et al. 2010; Casini et al. 2010; Chandola et al. 2004; Emslie et al. 2004; Hammer et al. 2004; Simon et al. 2004; Wang et al. 2007). Many studies do not distinguish the two directions of work-family conflict from each other, or else focus on WFC only (Allen et al. 2000). According to recent meta-analyses based on studies mostly conducted in Western countries, WFC has stronger effects on wellbeing compared to FWC (Amstad et al. 2011; Mesmer-Magnus and Viswesvaran 2005). However, a large cross-national study suggested that WFC is more strongly related to satisfaction and turnover in societies of individualism than in collectivist cultures (Spector et al. 2007). Few studies available from Asian countries support this suggestion. For example, two Japanese studies indicated that both WFC and FWC produced similar effects on psychological health (Shimazu et al. 2013; Watai et al. 2008), and one Malaysian study found that FWC was more strongly associated with job satisfaction than was WFC (Hassan et al. 2010). Moreover, most studies on work-family conflict and wellbeing were conducted with cross-sectional research designs without drawing causal relations, only a few longitudinal studies have been conducted (Grandey et al. 2005; Grant-Vallone and Donaldson 2001; Hammer et al. 2005; Kelloway et al. 1999). Thus the following hypothesis is proposed:

Hypothesis 3: Both WFC and FWC are significantly associated with wellbeing both cross-sectionally and longitudinally.

In the next section, these three hypotheses will be examined, and empirical evidence from China is provided.

16.6 Case Studies

In our two studies conducted in China, a four-item scale of work-family conflict was applied. The scale consisted of two dimensions: WFC (2 items, "Because of my demanding job I am often too tired to do activities together with my partner or children", "Because of my demanding job I am often too tired to engage in leisure time activities") and FWC (2 items, "Private or family problems are keeping me from engaging in my job in an appropriate way", "Because of my demanding private life I am often tired and absent-minded during working time"). Items were answered on a 4-point Likert response scale from "strongly disagree" to "strongly agree". This work-family conflict scale was adopted from US and German studies (Frone et al. 1992b; Frone 2000; von dem Knesebeck et al. 2004), and has been previously applied in a Chinese context (Ngo and Lau 1998).

Four indicators of wellbeing were included in our studies: job burnout was measured by a 6-item scale derived from the Copenhagen Burnout Inventory (Cronbach's alpha coefficient of Chinese version: .88; Kristensen et al. 2005; Yeh et al. 2007); sleep quality was measured by the 4-item Jenkins Sleep Questionnaire (Cronbach's alpha coefficient of Chinese version: .88; Jenkins et al. 1988; Shang et al. 2009); and the 8-item short-form health survey (SF-8) was applied to assess physical and mental health functioning (Cronbach's alpha coefficient of Chinese version: .84). SF-8 is comprised of an 8-item subset of the SF-36, which has been previously used in China (Li et al. 2003, 2006). All the scores of the above variables ranged from 0 to 100, the high value representing a high level of the concept being measured. In addition, perceived work stress and family stress were measured by a single item ("In general my work/family stress is...") with 4-point Likert categories from "very low" to "very high" respectively (Littman et al. 2006; Metzenthin et al. 2009).

16.6.1 Case Study 1: A Cross-Sectional Study in Chinese General Working Population

This was a cross-sectional community-based study. Since the present report focuses on work and family, 1,890 respondents who were employed and married were included for data analyses. The details of this study were described elsewhere (Li et al. 2012). Regarding the measurement of work-family conflict, the Cronbach's alpha coefficients for both WFC and FWC subscales was .68. The correlation between WFC and FWC was .46 in our Chinese sample and is similar to the correlation results reported by a meta-analysis (.48; Mesmer-Magnus and Viswesvaran 2005). These results indicate that the two forms of work-family conflict are conceptually and empirically distinct constructs.

The data showed that men reported higher levels of work stress than women, whereas the level of family stress was similar across genders. Men had significantly better sleep quality, physical and mental health functioning compared to women. As expected, levels of WFC were higher than FWC in both genders (49.25 ± 18.94 vs. 39.84 ± 16.26 , $P < 0.0001$), supporting Hypothesis 1.

Education level, employment status, work stress, and family stress all had effects on work-family conflict (Table 16.1). In general, low education, precarious employment, high work stress, and high family stress were all related to high WFC and FWC. Concerning the gender differences in work-family conflict, we observed that men had slightly higher WFC than women, whereas FWC was not significantly different between men and women, partly supporting Hypothesis 2. In the past three decades, some evidence shows that gender equity has improved. Although men's breadwinner role is still their primary role, public media encourages men to share the burden of housework in order to be the 'new ideal' of modern men (Wang et al. 2010; Zuo and Bian 2001). This might explain the non-difference result for FWC across the genders.

Table 16.1 Scores (mean \pm SD) of work-family conflict by socio-demographic factors in Chinese general working population (N = 1,890)

| Men (N = 958) | | WFC | FWC |
|-------------------|-----------------------|-------------------|-------------------|
| Education | High school and below | 52.00 \pm 18.30 | 41.84 \pm 16.40 |
| | College and above | 47.92 \pm 18.62 | 37.29 \pm 15.41 |
| <i>P</i> | | 0.0007 | < 0.0001 |
| Employment | Non-precarious | 49.06 \pm 18.14 | 38.36 \pm 15.49 |
| | Precarious | 52.80 \pm 19.19 | 43.18 \pm 17.03 |
| <i>P</i> | | 0.0039 | < 0.0001 |
| Work stress | Low | 47.89 \pm 18.59 | 40.02 \pm 16.34 |
| | High | 53.75 \pm 17.92 | 39.62 \pm 15.83 |
| <i>P</i> | | < 0.0001 | 0.7063 |
| Family stress | Low | 46.98 \pm 17.59 | 38.57 \pm 15.67 |
| | High | 57.28 \pm 18.64 | 42.66 \pm 16.76 |
| <i>P</i> | | < 0.0001 | 0.0003 |
| Women (N = 932) | | WFC | FWC |
| Education | High school and below | 50.33 \pm 18.65 | 42.21 \pm 16.98 |
| | College and above | 45.17 \pm 19.84 | 36.30 \pm 14.83 |
| <i>P</i> | | < 0.0001 | < 0.0001 |
| Employment | Non-precarious | 47.68 \pm 19.40 | 38.81 \pm 15.96 |
| | Precarious | 49.19 \pm 19.11 | 41.50 \pm 16.99 |
| <i>P</i> | | 0.2452 | 0.0153 |
| Work stress | Low | 45.36 \pm 17.70 | 38.53 \pm 15.38 |
| | High | 55.29 \pm 21.15 | 42.99 \pm 18.31 |
| <i>P</i> | | < 0.0001 | 0.0005 |
| Family stress | Low | 45.36 \pm 17.54 | 38.72 \pm 15.54 |
| | High | 54.80 \pm 21.40 | 42.28 \pm 17.99 |
| <i>P</i> | | < 0.0001 | 0.0042 |
| Total (N = 1,890) | | WFC | FWC |
| Gender | Men | 50.23 \pm 18.54 | 39.86 \pm 16.13 |
| | Women | 48.25 \pm 19.29 | 39.82 \pm 16.40 |
| <i>P</i> | | 0.0231 | 0.9653 |

Differences were determined by student's *t*-test

Table 16.2 presents the results of associations between work-family conflict and wellbeing. Interestingly, both WFC and FWC were associated with women's wellbeing, however, FWC exerted more effects on wellbeing in men. As discussed above, Chinese working women are also primarily responsible for household chores (Choi and Chen 2006; Graham 1990; Lai 1995; Leung 2003; Yi and Chien 2002; Zuo and Bian 2001), such dual exposure would make them more vulnerable to the effects of stress on wellbeing and health (Xu et al. 2004; Zhou et al. 2010). In contrast, for Chinese men, WFC is allowed and is even appreciated by their family members (Choi and Chen 2006; Graham 1990; Leung 2003; Ngo and Lau 1998; Yang et al. 2000; Zuo and Bian 2001). While men's levels of WFC are much higher than their levels of FWC, WFC had a limited but significant impact on their wellbeing, particularly on job burnout. Our Hypothesis 3 is therefore supported.

Table 16.2 Regression coefficients (95 % CIs) of wellbeing indicators by work-family conflict in Chinese general working population (N = 1,890)

| Men (N = 958) | | Model I | Model II |
|-----------------|-----------------------|--------------------------|--------------------------|
| Job burnout | WFC (increase per SD) | 5.06 (3.88, 6.23) *** | 3.55 (2.39, 4.71) *** |
| | FWC (increase per SD) | 4.56 (3.40, 5.72) *** | 4.44 (3.32, 5.56) *** |
| Sleep quality | WFC (increase per SD) | -1.63 (-3.05, -0.21) * | -0.88 (-2.34, 0.58) |
| | FWC (increase per SD) | -4.99 (-6.40, -3.59) *** | -5.00 (-6.41, -3.59) *** |
| Physical health | WFC (increase per SD) | -0.46 (-0.89, -0.04) * | -0.25 (-0.69, 0.18) |
| | FWC (increase per SD) | -0.89 (-1.30, -0.47) *** | -0.89 (-1.30, -0.47) *** |
| Mental health | WFC (increase per SD) | -0.34 (-0.80, 0.12) | 0.11 (-0.36, 0.57) |
| | FWC (increase per SD) | -1.54 (-1.99, -1.08) *** | -1.56 (-2.00, -1.11) *** |
| Women (N = 932) | | Model I | Model II |
| Job burnout | WFC (increase per SD) | 5.13 (3.86, 6.41) *** | 3.06 (1.84, 4.27) *** |
| | FWC (increase per SD) | 3.28 (1.99, 4.57) *** | 3.12 (1.93, 4.32) *** |
| Sleep quality | WFC (increase per SD) | -3.38 (-4.94, -1.81) *** | -2.04 (-3.63, -0.45) * |
| | FWC (increase per SD) | -5.28 (-6.87, -3.70) *** | -5.00 (-6.57, -3.44) *** |
| Physical health | WFC (increase per SD) | -0.62 (-1.07, -0.17) ** | -0.33 (-0.78, 0.12) |
| | FWC (increase per SD) | -0.99 (-1.44, -0.54) *** | -0.91 (-1.36, -0.47) *** |
| Mental health | WFC (increase per SD) | -1.13 (-1.59, -0.67) *** | -0.65 (-1.11, -0.19) ** |
| | FWC (increase per SD) | -1.13 (-1.59, -0.66) *** | -1.09 (-1.54, -0.64) *** |

Model I: non-adjustment

Model II: adjustment for age, education, employment status, work stress, and family stress

Linear regression **P* < 0.05; ***P* < 0.01; ****P* < 0.001

16.6.2 Case Study 2: A Longitudinal Study in Chinese Female Nurses

As an occupation with a high risk of work stress, nurses have been frequently investigated to examine their levels of work-family conflict (Grzywacz et al. 2006; Simon et al. 2004). We designed a longitudinal study with one year follow-up in hospital female nurses. Work-family conflict and wellbeing were measured twice at baseline and at follow-up. The characteristics of the follow-up sample were comparable to the baseline sample. A total of 1,791 nurses participated in both surveys. The details of this study were described elsewhere (Li et al. 2010).

The respondents reported high levels of work stress and WFC compared to the general working population. After one-year interval, WFC and FWC both demonstrated significantly increases while all four wellbeing indicators significantly declined (Table 16.3).

As can be seen from Table 16.4, both changes in WFC and FWC were associated with changes in wellbeing in expected directions, i.e., increased work-family conflict predicted increased job burnout and decreased sleep quality, physical and mental health; and WFC demonstrated greater effects than FWC. In line with the social norms in China, stressful working conditions demonstrated a significant interference with the

Table 16.3 Scores (mean ± SD) of work-family conflict and wellbeing indicators at baseline and at follow-up in female nurses (N = 1,791)

| | Baseline | Follow-up | Change between baseline and follow-up | P for trend | Correlation coefficient between baseline and follow-up |
|-----------------|---------------|---------------|---------------------------------------|-------------|--|
| WFC | 62.25 ± 22.69 | 64.45 ± 22.23 | 2.20 ± 26.56 | 0.0005 | 0.30 |
| FWC | 31.44 ± 17.10 | 33.43 ± 17.58 | 1.98 ± 21.21 | <0.0001 | 0.25 |
| Job burnout | 49.31 ± 22.08 | 51.84 ± 21.97 | 2.53 ± 22.48 | <0.0001 | 0.48 |
| Sleep quality | 55.81 ± 24.53 | 53.38 ± 23.50 | -2.43 ± 25.13 | <0.0001 | 0.45 |
| Physical health | 47.48 ± 6.96 | 46.53 ± 6.96 | -0.95 ± 7.98 | <0.0001 | 0.34 |
| Mental health | 44.85 ± 8.52 | 44.37 ± 8.74 | -0.48 ± 10.14 | 0.0467 | 0.31 |

Table 16.4 Regression coefficients (95 % CIs) of changes in wellbeing indicators by changes in work-family conflict in female nurses (N = 1,791)

| | | Model I | Model II |
|----------------------------|----------------------------------|---------------------------|--------------------------|
| Changes in job burnout | Changes in WFC (increase per SD) | 15.34 (13.52, 17.16) *** | 15.00 (13.17, 16.83) *** |
| | Changes in FWC (increase per SD) | -0.49 (-2.32, 1.34) | -0.32 (-2.15, 1.50) |
| Changes in sleep quality | Changes in WFC (increase per SD) | -8.60 (-10.50, -6.69) *** | -8.53 (-10.45, 6.61) *** |
| | Changes in FWC (increase per SD) | -3.30 (-5.20, -1.39) *** | -3.35 (-5.25, -1.44) *** |
| Changes in physical health | Changes in WFC (increase per SD) | -3.25 (-3.90, -2.60) *** | -3.20 (-3.86, -2.54) *** |
| | Changes in FWC (increase per SD) | -1.11 (-1.76, -0.46) *** | -1.08 (-1.74, -0.43) *** |
| Changes in mental health | Changes in WFC (increase per SD) | -4.69 (-5.51, -3.87) *** | -4.53 (-5.36, -3.71) *** |
| | Changes in FWC (increase per SD) | -1.35 (-2.17, -0.53) *** | -1.40 (-2.22, -0.58) *** |

Model I: non-adjustment

Model II: adjustment for age, marital status, education, work hours, position rank, contract status, shift work, work stress, and family stress

Linear regression ***P < 0.001

nurses’ family life, their primary housekeeper role is accordingly violated (Choi and Chen 2006; Graham 1990; Lai 1995; Leung 2003; Zuo and Bian 2001; Yi and Chien 2002). The results indicate a strong detrimental effect of WFC on female nurses’ wellbeing. Hypothesis 3 is supported with this longitudinal data.

16.7 Challenges and Future Directions

The major findings based on our research indicate that Chinese workers reported higher WFC than FWC, in line with studies from other countries (Aryee et al. 1999; Frone et al. 1992a; Hassan et al. 2010; Hill et al. 2004). Individualistic societies such as the US typically do not identify differences of WFC and FWC between men and women (Frone et al. 1992b; Frone 2000), while in collectivist societies like Japan (Shimazu et al. 2013; Watai et al. 2008) and China, WFC was observed more in men than in women, but FWC was mixed between men and women. Due to the centrality of the work role for Chinese men, and dual exposure to work and family for Chinese women (Choi and Chen 2006; Graham 1990; Lai 1995; Leung 2003; Ngo and Lau 1998; Yang et al. 2000; Yi and Chien 2002; Zuo and Bian 2001), men's wellbeing was mainly associated with FWC, whereas both WFC and FWC affected women's wellbeing. Our longitudinal studies further emphasized the double burden experienced by employed Chinese women.

In future, several issues deserve more attention. Firstly, the measurement of work-family conflict is derived from Western studies, it is not well justified whether the instrument is suitable to Eastern culture (Aryee et al. 1999; Powell et al. 2009). For example, the Cronbach's alpha coefficients from our study were relatively lower than those reported in both US and German research (Frone et al. 1992b; Frone 2000; von dem Knesebeck et al. 2004). Therefore, developing a culture-adjusted instrument in Chinese context is warranted. Future research should also consider the different types of work-family conflict (time-based, strain-based, behavior-based; Greenhaus and Beutell 1985), as well as concepts beyond conflict, such as work-family enrichment (Carlson, Grzywacz and Zivnuska 2009; Westman and Piotrkowski 1999; see Chap. 17 of this book). Secondly, we need to acquire more knowledge on gender-based work-family conflict in China, particularly the longitudinal evidence. So far, only a few cross-sectional studies are available which explicitly examine gender issues on work and family roles in China (Choi and Chen 2006; Lai 1995; Zuo and Bian 2001). Our longitudinal study was focused on women only, to our knowledge, no longitudinal study in Chinese men has been reported to date. It would be interesting to see the dynamic changes in work-family conflict over time. Thirdly, some evidence from Western countries has demonstrated that family-friendly programs, such as work-family-specific supervisor and organisation support, flexible worktime arrangement, and child-care provision, prove useful in reducing work-family conflict and improving wellbeing (Hammer et al. 2011; Kossek et al. 2011; Moen et al. 2011). Such intervention measures on work-family conflict in China which are still lacking should be initiated as soon as possible to improve the balance between work and family life.

16.8 Conclusion

The current studies provide preliminary evidence that work-family conflict in Chinese workers is one important psychosocial factor at work. Contradicting Western societies with individualistic culture, an obvious gender-based division in China with a collectivist culture is observed: i.e., that a breadwinner role is central for men whereas women are dually exposed to work and family demands. Thus, men's wellbeing is majorly determined by FWC, while women's wellbeing is affected by both WFC and FWC. If confirmed by further longitudinal investigations and intervention studies, some policy implications could then be proposed to promote healthy work environments (World Health Organisation 2010).

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Chapter 17

Work-Life Enrichment

Paula Brough, Zaiton Hassan, and Michael O’Driscoll

17.1 Introduction

Similar to traditional occupational stress research, the majority of initial interest in how factors of non-work life influence employee health and performance focused on negative aspects. In particular, much of the initial work-life balance research focused on how work-life conflict negatively impacts (or ‘interferes’ with) work attitudes and performance (O’Driscoll et al. 1992). It is only relatively recently that the positive associations between non-work life and employee health and performance at work have been researched in detail. For example, receiving strong family support can significantly assist with managing highly demanding job tasks. Similarly, working within a ‘family-friendly’ environment can significantly reduce the strain arising from various family demands (e.g., Brough et al. 2005; O’Driscoll et al. 2006). Multiple terms are used to explain these positive associations, including: enhancement (O’Driscoll 1996); facilitation (Brough et al. 2007; Wayne et al. 2004); positive spillover (Hanson et al. 2006) and enrichment (Greenhaus and Powell 2006; Wayne et al. 2006). Whilst these terms are often used interchangeably, some researchers have noted different associations between both independent and dependent variables and the specific construct of enrichment/facilitation/spillover being assessed (e.g., McNall et al. 2010). In this chapter we therefore adopt the term work-life enrichment to encompass positive

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associations between the work and non-work domains. We also note that work-life enrichment is a bidirectional construct; work may positively influence the non-work domain and vice-versa. A commonly cited definition of work-life enrichment is provided by Greenhaus and Powell (2006, p. 73): “the extent to which experiences in one role improve the quality of life in the other role.” In the following sections we discuss the common antecedents and consequences of work-life enrichment.

In this chapter we review current research concerning work-life enrichment conducted within both the Asia-Pacific region and by other major international researchers. In particular, we discuss the associations between work-life enrichment and work-life conflict. We then discuss the key antecedents and consequences of work-life enrichment, and the impact of moderators (buffers) and mediators of the effects of work-life enrichment. We illustrate the pertinence of work-life enrichment research by the inclusion of two case studies. The chapter ends with a brief review of the challenges and future directions for work-life enrichment research.

17.2 Key Antecedents of Work-Life Enrichment

A few theoretical models of antecedents and consequences of work-family enrichment have been published in the literature, but one which has attracted considerable attention in recent years is that proposed by Greenhaus and Powell (2006), who outlined five categories of resources which might lead to higher levels of enrichment between work and family life. These five categories are: (a) skills and perspectives developed in each domain, (b) psychological and physical resources, (c) flexibility, (d) social capital (that is, cultivating social relations which can later be used to enhance one’s functioning either at work or in the family), and (e) material resources. Each of these types of resources can be important, depending on their salience to the person and their relevance to the kind of support that the individual needs. For instance, in respect of the first category, developing time-management skills at work may help the person to function more efficiently at home. Psychological resources include positive self-evaluations (such as self-efficacy) and esteem, along with hardiness or resilience. An example of physical resources is the individual’s level of physical health. Flexibility at work and at home enables the person to schedule and control their work and family commitments and responsibilities. Social capital can be gained from interpersonal relationships which may generate information or influence. Finally, it is clear that several kinds of material resources (such as finances) can be highly important to the development of enrichment, by allowing the individual to engage in activities to meet their needs and that are important to them.

A further element of Greenhaus and Powell’s model is that it distinguishes two pathways to enrichment: the instrumental path and the affective path. According to this model, resources from one domain (e.g. work) can be directly utilised to improve performance in the other domain (e.g. family). For example, work which

leads to increases in self-esteem, self-efficacy and self-confidence may enhance performance in the home environment because it “stimulates motivation, efforts, performance, and goal setting” (Greenhaus and Powell 2006, p. 81), which then carry across to the family domain. Similarly, developing social capital (positive social relationships) at work may spill over into home life and help the person to function more effectively as a partner/spouse and parent. Finally, as noted above, material resources which are generated from work, such as finances, may have a direct effect on family functioning and success.

The affective path operates somewhat differently. In this case, a person’s moods and emotions can spill over between domains. For instance, after a fulfilling day at work, the individual returns home in a positive frame of mind, feeling confident about him/herself and their ability to deal with issues. This positive frame of mind spills over into the family domain. Hence psychological resources such as self-esteem, optimism and hardiness (or resilience) can “trigger a positive mood, positive emotions, or satisfaction with that role” (Greenhaus and Powell 2006, p. 82) which then enhance the person’s overall well-being.

One variable that has received considerable attention in the work-family literature is social support, which can emanate from various sources, including the person’s work organisation (e.g. supervisors, colleagues or the organisation as a whole), family members (especially partner or spouse, but perhaps also parents or children) and friends or neighbours. Social support can be either instrumental (practical help) or emotional support. Several investigators have explored the role of social support as an antecedent that enhances enrichment. For example, following the work of Grzywacz and Marks (2000), Lu and her colleagues (2009) examined the impact of support from one’s supervisor, work colleagues, and spouse or partner among Chinese dual-career parents. They reasoned that only support which enhances a person’s functioning in either the work domain or the family domain will be valuable to the person, and therefore will be associated with increased enrichment.

Lu et al. found that spousal support was the most important source of social support for increasing enrichment. Having a supportive partner enhanced the individual’s functioning, more so than supervisor or co-worker support. Therefore, Lu et al. argued that the source of support may be as important, or even more important, than the kind of support that is offered. For instance, if one’s partner provides both practical (instrumental) and emotional (affective) support, this can enable more enrichment between domains, whereas supervisors and colleagues may be able to offer only limited types of support to a person who is in a dual-career relationship. Interestingly, the authors suggested that to some extent their findings might be specific to a collectivistic culture, where family ties and mutual support within the family are highly valued. However, this idea needs to be tested in other cultural contexts.

Wayne et al. (2006) also examined whether social support is important for increasing enrichment levels, in an insurance company in the United States. They predicted that use of family-friendly benefits provided by the organisation and a supportive organisational culture would foster high work-to-family enrichment,

and that instrumental and emotional support from family members would lead to high family-to-work enrichment. Their results provided some support for these predictions, although more informal types of support had a greater impact than formal organisational policies (benefits). It would seem that a supportive culture (for instance, supportive supervisors and work colleagues) may be more critical than formal policies in promoting work-to-family enrichment.

As well as social support, other situational antecedents that have been investigated by researchers include job characteristics, including the degree of flexibility provided to employees in respect of time and the amount of control that people perceive they can exert over their work time. Flexibility has been demonstrated to have consistently positive effects on work-to-family enrichment (Hill et al. 2007), probably because it enables individuals to attend to family matters when they need attention, and also because it may increase a person's sense of control over their work and family contexts. Feelings of control are particularly important in this regard and have been shown to lead to better management of the work-family interface (Boyar and Mosley 2007; Rotondo and Kincaid 2008).

The list of antecedents briefly summarised above is by no means exhaustive, and the growing research literature on work-family enrichment indicates that several other factors may also be salient, including dispositional factors, for example self-efficacy, optimism, and resilience. However, from a practical perspective, it is important that both organisations and individuals focus on situational characteristics that may enhance enrichment levels, rather than relying on individuals to develop dispositional attributes that may (or may not) be effective.

17.3 Key Consequences of Work-Life Enrichment

Research evidence is increasingly demonstrating significant relationships between work-life enrichment and a number of work and non-work consequences. Some of these key consequences are briefly reviewed here.

One important consequence is the impact of work-life enrichment upon levels of individual health and well-being. Generally, levels of both physical and mental health for both male and female employees are positively impacted by work-life enrichment (Grzywacz 2000; McNall et al. 2010; O'Driscoll et al. 2006). A number of work-specific consequences of work-life enrichment have also been assessed. Considerable evidence demonstrates the positive relationships between work-life enrichment and both job performance and positive job attitudes (e.g., job satisfaction, job commitment, organisational citizenship behaviour). For example, significant positive associations between work-life enrichment and supervisor ratings of job performance were noted by Carlson et al. (2011) in their sample of employees and their respective supervisors. In their meta-analysis of work-life enrichment, McNall et al. (2010) noted significant associations between work-life enrichment and both job satisfaction and affective commitment. Similarly, Wayne et al. (2006) also noted that work-to-family enrichment positively predicted affective organisational commitment.

In New Zealand research conducted in a human resource consultancy, Balmforth and Gardner (2006) noted that work-life enrichment was significantly related to job satisfaction, affective organisational commitment, and organisational citizenship behaviour. Additionally, assessing reciprocal relationships within a longitudinal research design with Taiwanese employees, Lu (2011) found that work-life enrichment and job satisfaction were mutually related to one another over time. Lu suggested that testing simple linear relationships between work-life enrichment and key outcome variables is simplistic and instead “more elaborate and recursive models including reciprocal relationships need to be formulated to better represent the dynamic and fluid nature of work-family interference processes.” (p. 385). Finally, work-life enrichment has also been found to have direct associations with job turnover intentions. For example, both Balmforth and Gardner (2006) and Wayne et al. (2006) noted that work-life enrichment was negatively associated with turnover intentions.

Two recent studies conducted within the Asian-Pacific region each addressed Lu’s (2011) methodological observations and have conducted research into work-life enrichment with longitudinal and repeated measures research designs. Such designs allow for the testing of a number of directions of associations between the variables. In their research conducted with Australian employees who had some form of immediate family (i.e., were either married and/or had dependent children), Timms et al. (under review) demonstrated enduring effects for work-life enrichment in the prediction of both work engagement and family satisfaction. Timms et al. concluded that “enriched experiences of the workplace provide tangible benefits to people’s family lives and long-term returns to organisations in the form of ongoing employee engagement.” (p. 1).

In a second recent longitudinal investigation with a sample of Chinese employees, Siu et al. (in press) tested direct and indirect relationships between work-life enrichment, job and family satisfaction, and job and family support. Siu et al. reported that direct associations between these variables were simplistic and that job satisfaction acted to mediate the relationship between supervisor support and subsequent levels of work-life enrichment. Similarly, family satisfaction mediated the relationship between family support and subsequent levels of work-life enrichment. Importantly, Siu et al.’s research noted that enriching the “quality role experiences, rather than reduced participation in one domain, can enable cross-domain enrichment” (p. 19). Thus for example, work-life balance can be influenced by increasing the quality (enrichment) of a job role, rather than by simply reducing the amount of time in paid employment.

A final group of consequences of work-life enrichment are non-work outcomes, most commonly family satisfaction and marital satisfaction. Some research, as noted above, simultaneously assesses both work and non-work consequences of work-life enrichment. For example, Lu (2011) also found that family support, work-life enrichment and family satisfaction were mutually related to one another over time among Taiwanese employees. Similarly, Timms et al. (under review) in their Australian research, demonstrated longitudinal relationships between work-life enrichment, work engagement and family satisfaction. Finally, Hakanen

et al. (2011) in their sample of Finnish dentists found that that work-life enrichment had a significant impact upon long-term levels of marital satisfaction.

It is pertinent to note recent research examining the consequences of work-life enrichment utilising longitudinal research designs and it appears that researchers within the Asian Pacific region are having a significant impact in this field. The importance of studying the complex associations between these variables, as opposed to simple cross-sectional associations, has been widely acknowledged (e.g., Brough and O'Driscoll 2010). This point is examined further in the next section of this chapter which reviews the evidence that work-life enrichment acts as a moderator and/or a mediator between key variables.

17.4 Third Variables Influencing Work-Life Enrichment: Moderators and Mediators

The key third variables that commonly influence work-life enrichment include demographic characteristics (e.g., gender, number of dependents, job position), personality characteristics, work engagement, personal skill development, professional commitment and work schedule fit. For example, Baral and Bhargava (2011a) in a study with Indian managers found that gender moderated the relationship between work-life balance policies and work-life enrichment, and noted that this relationship was stronger for women as compared to men. Gender also moderated the relationship between job characteristics and work-life enrichment and this relationship was stronger for men than for women. Baral and Bhargava (2011b) also investigated the role of personality, focusing on core self-evaluation. They reported a positive association between supervisor support and work-life enrichment for employees who assessed themselves high on core self-evaluation.

Similarly, Roche and Haar (2010) in their assessment of New Zealand managers, found that job position (senior managers or junior managers) moderated the relationship between work-life enrichment and need for autonomy. They reported that senior managers had higher levels of need for autonomy than junior managers for all levels of work-life enrichment. Moreover, in a study of Bolivian academics Michel and Michel (2012) found that Human Resource flexibility moderated the relationship between work-life enrichment and job satisfaction. This finding supports previous research describing the importance of the *accessibility* of human resources policies to employees, as opposed to simply having Human Resource policies in place but being inaccessible/unknown (Brough et al. 2009).

In an examination of the impact of cultural values, Haar et al. (2013) sampled New Zealand Maori employees and reported that collectivism moderated the association between work-life enrichment and their levels of mental health. Haar et al. concluded that work-life enrichment is highly beneficial for collectivistic-orientated employees, and that this collectivist characteristic can be demonstrated

by coworkers support. This is an interesting finding that has implications for other workers within the Asian-Pacific region with strong collectivistic cultural values. Adriel (2012) reported that for Malaysian hotel employees, religiosity moderated the relationships between work-life enrichment and both job satisfaction and family satisfaction. Thus, for these employees their level of commitment to a religious belief system had an important impact on these outcomes of work-life enrichment.

Research has also identified several variables that mediate the association between work-life enrichment and key outcome variables. For example, Lingard et al. (2010) researched Australian construction workers and found that work schedules mediated the relationship between job control and their levels of work-life enrichment. They concluded that jobs may be designed to facilitate work-life enrichment through provisions of flexibility and job control. In a large longitudinal study with Chinese workers, Siu et al. (2010) found that work engagement mediated the relationship between family-friendly organisational policies and work-life enrichment. While Kwan et al. (2010) found that personal skill development mediated the relationship between role modeling and work-life enrichment for their sample of blue-collar Chinese workers. Other studies with Chinese employees have also demonstrated the mediating role of work resources between work role engagement and work-life enrichment (Chen and Powell 2012) and the mediating role of organisational identification between leadership and work-life enrichment (Zhang et al. 2012).

Work-life enrichment may also act to moderate and mediate relationships between variables. For example, work-life enrichment has been demonstrated to moderate the relationship between work-family conflict and job satisfaction, such that when high conflict is combined with work-life enrichment, job satisfaction increases, and when high conflict is combined with low work-life enrichment, job satisfaction decreases (Boz et al. 2009). Roche and Haar (2010) noted that work-life enrichment mediated the relationships between motivation and job satisfaction for New Zealand local government employees. While in another New Zealand study, Allis and O'Driscoll (2008) reported that work-life enrichment mediated the relationship between family involvement and psychological well-being. In a number of studies with Indian managers, Baral and Bhargava (2010) demonstrated that work-life enrichment mediated relationships between work-life balance and job outcomes and also between supervisor support and affective commitment.

Research conducted with Malaysian nurses found that the impact of both self-esteem and social support upon life satisfaction was mediated by work-life enrichment (Rashid et al. 2011). Similarly, Mustapha et al. (2011) reported that work-life enrichment mediated the relationship between co-worker support and turnover intentions. The authors noted that this finding was particularly pertinent for employed single mothers. This finding supports the work of other researchers (e.g., McNall et al. 2010; Nicklin and McNall 2011) and it is apparent, therefore, that the retention of workers with family responsibilities is influenced by a supportive work-life organisational culture.

17.5 Case Studies

17.5.1 Case Study 1: Work-Life Enrichment: Identifying the Long-Term Impact upon Both Work and Family Outcomes

17.5.1.1 Background and Aims

A recent Australian study by Timms et al. ([under review](#)) aimed to investigate the associations between four different *types* of work-life enrichment and work and non-work outcomes. The authors used the four types of enrichment (affect, development, efficiency and capital) identified by Carlson et al. (2006). In particular, Carlson et al. proposed the concept of work-family affect and family-work affect, whereby positive mood in one domain may benefit relationships in the other domain. Second, work-family development and family-work development involves the useful transfer of skills from one domain to the other domain. Third, the authors proposed that family-work efficiency occurs when the need to work, in order to support a family, produces increased performance at work. Last, Carlson et al. suggested that fulfilling work results in positive benefits that enable workers to be better family members (work-family capital). In the current research, Timms et al. examined the cross-sectional and longitudinal associations between each of these mechanisms of work-life enrichment and work engagement and family satisfaction.

17.5.1.2 Method

Employees from 13 Australian organisations were invited to participate in the research. Participants were required to complete two self-report surveys, which were administered with a 12 month time lag, to enable the researchers to examine cross-sectional and longitudinal associations. A total of 470 matched participants completed the Time 1 and Time 2 survey.

17.5.1.3 Results

The researchers found mixed support for their hypotheses. Cross-sectional analyses illustrated that work-to-family affect was strongly associated with work engagement and family satisfaction, whereas family-to-work affect showed a positive association only with family satisfaction. As predicted, work-family capital was significantly associated with work engagement and family satisfaction in the cross-sectional analyses. Finally, family-to-work development was positively associated with only one of the three dimensions of work engagement (absorption). Longitudinal analyses demonstrated that work-to-family affect predicted work engagement over time and family-to-work affect predicted family satisfaction over time.

17.5.1.4 Implications

Given the dearth of longitudinal examinations focusing on enrichment and work and non-work outcomes, this research has made a significant contribution to the literature. A key finding in this research is that levels of work-life enrichment that enable workers to leave work in a good mood, return benefits to the workplace in the form of enhanced work engagement. Consequently it is in the best interests of organisations to cultivate work environments that are conducive to work-life enrichment.

17.5.2 Case Study 2: Predictors of Work-Life Enrichment in Malaysia

17.5.2.1 Background and Aims

As many work-life enrichment studies are conducted in the Western developed countries, this study, carried out in Malaysia provides some insights on work-life enrichment outside of the Western cultural context see also. To suit the local context, community domain and aspects of religion are included as predictors of work-life enrichment. The inclusion of community domain is necessary as Malaysia is predominantly a collectivist society. This study also measured cultural orientations i.e. individualist-collectivist, gender role ideology and monochronic-polychronic time orientation.

The study examined antecedents of work-family enrichment and family-work enrichment from work, family, community (neighbors, neighborhood, relatives and friends) demands and resources, cultural orientations (individualist-collectivist, gender role ideology and monochronic-polychronic time orientation), aspects of religion (importance and perception of religiousness) and some demographic characteristics of the respondents.

17.5.2.2 Method

The study utilised a heterogenous sample of workers: female, male, married, single, executive and non-executive. The self-administered questionnaire was completed by 506 public and private employees in six organisations in Kuching, Sarawak, Malaysia.

17.5.2.3 Results

The findings demonstrate that Malaysian respondents reported high levels of work-life enrichment. Family-to-work enrichment (FWE) was noticeably higher

than work-to-family enrichment (WFE). WFE and FWE were positively associated with resources from work, family and community (neighbors and neighborhood). Work demands were negatively related to WFE. Interestingly, friends' demands were positively related to FWE.

Both types of work-life enrichment were positively related to the importance of religion. From all the demographics variables considered, only age, elderly care, own and spouse's relatives, importance and perception of religiousness were significantly correlated to WFE or FWE. In term of cultural orientations, traditional gender role ideology was negatively associated with work-life enrichment. In addition, polychronic time orientation (multi-tasking) was positively associated with work-life enrichment.

17.5.2.4 Implications

In a Malaysian context, community domain aspects of religion as well as polychronic time orientation (juggling many tasks at one time) are important predictors of work-life enrichment. Such aspects are rarely studied within Western research. Therefore Malaysian organisations should consider these elements when designing interventions or policies to enhance work-life enrichment of their employees.

17.6 Challenges and Future Directions

In this chapter we have examined several factors that are related to the very important issue of work-family enrichment. We have focused especially on the antecedents and outcomes of both work-to-family enrichment and family-to-work enrichment. Our review, although not exhaustive, has highlighted some of the major variables that have been explored in empirical research. As noted early in the chapter, research on work-family enrichment is relatively 'young' and we are still developing an understanding of the complexities of this multi-dimensional construct and the impact that it can have on people's work lives, family lives, and their overall psycho-social health and well-being. Some important theoretical models have been developed and (to some extent) empirically tested, but there is much more for us to learn about the dynamic interplay between people's work and 'non-work' lives. To conclude this chapter, we endeavour to highlight the key challenges and directions for additional research on this topic.

One very important issue is the relationship between enrichment and its counterpart, work-family conflict. Over 30 years of research on conflict have demonstrated the deleterious impact which it can have on people's lives, but there remains uncertainty about the prevalence of conflict versus enrichment, whether these

experiences co-exist, and their relative impact on psychological health and well-being (van Steenbergen and Ellemers 2009). There is an urgent need for more research, preferably longitudinal in design, which examines the interrelationships between conflict and enrichment and their joint impact on individual well-being.

Related to the above, some research has investigated whether organisational interventions (policies and practices) are beneficial to employees, helping to reduce conflict and enhance enrichment between work and family life. Evaluations of family-friendly policies have, however, been inconclusive. Intuitively one would anticipate that provision of 'benefits' to employees which enable them to achieve better balance between their work and family commitments would lead to positive outcomes, but this has not always been established. Research by Wayne and colleagues (2006, 2007) has shown that family policies and the availability of benefits do not, in and of themselves, result in greater work-life balance. It would appear that a supportive organisational culture is much more influential and has a more systematic effect on work-family enrichment. A key question, therefore, is how organisations can become more 'supportive' in ways that are useful to employees.

Family support was also discussed above as a contributor to increased enrichment. Two general categories of support were described: instrumental (practical) support and affective (emotional) support. Both are important, but there has been scant investigation of the specific kinds of support that are most beneficial and the circumstances under which instrumental or emotional support is more valuable. Future research needs to delve more deeply into the dynamics of social support, to ascertain conditions under which different kinds of support are most desired and most valuable.

In this chapter we have emphasised the contribution of environmental factors to work-family enrichment, but it is also important to recognize individual differences, including dispositional variables and (especially) personal coping behaviours. Improving work conditions and modifying family environments are certainly key issues, but we also need to consider how people deal with and manage their environments. Put simply, people may respond very differently to the same situations, primarily due to their behavioural and personal dispositions. Assisting individuals to develop more effective ways of enhancing work-family enrichment, along with reducing work-family conflict, is also necessary alongside changing environmental factors. With this in mind, more systematic research is needed on the most effective coping strategies that people can utilise to manage their work-family interface.

17.7 Conclusion

This chapter has reviewed the pertinent issue of work-life enrichment. The chapter discussed how work-life enrichment consists of positive associations between the work and non-work domains and we noted that the increasing interest in this construct is largely due to the recognition of its impact upon employee health and work

performance. We reviewed the key antecedents of work-life enrichment and focused especially upon the impact of social support. The key consequences of work-life enrichment were also discussed including impacts upon job satisfaction, job commitment and work performance. We also reviewed the key mediators and moderators of work-life enrichment. The chapter included two case studies of research which examined work-life enrichment within Australia and Malaysia. Finally, we discussed the future research directions of work-life enrichment, including the necessity to better assess the impact of both organisational policies and individual personality characteristics upon work-life enrichment. It is reassuring to note that workers within the Asian-Pacific region are well represented in international research. We anticipate that this influence is likely to increase and will result in further practical benefits for the effective management of workers in this region.

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Part VI
Interventions in Workplace
Health and Safety

Chapter 18

Effects of a Stress Management Intervention Program on Self-Perceived Depression, Anxiety, and Stress Among Hotel Employees: A Quasi-experimental Study

Cindy Biding and Rusli Bin Nordin

18.1 Introduction

Stress and work-related stress have increasingly become a major concern for many organisations. This is because stress, whether or not it is work-related, not only affects performance and productivity but can lead to mental health problems such as depression and anxiety.

Many studies have acknowledged that increased levels of stress and its negative emotional responses can lead to injuries, poor health including mental health & chronic illnesses, as well as poor quality of life (Klainin 2009; Umanodan et al. 2009; Leung et al. 2011; Downey et al. 2012). Similarly, stress can have significant negative effects on performance, productivity, and job satisfaction as a result of low motivation, absenteeism, and burnt out.

Although stress cannot be eliminated, there are ways of handling stress, and people can learn to manage stress. The popularity of worksite stress management programs has grown significantly abroad and in the US (Richardson and Rothstein 2008). Stress management intervention programs (SMIP) that aim to reduce work-related stress or assist individuals to minimize the negative outcomes of exposure to stressors may include deep breathing and relaxation techniques, meditation, exercise, yoga-based intervention, positive psychology interventions, and Cognitive Behavioral Training (CBT) like time management, goal setting, changing dysfunctional thought patterns and mindfulness.

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The most common stress management intervention programs are based on CBT principles and procedures and seek to impart generalized coping skills to working populations (Bond and Flaxman 2010). Literature on worksite stress management training has provided much support for the efficacy of CBT based intervention (Richardson and Rothstein 2008).

CBT are typically highly structured, time limited and skills based, and these intervention characteristics naturally lend themselves to group training programs outside the traditional clinical context. Hence, it is not surprising that CBT, above other therapeutic approaches, has had such a prominent influence on worksite stress management training. Lazarus and Folkman (1984) described CBT as “highly compatible” with their theory of stress and coping which continue to underpin stress management training research and practice (De Vente et al. 2008).

Interventions may be classified as primary, secondary or tertiary. Primary interventions attempt to alter the sources of stress at work. In contrast, secondary interventions attempt to reduce the severity of stress symptoms before they lead to serious health problems (Murphy and Sauter 2003). Tertiary interventions such as employee assistance programs are designed to treat employees’ health conditions via free and confidential access to qualified mental health professionals (Hewitt 2011).

In this study, we employed a secondary intervention approach aimed at the individual involving instruction in techniques to manage and cope with stress.

While there is a need to provide intervention programs in workplaces to alleviate distress among workers, it is imperative to examine the outcome of such programs and the strategies involved in the intervention program. The evaluation of the intervention program has the potential to pave the way for recommendation of strategies that work before they can be practiced in workplaces.

Studies in this area have been carried out on employees in the health care industries, among teachers, and in factory workers but there have been no studies carried out in this area for employees in the hotel industry particularly in Malaysia. Therefore, this study aims to evaluate the outcome of a SMIP among hotel employees. Specifically, this study aims to investigate the outcome of the intervention on stress, anxiety, and depression levels in hotel employees. We expected that as a result of the intervention there would be a significant reduction of stress, anxiety and depression levels over time in the intervention compared to the control group.

18.2 Psychosocial Factors at Work in the Asia Pacific Region

Work is the main source of stress for workers in the Asia Pacific according to the latest research by Regus (2012). Workers in the Asia Pacific are stressed and more than 40 % of the workers are bothered by work stress. Leave (paid time off) is under-utilized, especially in fast growing economies including China, India, Indonesia, Malaysia, Philippines, where more than half of the workforce reported using fewer leave (paid time off) than in the past (Brown 2013).

Employers recognize that work-related stress is a growing problem that is affecting not only the health and well-being of employees but the productivity of organisations (HRM 2013). Organisations in different countries deal with the problem differently. Providing flexibility and work-life balance initiatives are two of the many approaches organisations can take with the aim of not only reducing employee stress but with the proposition that the organisation cares. Other organisations offer opportunities for employees to attend work-life balance seminars and participate in 'healthy' activities.

One of the challenges faced by organisations striving to achieve the highest levels of performance is the decline in global employee engagement levels. In particular the average employee engagement score for Asia Pacific dropped to 56 % in 2010 from 60 % in 2009 which is the largest decline in the last 15 years (Hewitt 2011). The decline in employee engagement could stem from the pressure of organisational change, work load, and less time-off from work among other things. These factors bring about stress and employers need to look at how to sustain employee engagement through some form of intervention at the workplace.

As an emerging economy in South-East Asia, Malaysian employees reported that they experience stress provoked by factors such as workload, organisational politics and lack of autonomy in the workplace (Aziah et al. 2004; Edimansyah et al. 2008). In dealing with stress, Malaysian employees focus on individual strategies rather than organisational interventions. Some of these strategies include talking to their manager or supervisor, slowing down, religious activities, and talking to friends (Idris et al. 2010).

18.3 Theoretical Framework for the Intervention

The theoretical framework for the intervention is primarily based on Lazarus' Theory of Stress and Bandura's Social Cognitive Learning Theory. Lazarus' Theory of Stress which defines psychological stress as a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. The SMIP consisted of three sessions of deep breathing and progressive muscular relaxation exercises, cognitive behavioral training covering communication and interpersonal skills, emotional intelligence, goal setting and changing dysfunctional thinking patterns. These approaches model the Lazarus' Stress Theory in managing stress in four steps: (a) define the problem, (b) generate alternative solutions, (c) learn new skills to deal with stressors, and (d) reappraise and find new standards of behavior. This study identified the problem as moderate to high levels of distress among hotel employees. The SMIP generated solutions which enabled employees to generate solutions and learn new skills to deal with the stressors as well as reappraise and find new standards of behavior. These steps were covered in the three sessions of intervention with the experimental group.

Bandura's Social Cognitive Learning Theory posits that individuals possess self-reflective and self-reactive capabilities that enable them to exercise some control

over their thoughts, feelings, motivations, and actions. The concept of self-efficacy is central to social cognitive theory as well as critical for individuals to engage in self-regulation. Self-efficacy is the idea that people decide how to behave based on their belief in their capabilities of accomplishment. Self-efficacy helps to determine our life choices, motivates and helps deal with failures and setbacks in life (Mahto 2006). The SMIP consisted of three sessions of (a) deep breathing and progressive muscular relaxation exercises; (b) Cognitive Behavioral Training (CBT) covering communication & interpersonal skills, emotional intelligence at work, goal setting and changing dysfunctional thought patterns. These intervention strategies address the presenting problems of distress by helping participants to be aware of their own potentials and capabilities as well as their flaws and acknowledge that they can learn to improve those areas of weaknesses. In the intervention sessions, participants also learn to understand their distress, correct dysfunctional thought patterns that can profoundly affect their psychosocial well-being as well as self-regulation of behavior and habits. When participants can correct their dysfunctional thought patterns, they then learn new positive behavior that can help to improve their interaction at work and their professional growth and development in the organisation. Thus the social cognitive approach works by helping people to stay psychologically healthy through the SMIP which aims at reducing distress levels.

The most common approach to coping with stress is cognitive appraisal where, firstly, the person evaluates the extent of the threat posed by the stressor, and secondly the person judges his or her capacity to cope with the stress. In the social cognitive concept, coping styles have been broadly categorized as either problem-focused or emotion-focused. The former involves directly addressing and minimizing the effect of stressor while the latter addresses the emotional symptoms associated with the stress experience (Shimazu and Schaufeli 2007). In this study we looked directly into addressing and minimizing the effect of stressors.

18.4 Methods

18.4.1 Study Design

A quasi-experimental study was conducted among hotel employees in two hotels in Kuching in the state of Sarawak, Malaysia.

18.4.2 Sampling

Two hotels were selected based on random sampling. One hotel was a resort (Hotel A) and the other a 4 star hotel in the city (Hotel B). Permission was sought and granted from the General Manager of Hotel A and the Human Resources Manager from Hotel B, to carry out the study on SMIP.

A validated short form version of DASS21 in Malay and English was given out to the total population of Hotel A and Hotel B for the purpose of screening. The DASS21 was administered and staffs that scored from normal to mild on the stress, anxiety, and depression ratings were excluded, while those who scored from moderate to extremely severe on the stress, anxiety and depression ratings were included in the study.

The experimental group consisted of 34 male and 34 female staff ranging from the age of 20–58 years old. Out of the 34 male, nine (9) were from the age range of 20–30 years, 15 were from the age range of 31–40 years, seven (7) were from the age range of 41–50 years and three (3) were aged 51 years and above. Fifteen of the male staff was from the managerial and supervisory levels while 19 of them were from the operations and support levels. Fifteen of the females were from the age range of 20–30 years, eleven (11) were from the age range of 31–40 years while eight (8) were from the age range of 41–50 years. Thirteen of the female staff was from the managerial and supervisory levels while 21 were from the operations and support levels.

The control group was made up of 29 male and 29 female staff ranging from the age of 20–50 years and above. Out of the 29 male, twelve (12) were from the age range of 20–30 years, six (6) were from the age range of 31–40 years, eight (8) were from the age range of 41–50 years while one (1) of them was above 50 years. Thirteen (13) of the male staff were from the managerial and supervisory levels while sixteen (16) were from the operations and support levels. Ten (10) of the female were from the age range of 20–30 years, nine (9) were from the age range of 31–40 years, seven (7) were aged between 41 and 50 years and three (3) were 50 years and above. Fourteen (14) of the female staff were from the managerial and supervisory levels and fifteen (15) were from the operations and support levels. There was no significant difference between the age groups.

There were similarities in the nature of the job function and work environment in both the experimental and control groups.

18.4.3 Sample Size

A total of 126 ($N = 126$) employees from Hotel A ($n = 68$) and Hotel B ($n = 58$) were included in the study after screening and having fulfilled the inclusion and exclusion criteria. Hotel A participants were assigned as the experimental or intervention group, and Hotel B participants were assigned as the control group.

18.4.4 Research Instruments

A validated short form version of the Depression, Anxiety, Stress Scales (DASS21) containing 21 test items was used. The scale is comprised of three constructs (stress,

anxiety and depression), with each construct containing seven test items. The DASS21 questionnaire was available in Malay and English version. Participants completed the questionnaire at Time 1, 2 weeks later at Time 2, and again at follow up, 2 weeks later at Time 3.

18.4.5 Stress Management Intervention Program

A Stress Management Intervention Program (SMIP) that was implemented included the following: (a) deep breathing and progressive muscular relaxation exercises, and (b) Cognitive Behavioral Training covering communication and interpersonal skills, emotional intelligence at work, goal setting and changing dysfunctional thought patterns.

The experimental group was given three sessions of SMIP while the control group was given a once-off 2 h seminar session on awareness of stress, recognizing stress and ways of coping with stress at the start of the study duration.

18.4.6 Session 1

Deep breathing and progressive muscular relaxation exercise. This session was conducted for 15 min by the researcher who is a registered counselor and a trainer. This was followed by a one and three quarter hour session on communication and interpersonal skills. Participants were introduced to effective communication and interpersonal skills that would improve working relationships as well as social interactions. Participants were actively involved in role play activities that encourage a two-way face-to-face communication. Participants learn how to communicate messages and information clearly so as to be understood. This is to reduce distress caused by lack of good communication and interpersonal skills.

18.4.7 Session 2

Deep breathing and progressive muscle relaxation exercise was carried out for 15 min, followed by a one and three quarter hour session on emotional intelligence at work. In this session, participants were introduced to the five elements of emotional intelligence and participated in two activities bringing out awareness of self and others, understanding how emotions affect others, showing empathy and acquiring social skills necessary for harmonious living with oneself and others, thus reducing distress.

18.4.8 Session 3

This is a 2 h session on CBT (goal setting and changing dysfunctional thought patterns). This session consists of a mix of power point presentations and role play as well as written exercises to learn goal setting and changing dysfunctional/negative thought patterns to positive thought patterns.

18.4.9 Statistical Analysis

Data entry and analysis was done using IBM SPSS Software version 20 at the Monash University Malaysia, Clinical School Johor Bahru (CSJB). The mean and standard deviations (SD) were calculated for the continuous variables, and frequencies and percentages for categorical variables. Effects of the SMIP were examined using the mixed within-between subjects ANOVA analysis where the time-group interaction effects (within subject-between subject) were calculated.

18.5 Results

A mixed between-within subjects ANOVA was conducted to assess the impact of two different interventions (SMIP, Seminar Session) on participants' scores on the DASS21 questionnaire, across three time periods (pre-intervention, post intervention 1 and post-intervention 2). There were significant interactions between intervention program type and time: (a) Stress (Wilks Lambda = 0.946, $F(2, 123) = 3.534$, $p = 0.032$, partial eta squared = 0.054) (Fig. 18.1); (b) Anxiety (Wilks Lambda = 0.874, $F(2, 12) = 5.93$, $p = 0.000$, partial eta squared = 0.046) (Fig. 18.2), and (c) Depression (Wilks Lambda = 0.897, $F(2, 123) = 7.038$, $p = 0.001$, partial eta squared = 0.103) (Fig. 18.3).

There were substantial main effects for time for the intervention group but not for the control group: (a) Stress (Wilks Lambda = 0.892, $F(2, 123) = 7.457$, $p = 0.001$, partial eta squared = 0.108); (b) Anxiety (Wilks Lambda = 0.811, $F(2, 123) = 14.329$, $p = 0.001$, partial eta squared = 0.189); and (c) Depression (Wilks Lambda = 0.890, $F(2, 123) = 7.580$, $p = 0.001$, partial eta squared = 0.110). In the experimental group, the DASS Stress mean score was reduced from 17.12 at pre-test to 13.94 at post 1 and further reduced to 11.94 at post 2. The mean score for DASS Anxiety was reduced from 13.59 at pre-test to 12.35 at post 1, and 7.65 at post 2. The DASS Depression mean score was reduced from 12.15 at pre-test to 9.91 at post 1, and 6.57 at post 2. There were no significant reduction in stress, anxiety and depression scores in the control group at post 1 and 2 (Tables 18.1, 18.2 and 18.3).

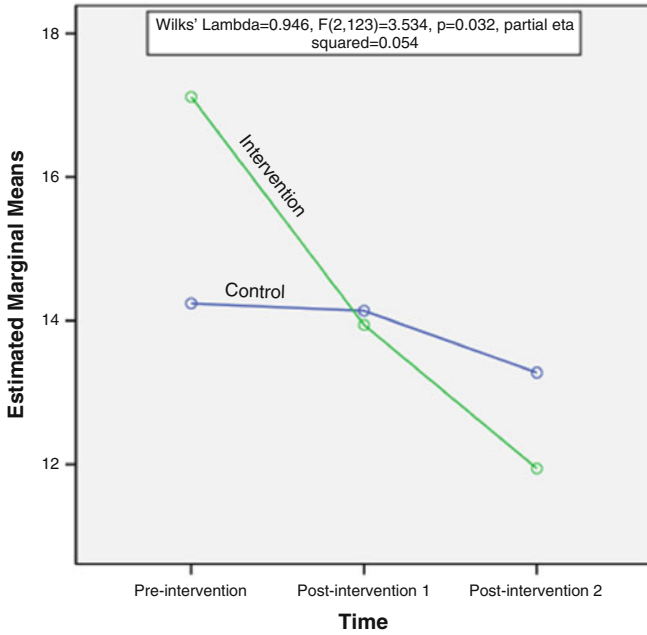


Fig. 18.1 Mean scores for stress across three time periods by group: time-group interaction

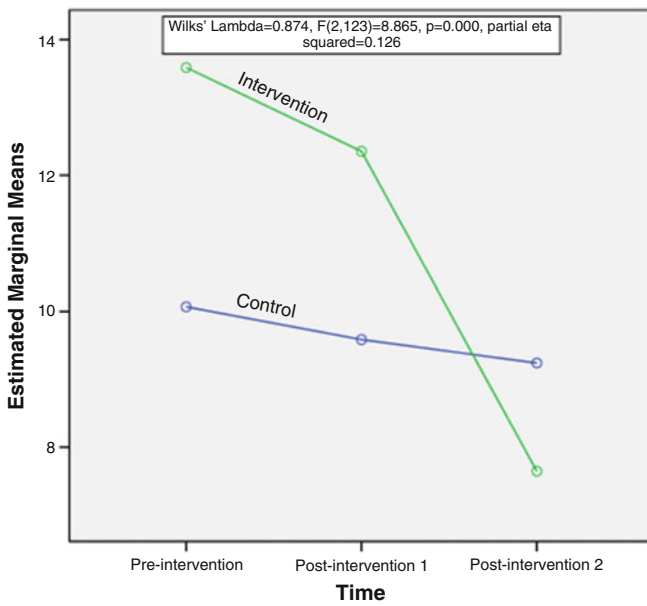


Fig. 18.2 Mean scores for anxiety across three time periods by group: time-group interaction

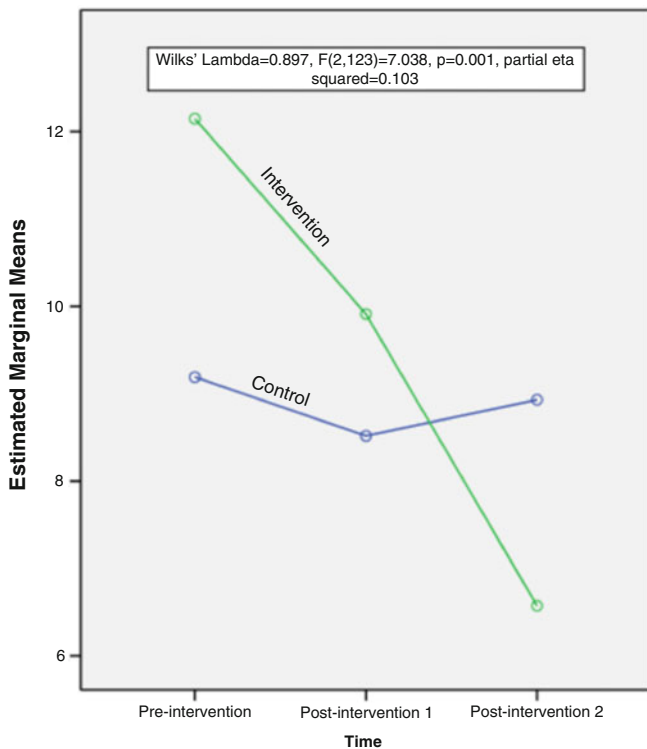


Fig. 18.3 Mean scores for depression across three time periods by group: time-group interaction

Table 18.1 Stress scores between control and experimental group: one-way repeated measure ANOVA: within-subject and between-subject effects

| Time | Mean (SD) | F | (df) | Wilks' Lambda | Partial eta squared | p |
|--------------------------------|--------------|-------|----------|---------------|---------------------|-------|
| Within-subject effect: | | | | | | |
| <i>Control (n = 58)</i> | | | | | | |
| Pre | 14.24 (5.73) | 0.636 | (2, 56) | 0.978 | 0.022 | 0.533 |
| Post 1 | 14.14 (5.12) | | | | | |
| Post 2 | 13.28 (4.52) | | | | | |
| <i>Experimental (n = 68)</i> | | | | | | |
| Pre | 17.12 (7.82) | 9.440 | (2, 66) | 0.778 | 0.222 | 0.000 |
| Post 1 | 13.94 (6.57) | | | | | |
| Post 2 | 11.94 (6.01) | | | | | |
| Between-subject effect: | | 0.475 | (1, 124) | | 0.004 | 0.492 |

Table 18.2 Anxiety scores between control and experimental groups: one-way repeated measure ANOVA: within-subject and between-subject effects

| Time | Mean (SD) | <i>F</i> | <i>df</i> | <i>Wilks' Lambda</i> | <i>Partial eta squared</i> | <i>p</i> |
|--------------------------------|--------------|----------|-----------|----------------------|----------------------------|----------|
| Within-subject effect: | | | | | | |
| <i>Control</i> (n = 58) | | | | | | |
| Pre | 10.07 (6.12) | 0.28 | (2, 56) | 0.990 | 0.010 | 0.754 |
| Post 1 | 9.59 (5.75) | | | | | |
| Post 2 | 9.24 (5.44) | | | | | |
| <i>Experimental</i> (n = 68) | | | | | | |
| Pre | 13.59 (7.13) | 29.54 | (2, 66) | 0.528 | 0.472 | 0.000 |
| Post 1 | 12.35 (6.54) | | | | | |
| Post 2 | 7.65 (4.92) | | | | | |
| Between-subject effect: | | 5.934 | (1,124) | | 0.046 | 0.016 |

Table 18.3 Depression scores between control and experimental groups: one-way repeated measure ANOVA: within-subject and between-subject effects

| Time | Mean (SD) | <i>F</i> | <i>df</i> | <i>Wilks' Lambda</i> | <i>Partial eta squared</i> | <i>p</i> |
|--------------------------------|--------------|----------|-----------|----------------------|----------------------------|----------|
| Within-subject effect: | | | | | | |
| <i>Control</i> (n = 58) | | | | | | |
| Pre | 9.19 (5.73) | 0.236 | (2, 56) | 0.008 | 0.008 | 0.790 |
| Post 1 | 8.52 (4.51) | | | | | |
| Post 2 | 8.93 (5.67) | | | | | |
| <i>Experimental</i> (n = 68) | | | | | | |
| Pre | 12.15 (7.03) | 15.770 | (2, 66) | 0.677 | 0.323 | 0.000 |
| Post 1 | 9.91 (6.37) | | | | | |
| Post 2 | 6.57 (4.61) | | | | | |
| Between-subject effect: | | 1.250 | (1,124) | | 0.010 | 0.266 |

The main effects comparing the two types of intervention were significant for anxiety but not for stress and depression levels: (a) Stress [$F(1, 124) = 0.475$, $p = 0.492$, partial eta squared = 0.004]; (b) Anxiety [$F(1, 124) = 5.934$, $p = 0.016$, partial eta squared = 0.046]; and (c) Depression [$F(1, 124) = 1.250$, $p = 0.266$, partial eta squared = 0.010]. This suggests that there was no difference in the effectiveness of the two types of intervention with respect to reducing stress and depression levels but the SMIP was effective in the reduction of anxiety levels among hotel employees.

18.6 Discussion

This study examined the effectiveness of a SMIP on depression, anxiety, and stress levels in hotel workers using the validated short-form version of the Depression Anxiety Stress Scales (DASS-21). Results indicated that the SMIP was effective in

reducing anxiety levels, but not stress and depression levels, among hotel employees.

An earlier study on secondary school teachers in Hong Kong by Leung et al. (2011) using a brief three session CBT stress management program over 4 weeks showed a significantly lower levels of role stress, personal strain and overall work-related stress. The intervention groups also had significantly higher stress management behaviors and less general stress and dysfunctional thoughts than the control groups (all $p \leq 0.05$). The brief program was efficacious in reducing work-related stress of secondary teachers. Teachers experienced less work-related stress after the program, and they reported reduced dysfunctional thoughts and enhanced stress management behaviors.

Similar studies on stress management intervention, including the mind-body concept involving yoga based and mindfulness based intervention, aimed at reducing stress in the workplace, showed significantly greater improvement on perceived stress and sleep difficulties for participants. Both mindfulness and yoga based programs may provide viable and effective interventions to target high stress levels, sleep quality and autonomic balance in employees (Bobinet et al. 2012). Yoga-based interventions have had positive effects on perceived stress and quality of life (Gard et al. 2012).

In determining the effectiveness of stress management intervention in occupational settings, Richardson and Rothstein (2008) revealed that CBT considerably produced larger effects on psychological outcome variable (stress, anxiety, general mental health, and job satisfaction) than other type of interventions. This finding is in accord with other research that has shown CBT to be among the more effective methods for managing stress in other settings with other population including students (Stein et al. 2003).

It is interesting to note that CBT-based intervention was not effective in treating clinical levels of work-related stress as reported by De Vente et al. 2008 in a randomized controlled trial (RCT) of CBT-based stress management intervention on 82 patients on sickness leave with work-related stress.

We designed the SMIP based on Lazarus' Theory of Stress and Bandura's social cognitive learning theory. The social cognitive learning theory places a lot of responsibility on the individual in terms of how they are affected by the environment. The intervention strategies in our study involved instruction in techniques for managing stress. The three sessions required participants to learn effective communication skills, understanding their own emotions and that of others as well as how these emotions affect themselves and others. They learn to set goals so that they can see a direction and the way forward for their personal and professional growth. They also learn to recognize dysfunctional thought patterns that get in the way of their psychosocial well-being and detract them from being productive. They then learn to replace dysfunctional thought patterns with positive thoughts.

Our study combined CBT with 15 min of deep breathing and progressive muscle relaxation exercise as a starter for three sessions of intervention. We did not find out what worked better for the participants or if the deep breathing and

progressive muscle exercise did any good at all. It is suggested that future studies investigate which component of the intervention is responsible for the effect, or whether the intervention works better with a combination of components.

The control group received a once-off 2 h seminar session on awareness of stress, recognizing stress and ways of coping with stress at the start of the study duration. The results of the study showed a slightly reduced level of distress in DASSA-Depression, DASS-Anxiety and DASS-Stress in the control group. This could mean that even a once-off 2 h seminar session can be beneficial in helping workers recognize stress and learning a few ways of coping with it.

This research has some important managerial and human resources implications in terms of looking into the psychosocial well-being of employees by providing psychosocial wellness program which includes stress management intervention. The provision of employee assistance program (EAP) for individual employees with work related stress that detract them from being productive can also have potential benefit for employees concerned.

18.7 Challenges and Future Directions

This study had several limitations. Firstly, the distress levels of the intervention and control groups before intervention (pre-test score) were not on similar level. The pre-test score showed the control group had a lower level of distress in comparison to the intervention group. For example, the pre-test mean score for DASS-Depression was 12.15 for the experimental group while the control group pre-test mean score was 9.19. The pre-test mean score for DASS-Anxiety was 13.59 for the experimental group while the pre-test mean score for the control group was 10.07. Similarly, the DASS-Stress pre-test mean score was at 17.12 for the experimental group while the mean score was at 14.24 for the control group. The control group's lower level of distress could be attributed to the fact that the hotel is in the city and has ready clients from the public sector which makes it less worrying or stressful for the staff as they know that their business is quite secure. It can be inferred that the experimental group distress level is higher as they are a resort hotel and they need to compete for clients. In their quest for competitive advantage they need to work harder to earn customers' confidence. This could attribute to the higher distress levels.

Secondly, the two hotels were from different settings in that one is a resort and the other is a city hotel. Future studies could consider implementing the intervention using both intervention and control groups from the same business type, to account for organisational effects. For instance, in the hotel industry, both groups should be either a resort or a city hotel. Using intervention and control groups from the same organisation is a possibility but it raises the possibility of contamination of results whereby improving health of some members (in the intervention group) could affect the well-being of members of the control group.

Finally, future studies may be extended to include more sessions. This would mean the study can be undertaken over a period of 6–8 months in order to produce a better outcome.

The challenge for research in the area of psychosocial factors at work in the Asia Pacific, particularly in Malaysia, is to work collaboratively with the management in organisations. Although many organisations realize that employees' absenteeism and medical leave is costly, the management is still not ready to see and understand the long term benefits of providing psychosocial wellness programs that includes stress management intervention for employees. In Malaysia, it is necessary for the Human Resources Ministry to make it mandatory for employers to provide some form of basic but essential assistance like counseling services within their employee assistance program (EAP). Sometimes, employees who face difficulties at their workplace do not know how to address their problems. Another challenge for employees who want to seek assistance is the fear of uncertainty about confidentiality and the consequences or implications on their employee record.

The challenge is to address the problem of increased levels of stress. However, the management in organisations must first see the importance of its human resources to the organisations. Then they need to find out ways to demonstrate that they value its human resources by providing some work-life balance to their employees, clarity of performance management, as well as a reward and compensation scheme that works for the employees. Finally, providing psychosocial wellness program that includes stress management intervention would go a long way towards sustaining employees' psychosocial well-being.

The most effective way to address psychosocial issues at work in Malaysia is for the Human Resources Ministry to mandate the provision of psychosocial wellness programs as part of the Occupational Safety & Health Act 1994.

18.8 Conclusion

Stress is always present in workplaces although the stress may not necessarily be from the workplace itself. Stress can affect workers' performance and productivity as well as their work and social interactions. While workers are faced with stress from home, social interaction or the workplace, it is vital to for employers to provide some assistance to minimize their stress levels and help them to cope before the situation becomes more severe. This study examined the effectiveness of the SMIP on self-perceived depression, anxiety and stress levels among hotel employees using the short form version of the Depression Anxiety Stress Scales (DASS-21). Results indicated that SMIP is effective in reducing anxiety levels, but not stress and depression levels, among hotel workers. This evidence suggests that management should consider the adoption of an intervention like SMIP as part of employee assistance program (EAP) to hotel and other employees to sustain their psychosocial well-being and productivity.

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Chapter 19

Organisational Interventions

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19.1 Costs of Work-Related Psychological Stress Demonstrate the Need for Comprehensive Stress Prevention and Management

Within developed economies, work-related psychological stress is a significant problem due to the burden it places on the welfare of employees, organisational productivity, and the economy (Bowling et al. 2012; Safe Work Australia 2013). Within Australia, for example, the total economic cost of work-related psychological stress was estimated to be \$14.81 billion, with employers bearing a direct cost of \$10.11 billion due to stress-related absenteeism and presenteeism (Medibank Private 2008; Safe Work Australia 2013). While significant gains have been made in the reduction of work-related physical injuries and disease, costs of psychological illness have escalated (Safe Work Australia 2013).

In light of these substantial and increasing costs, there is a clear requirement for scientifically validated intervention strategies to reduce work-related psychological stress. Unfortunately, there is a considerable lack of evidence for effective interventions despite decades of research in the work-related stress management field. Brough et al. (2009, p. 68), for example, noted that “although we have enjoyed 20 years of occupational stress research since Murphy (1988) first identified the tripartite model of stress management interventions (SMIs), the dearth of effective SMIs remains of pressing concern”.

Although limited empirical evidence for effective interventions is an internationally recognised issue, it is especially problematic within the Asia-Pacific

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region. First, there is little published evidence demonstrating the effectiveness of interventions within this region, with the majority of research having been conducted in the USA and Europe, where labour conditions differ markedly from those within the Asia-Pacific region (Caulfield et al. 2004). Second, the Asia-Pacific region is extremely diverse, encompassing industrialised, newly industrialised, and developing economies, which require unique solutions to the prevention and management of work-related stress. More research specific to Asia-Pacific labour conditions is especially important considering that “government guidance and legislation in many countries requires organisations to assess and manage risks to psychological well-being”, reflecting increasing external requirements for organisations to focus on *both* prevention and management of work-related stress (Randall and Nielsen 2010, p. 89). These issues are rarely discussed within the occupational health literature, and this lack of guidance represents a significant barrier to the progression of knowledge of psychological health management in the Asia-Pacific region.

This chapter will provide an overview of organisational intervention research. Two case studies documenting the development and implementation of organisational interventions within the Asia-Pacific region will be presented. Case Study 1 explains the processes used to plan and implement participatory-based organisational interventions within a Japanese manufacturing firm (Tsutsumi et al. 2009) while Case Study 2 focuses on a multifaceted organisational intervention program undertaken within an Australian police service (Biggs et al. 2014b; Biggs and Brough *in press*; Brough et al. 2013). Finally, challenges associated with implementing organisational interventions will be discussed, with a specific focus on potential solutions for overcoming these challenges and directions for future research on organisational interventions within the Asia-Pacific Region.

19.2 Individual and Organisational Stress Management Interventions

Interventions encompass activities or programs initiated by an organisation that attempt to (a) eliminate or prevent the development of stressors, (b) minimise intensity of exposure to stressors, and (c) enhance employees’ capacity to cope with stressors (Giga et al. 2003b; Ivancevich et al. 1990). This definition encapsulates a diverse range of intervention strategies. Due to the variation in structures, techniques, participants, and targeted outcomes, a number of classification paradigms have been proposed to summarise interventions into meaningful categories.

The tripartite framework is one widely cited classification system that distinguishes between primary, secondary, and tertiary interventions (Murphy 1988). Each of the three levels corresponds with different aspects of the stressor-strain model, and categorises intervention strategies depending on the stage at which an intervention disrupts the stress process (Ivancevich et al. 1990; Randall and Nielsen 2010).

Primary strategies proactively target the causes of stress at their source, minimising or eradicating stressors by addressing aspects of the job, organisation, or management perceived to be stressful (e.g., job redesign and introduction of flexible work practices; Cooper and Cartwright 1997; LaMontagne et al. 2007; Murphy 1988; Randall and Nielsen 2010). Secondary intervention strategies aim to modify employees' capacity to detect and adapt to stressors, thus disrupting the mechanisms linking stressor exposure to adverse employee and organisational outcomes (e.g., stress management and work skills training; Cooper and Cartwright 1997). Finally, tertiary-level interventions are reactive and focus on treatment and/or rehabilitation of employees experiencing strain due to stressor exposure (e.g., employee assistance programs and critical incident debriefing; Cooper and Cartwright 1997).

A further distinction is often made between interventions based upon the content and target of the intervention. Nielsen and Abildgaard (2013), for example, distinguished between interventions targeting individuals, groups, leaders, and organisational procedures and structures. Researchers generally focus on the dichotomous distinction between individual and organisational interventions, incorporating strategies targeting groups, leaders, and organisational procedures and structures within the latter category (e.g., Bowling et al. 2012). While individual interventions address employees' strain by modifying their behaviour, skills, coping capacity, and stress awareness, organisational interventions focus on stressors originating from the organisation's physical and social environment (Bowling et al. 2012; Giga et al. 2003b). In this chapter, we focus specifically on organisational interventions as described here.

Comprehensive stress management strategies combine individual and organisational intervention strategies encompassing stress prevention (primary), stress management (secondary), and stress treatment (tertiary; Bowling et al. 2012; Cooper and Cartwright 1997; Giga et al. 2003a). This approach is consistent with dominant occupational health theories, which acknowledge both organisational and individual sources of stress (Randall and Nielsen 2010), and capitalise on the advantages, while counteracting the disadvantages, of each strategy. Despite general consensus that comprehensive intervention programs conform with a best practice approach to stress management, there has been a greater proclivity for published evidence demonstrating the effectiveness of individual secondary and tertiary intervention strategies. For example, of the 48 intervention studies included in a meta-analysis, only five presented organisational interventions (van der Klink et al. 2001). More recently, LaMontagne et al. (2007) conducted a systematic review of 90 intervention evaluation studies conducted between 1990 and 2005. The majority of the studies (48 %) contained no primary intervention elements, while 19 % only contained primary prevention strategies, and 33 % adopted a primary prevention approach with elements of secondary and tertiary prevention integrated within the protocol. It is certainly positive that the proportion of comprehensive intervention strategies is rising, demonstrating a greater "commitment by organisations to approach work-related stress issues more comprehensively and innovatively" (Giga et al. 2003a, p. 289). Nonetheless, there is still a disproportionate focus on individual interventions (LaMontagne et al. 2007; Richardson and Rothstein 2008).

The disproportionate focus on individual interventions in academic publications may reflect organisational preferences and/or difficulties evaluating organisational interventions. Organisational interventions have a reputation for being time-consuming and expensive, resulting in perceptions that it is less disruptive to focus on individual interventions (Cooper and Cartwright 1997; Randall and Nielsen 2010). Prevailing organisational cultures that equate being stressed with being busy and productive may also be resistant to organisational interventions, due to the “assumption that any solution that results in less strain will also result in less productivity” (Bowling et al. 2012, p. 78; Kohler and Munz 2006). Finally, there is a well-documented lack of shared understanding of the origin of stress and responsibility for stress management at work: employees tend to identify work sources of stress and view management as having greater responsibility, while managers are more likely to attribute stress to individual personality and lifestyle factors (Giga et al. 2003a).

Alternatively, the lack of published evidence for organisational interventions may be attributed to difficulties conducting systematic, longitudinal evaluations and “does not necessarily represent a true picture of actual practice within organisations” (Giga et al. 2003a, p. 289). Although conducting scientifically rigorous evaluations of any form of intervention is challenging, evaluating organisational interventions is relatively more complex and the results are often difficult to publish as they do not always meet acceptable levels of scientific rigor desired by journals (e.g., external and internal validity; Giga et al. 2003a; Randall and Nielsen 2010). Therefore, a stronger evidence base currently supports the effectiveness of individual interventions (Cooper and Cartwright 1997; Giga et al. 2003a; Randall and Nielsen 2010; Richardson and Rothstein 2008). As organisational interventions are considered to be resource intensive, the lack of cost benefit data is a particularly important deterrent to implementing these strategies and a stronger evidence based demonstrating their effectiveness is thus required (Randall and Nielsen 2010). The remainder of this chapter will present an overview of research focusing on the development, implementation, and evaluation of organisational interventions, followed by two case studies conducted within the Asia-Pacific region.

19.3 Organisational Interventions: Overview of Examples, Frameworks, and Techniques

Organisational interventions focus on the work-based sources of job stress and have the primary aim of either eliminating the source of stress or the intensity of the stressor. These interventions may be directed at characteristics of the job itself and/or the social and organisational contexts in which the job is completed (Mellor et al. 2012; Sauter et al. 1998). Initiatives addressing the job often involve job design (or redesign) strategies that seek to create a better fit between the assigned tasks and the knowledge, skills, and needs of the employee. Job redesign strategies

include initiatives aimed at enhancing the breadth (e.g., job enlargement, job rotation) and depth (e.g., increasing skill discretion, task responsibility) of tasks completed, while also improving the extent to which employees gain performance feedback and can see how their work adds value to the organisation's operations. Well formulated job (re)design strategies not only help reduce the stress, uncertainty, and frustration associated with poor person-job fit but also generate higher levels of employee motivation and engagement.

Organisational interventions may also target the social and organisational contexts in which the job is undertaken, as there are a range of policies, systems, procedures, and practices that have a major influence on the health and wellbeing of employees. The organisation's structure and culture, job security, rostering systems, physical working environment, communication within and between groups, quality of interpersonal relationships, clarity of employees' roles, levels of organisational fairness, career development opportunities, and work-life compatibility are just some of the contextual conditions that can either promote or undermine the psychological health of employees. A key goal of the individuals or groups developing organisational interventions is to initially identify the specific circumstances in which these contextual conditions contribute to employee stress and then to modify these conditions so they prevent or reduce stress experienced by employees.

The nature and complexity of organisational interventions will vary according to the specific sources of stress identified and, even in cases where the interventions are targeting single issues (e.g., workloads), a diverse range of strategies may be implemented. For example, an intervention aiming to improve workload, stress, and turnover among hospital nurses in the Northern Territory (Australia) included strategies such as the introduction of a nursing workload tool to assess nurse workloads, roster audits, increased staffing levels, increased access to clinical supervision and support for graduates, improved access to professional development opportunities, and a recruitment campaign for new graduates and continuing employees (Rickard et al. 2012). The results of pre- and post-intervention evaluation, spaced 12 months apart, indicated that the strategies led to significant improvements in organisational capacities (i.e., adaptability, communication) and employee resources (i.e., supervisor and coworker support, job control) in combination with a reduction in job demands. There were also marked improvements in stress-related outcomes, with results demonstrating significant reductions in psychological distress, emotional exhaustion, and employee turnover, as well as a significant increase in job satisfaction.

A growing number of studies support the beneficial effects of organisational interventions. In a UK-based quasi-experimental study (Bond and Bunce 2001), participatory methods were used to identify, prioritise, and address organisational sources of job stress. The key problem areas (assignment distribution, communication systems, and performance feedback) were reorganised using the views and ideas of team members, and resulted in improved mental health, sickness absence rates, and self-rated performance. Importantly, participants' perceptions of job control were found to mediate the relationship between organisational-based

changes and health and performance-related outcomes. More recently, Boss et al. (2010) examined the impact of a 4-year organisational development (OD) project in a US County Sheriff's department. The interventions were based on an organisation-wide survey and interviews with key personnel, and included organisational restructuring and job redesign strategies; changes to technology and the physical work setting; the introduction of joint problem-solving and policy formulation processes; team-building sessions; and a tailored management development program targeting people-related issues such as leadership styles, group processes, communication, change management and decision-making. The results of these interventions included improved trust between employees and managers, reduced interpersonal conflict, decreased employee turnover and citizen complaints, and an overall improvement in organisational effectiveness.

Despite increasing empirical support for organisational interventions, not all work-based stress prevention strategies have resulted in positive outcomes. A study involving seven work units in a large Denmark hospital found that interventions aimed at improving the psychosocial working environment actually resulted in a deterioration in six out of 13 working conditions (Aust et al. 2010). Relative to reference groups, this deterioration was most pronounced in scales measuring supervisor support, quality of leadership, and meaning of work. In another study involving a large UK-based company, a stress risk assessment tool was implemented in a participating department in order to comply with health and safety legislation and with the intention that the results be used to inform the development of corrective actions (Biron et al. 2010). Company records indicated that implementation of the follow-up actions was not only very low (15 % across the entire company), but where changes had been implemented, there was a trend towards poorer physical health, higher absenteeism, and decreasing levels of organisational commitment.

While the mixed findings associated with organisational interventions raise doubts about their overall benefits, the results of intervention studies incorporating process evaluation suggest that negative results may be due – at least in part – to planning and implementation failure, rather than intervention failure. In the aforementioned UK-based (Biron et al. 2010) study, for example, a range of contextual and process-related factors helped to explain the partial or non-existent implementation of corrective actions. These included an already high level of organisational change impacting on the demands faced by the participating department, low ownership of key stakeholders (including line managers and senior personnel), and a lack of resources allocated to the project (e.g., no steering committee, no support for line-managers, and no allocated budget to implement specific interventions). These findings are consistent with other intervention studies employing process evaluation techniques (Aust et al. 2010; Nielsen et al. 2006; Saksvik et al. 2002) and indicate that poorly resourced, inconsistent, or non-existent implementation of organisational interventions is a common problem. Furthermore, to paraphrase Aust et al. (2010), process evaluation research suggests that organisational interventions have often 'failed' not because the underlying theories or concepts were unsound, but more because there were significant flaws in the way the interventions were planned and implemented.

Studies involving process evaluation have not only helped identify why organisational interventions have not achieved desired outcomes, but have also helped uncover planning and implementation processes (i.e., systems, approaches, resources, and methods) that appear to be particularly important in shaping the success of organisational interventions (EASHW 2002; Giga et al. 2003b; Karanika-Murray et al. 2012; McVicar et al. 2013). Several systematic stress management frameworks have been proposed to inform intervention development and implementation, and to identify the key process issues that impact upon the intervention's effectiveness. For example, Australian researchers (Noblet and Lamontagne 2009) proposed a systematic organisational intervention process framework, describing seven critical stages and the issues/considerations encountered at each stage of the organisational intervention process:

1. Securing the support and commitment of senior personnel in approving and resourcing organisational intervention strategies, and their assurances that the goals of the intervention are worthwhile.
2. Establishing a coordinating group of individuals who influence occupational health processes, and the active involvement of employees at all levels of the group/organisation.
3. Undertaking a comprehensive needs/issues assessment to identify conditions that can undermine or promote employee wellbeing and the specific situations and circumstances that employees find stressful/satisfying.
4. Prioritising issues raised by the needs analysis, and setting realistic and achievable intervention goals.
5. Designing intervention techniques and developing an action plan, drawing on relevant theory, research, and issues raised in the needs assessment phase.
6. Implementing the intervention, while collecting evidence for evolving process issues that may subsequently impact upon intervention outcomes (e.g., documenting whether all components of the intervention was implemented as intended).
7. Evaluating the content and structure of the intervention strategies (i.e., effectiveness evaluation) and the processes and methods used to implement the intervention (i.e., process evaluation).

Systematic stress management frameworks also emphasise employee participation and the cyclical nature of the process (Nielsen et al. 2010). First, participatory action research (PAR) strategies involving collaboration between researchers and employees throughout all phases of stress management integrate employees' context expertise with researchers' content expertise (Lamontagne et al. 2007). PAR approaches are not atheoretical; rather they assist in creating local theories for the purpose of gaining a comprehensive understanding of work stress in a local context (Dollard et al. 2008). Furthermore, they (a) optimize fit between the intervention and the organisation's context; (b) empower employees; and (c) increase acceptance of the intervention (Dollard et al. 2008; Nielsen et al. 2010). In the Asian-Pacific context, PAR approaches are ideal as much of the stress management research to date has occurred within Western industrialized societies. There is,

therefore, much to be gained by stress management approaches that carefully consider local, economic, and socio-political contexts (Dollard et al. 2008).

Second, systematic stress management frameworks typically have no endpoint, instead advocating for an ongoing, cyclical approach to intervention planning and design, whereby the learning gained from initial strategies (and the processes on which they are based) guide and inform the subsequent planning and strategy development (see Sect. 19.5.2; Cooper and Cartwright 1997; Giga et al. 2003a; Nielsen et al. 2010; Noblet and Lamontagne 2009). Adopting a systematic stress management framework assists in identifying those approaches, systems, and techniques that are instrumental in the development of effective organisational interventions, which is beneficial considering that “the success of a stress intervention is largely determine by how it is implemented” (Bowling et al. 2012, p. 66).

Overall, the international organisational intervention literature indicates that organisational interventions can lead to significant improvements in the health of employees as well as the environments in which they work. However, the outcomes are not always uniformly positive, and findings from process evaluation research indicates that the manner in which these initiatives are planned and implemented is just as important as the interventions themselves. In the following section, we present two case studies from the Asia-Pacific that address some of the challenges associated with conducting organisational interventions in applied research settings.

19.4 Case Studies

19.4.1 *Case Study 1: Workplace Mental Health Promotion (Japan)*

A cluster randomised-control trial was undertaken to test the extent to which ergonomic interventions developed using participatory, employee-centred mechanisms could impact on the mental health and performance of workers in a medium-sized Japanese manufacturing firm (Tsutsumi et al. 2009). The project was initiated in response to recent decreases in employee morale and concerns that anticipated rises in workloads would have a detrimental effect on workers’ stress and performance. The researchers worked in close collaboration with the firm representatives when developing the intervention, and it was proposed that the participatory-based work modifications would result in improvements in three areas: (a) the level of safety, ergonomic functioning, communication, and performance within employees’ immediate working environments; (b) improved psychosocial job conditions, specifically in relation to job demands, job control, and support from supervisors and colleagues; and (c) increased mental health and self-rated performance. Both quantitative (i.e., pre-and post-intervention surveys) and qualitative (i.e., interviews with key stakeholders) methods were used to evaluate the outcomes of the interventions

themselves as well as the processes and contextual factors that impacted on the effectiveness of these initiatives.

Eleven assembly lines producing electrical devices were randomly allocated to intervention and control lines. Six lines received the interventions in addition to the pre- and post-intervention surveys, while workers in the control lines completed both surveys but did not receive the intervention. A defining feature of the interventions was the participatory approach to intervention development, whereby workers themselves identified and prioritised the needs of their particular assembly line and developed action plans to address these needs. In order for these participatory activities to be undertaken, a series of training and development initiatives were required. These initiatives included

1. *A half-day training workshop for company facilitators.* Human resource management (HRM) personnel and a factory section chief took part in a training workshop aimed at providing them with the knowledge and skills to facilitate the participatory activities. The content of this workshop included provision of comprehensive information on mental health in the workplace and the participatory approach to stress reduction. The facilitators also took part in role play activities designed to help them gain a more personal understanding of the specific conditions contributing to the mental health of workers (as identified in the pre-intervention survey).
2. *Supervisory education program.* Facilitators and researchers co-delivered an education program designed to help supervisors within the firm increase understanding of the significance of positive mental health, recognition of the importance of improving the work environment, and awareness of good supervisory practices. Supervisors also received guidance on how to identify and manage common sources of stress.
3. *Set-up workshop.* The aim of this workshop was to help each of the intervention lines review the results of the pre-intervention survey; identify and prioritise issues to be addressed in the interventions; and to develop immediate, low-cost improvements in their work areas. At the beginning of the workshop, the factory manager emphasised that the mental health of employees was a primary concern for the firm and that the company was committed to the participatory approach to improving working environments and reducing job stress.

After the set-up workshop, the intervention assembly lines began implementing their action plans. At this stage, the role of the facilitators was to support and guide the employees as they introduced the proposed modifications. Two follow-up workshops were also undertaken and these gave each of the intervention lines the opportunity to provide an update on their progress and identify any barriers encountered during implementation. Suggestions for overcoming these barriers and for achieving further work-based improvements were also discussed.

Overall, the modifications to the assembly lines led to improvements across four technical areas including ergonomic enhancements (e.g., work station redesign); improved communication (e.g., revision of manuals for work processes); performance increases (e.g., time-saving by using stamps rather than hand-writing); and

securing safety (e.g., introduction of “4S” standardised clean-up activity). The participatory-based interventions were also effective in preventing ill-health and improving performance in the intervention sites relative to the control lines. In relation to the psychosocial job conditions, four of the intervention lines reported improvements in either job control or support from supervisors and co-workers. In contrast, job condition scores deteriorated in four of the five control lines. Although it was not possible to specify the components of the interventions that contributed to these outcomes, the participatory approach to the assembly line improvements and the related initiatives (i.e., involvement of company facilitators, supervisor education) appeared to be closely associated with these changes.

The process evaluation also provided valuable insights into contextual and process-related factors that contributed to intervention outcomes. Differences in the nature of the work undertaken on each of the assembly lines meant that there was more scope for improving job conditions on some lines but not others. Similarly, the commitment of line supervisors varied between the assembly lines and was thought to contribute to fluctuations in the levels of supervisory support reported across the six intervention lines. Several implementation processes also contributed to the positive outcomes. The follow-up workshops were important for the early detection of barriers to implementing the work area modifications, while the observations and assistance provided by the facilitators were particularly helpful during the early phases of intervention implementation.

19.4.1.1 Acknowledgment

This case study is a summary of research conducted by Tsutsumi, Nagami, Yoshikawa, and Kawakami, published in the *Journal of Occupational and Environmental Medicine*.

19.4.2 Case Study 2: The Healthy Workplaces Project (Australia)

The Healthy Workplaces Project (HWP; Biggs et al. 2014a, b; Brough et al. 2013) is a multifaceted workplace intervention program designed to maintain optimal physical health, psychological well-being, and performance of employees. The program is the culmination of a long-term research collaboration between Griffith University and Queensland Police Service. The HWP consists of two main components: psychosocial monitoring and intervention programs.

Psychosocial monitoring is conducted to provide both qualitative and quantitative assessments of psychosocial risks, strengths, well-being, and organisational outcomes, via an annual survey. Many of the measures are standardised and are included in order to track changes over time. The results of the annual psychosocial

monitoring are also applied to improve in-service programs and inform the content and evaluation of the second HWP component: intervention programs.

Several individual and organisational interventions have been implemented as part of the HWP. For example, it was identified that the supportiveness of the work culture and leadership had a significant impact on outcomes, such as work engagement, job performance, psychological strain, and turnover. Furthermore, middle-level managers reported higher rates of stress and lower rates of work engagement compared to other staff, and indicated that they would benefit from additional support and training. As a result, two staff training programs to enhance the people-management capacity of the organisation were implemented: one aimed at executive-level managers and the other aimed at middle-level managers.

Pilot testing of the training programs was conducted in two organisational regions. All executive-level managers within the two regions were invited to complete executive-level training, which aimed to enhance leadership performance. There were three primary components of the executive-level training program: action learning workshops, a 360° review, and executive coaching. Middle-level managers were invited to attend the middle-level management program, which consisted of action-learning workshops conducted over 6 days. Both programs were facilitated by professional facilitators and were located away from work to ensure fewer disruptions.

Participants of each program perceived the training to be valuable. In particular, participants found the group discussions, opportunities for vicarious learning, case studies, professional facilitators, and education on leadership styles and strategies to be helpful in improving their leadership skills. Areas of improvement for the training referred particularly to the sustainability of the program: participants suggested more booster sessions, ongoing access to facilitators, and ongoing mentoring opportunities. Evaluations of the program also indicated that participants of the program – as well as their direct reports and colleagues – benefitted from the training (Biggs et al. 2014b; Brough et al. 2013).

A number of aspects of the intervention program led to its success to date, including

- Participation and support of organisational management;
- Participation of multiple stakeholders at all levels within and external to the organisation, including personnel with a direct interest in occupational health (e.g., HRM);
- Saturation of resources: All HWP interventions are implemented in only one or two organisational regions at a time, to ensure an optimal level of resources to sustain the intervention. One of the most important reasons for intervention failure is a lack of resources (Biggs and Brough [in press](#)).
- Comprehensive intervention program involving both individual and organisational intervention strategies.
- Action-learning workshops dispersed over a 6 month period, with participants working on their own projects related to their work roles. This contributes to the relevance and longevity of the programs. Still, these programs do have an endpoint and one of the ongoing challenges for the HWP is the sustainability of its intervention programs.

19.4.2.1 Acknowledgment

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19.5 Challenges and Future Directions for Organisational Intervention Research

Challenges implementing and evaluating organisational interventions identified in the case studies above also reflect some of the challenges discussed in the wider intervention literature. These include the challenge of converting interventions into sustainable, mainstream policies and practices; adopting a multidisciplinary approach that engages managers, employees, and personnel with a specific interest in occupational health; and gaining and maintaining the support of managers and supervisors. In addition, the need for published evidence of effective organisational interventions in the Asia-Pacific region is an important challenge to be addressed in future research. The following section discusses these challenges and future directions for organisational interventions.

19.5.1 Limited Organisational Health Psychology Research in the Asia-Pacific

One of the most significant barriers to conducting organisational interventions in the Asia-Pacific is the lack of published research dedicated to organisational health psychology (OHP) in this region. Given that the major goal of OHP is the “application of psychology to improve the quality of work life and to protect and promote the safety, health, and wellbeing of workers” (NIOSH 2013), any research undertaken in this area has the potential to protect or enhance the quality of working life experienced by employees. However, research examining the countries in which OHP studies were undertaken has revealed that the vast majority of studies were conducted in industrialised nations including the US and Europe (Kang et al. 2008). This research also revealed that, irrespective of where the studies were undertaken, only a very small proportion assessed the effectiveness of organisational interventions.

The aforementioned research was undertaken by Kang et al. (2008) and sought to analyse the studies appearing in two journals that explicitly publish occupational health psychology (OHP) research – the *Journal of Occupational Health Psychology* (JOHP) and *Work and Stress* (W&S). Although these are not the only

journals that publish OHP research, they are considered to be the leading journals in the field and provide a good indication of important trends in the area, including where OHP research is typically undertaken, the industries and sectors that are involved, and the types of health-related issues that are addressed. The review took into account all studies published in the two journals over an 11-year period (1996–2006) and identified a total of 631 papers. Of the 334 articles published in JOHP, 89.8 % of studies were based in the US and Europe. Similarly, 87.8 % of the 297 articles published in W&S were based in these regions. In contrast, only 6.3 % of the JOHP studies and 12.8 % of the W&S studies were located in the Asia-Pacific, with almost all being conducted in Australia and New Zealand. Other important findings from this research included

- None of the published studies were undertaken in developing countries within the Asia-Pacific;
- Internationally, developing and emerging economies were significantly underrepresented in OHP research, despite approximately 75 % of the world's labour force being based in developing countries (Benach et al. 2007);
- Although over 50 % of the world's population is based in rural regions, 80 % of OHP research was conducted in urban regions;
- Intervention studies only accounted for 7.2 % of studies in JOHP and 6.4 % in W&S; and
- Only two of the JOHP articles and one of the W&S studies involved collaborative efforts involving developed and developing nations.

While the lack of published OHP research in the Asia-Pacific does not necessarily mean there is also a lack of initiatives addressing psychosocial work issues in the region, the underrepresentation does mirror reports that (a) most workplace mental health studies have been based in developed countries such as the US, UK, Germany, Netherlands, and other Western European countries and (b) much of the attention on adverse working conditions in developing countries has concentrated on the occupational health and safety (OHS) and human rights implications, rather than the impact on psychological health (Chopra 2009; Kortum et al. 2008). As recognised by Kortum et al. (2008, p. 191), "...whereas there is an abundant body of research in industrialised countries (addressing psychosocial hazards and work-related stress), psychosocial occupational risks have not yet appeared on the horizon of the majority of the developing countries' research and practice agendas".

The limited research examining organisational interventions in the Asia-Pacific presents numerous challenges. The highly Westernised, US/European-centric nature of OHP research is particularly problematic for non-Western countries in the Asia-Pacific, given the need for interventions to take into account the unique organisational and social contexts in which employees are based and the diverse range of physical, social, cultural, political, and economic conditions that exist in this region. A clear goal for future research in this area should be to generate a better understanding of how the macro-level social and economic environments impacting on Asia-Pacific countries varies between nations and to consider which factors are particularly influential in shaping internal psychosocial working environments experienced by working populations. OHP research generally overlooks the role of broader social,

political, economic, and legislative factors that shape internal organisational conditions (Kang et al. 2008; Sauter et al. 2002). This research would, therefore, make important contributions to the job stress literature generally. From a more applied perspective, the results of this research could also be used to identify the types of policy and regulatory reforms that are required to bring about sustained change in these regions, while also helping to inform the extra-organisational, societal, and economic factors that need to be considered when planning, implementing, and evaluating work-based stress prevention interventions.

Although increased research attention on psychosocial working environments is important, the same economic, political, and social conditions that are contributing to adverse employment conditions and working environments are also barriers to greater research activity. A lack of investment in research and development in emerging and developing economies is a major barrier to greater OHP research in the region and careful consideration needs to be given to developing initiatives to overcome the formidable political, economic, and cultural obstacles faced by developing countries (Houtman et al. 2007).

In terms of strategies that could help address the limited OHP and intervention research in the Asia-Pacific, the mix of developing, emerging, and industrialised countries in this region provides an opportunity for greater collaboration between developed and developing countries, whereby the expertise and resources available in industrialised countries could be used to help develop the skills and expertise of researchers and practitioners in developing countries. Trans-national and cross-cultural collaborations could be facilitated through specialised networks and academies (e.g., the Asia Pacific Academy for Psychosocial Factors at Work) that convene conferences; host or support professional development workshops; develop best practice guidelines and resources; and produce newsletters, journals, and other periodicals. Exchange programs could also be introduced that enable researchers and practitioners from developed countries to be seconded to developing countries and vice versa. Further, in order to help establish these collaborations, priority should be given to introducing international grant programs that are designed specifically to fund research partnerships between developed and developing countries. Finally, OHP journals should be encouraged to offer special issues focusing on trans-national collaborations that not only address topics and issues relevant to developing countries but also take into account some of the other gaps in OHP research (e.g., the lack of studies involving rural working populations; the under-representation of organisation intervention research; and inadequate attention given to the role of 'upstream' societal-level conditions in shaping internal organisational environments; Kang et al. 2008; Kortum et al. 2008).

19.5.2 Converting Interventions into Sustainable, Mainstream Policies and Practices

Ideally, knowledge obtained from the process of implementing and evaluating organisational interventions informs future intervention strategies. This cyclical

process facilitates continual development, addresses new issues that arise in the work environment, and ensures that initial positive intervention effects do not diminish over time or produce unintended adverse effects (Bowling et al. 2012). One of the most important challenges for organisational intervention researchers, therefore, is to maintain initial short-term positive intervention effects, by converting them into sustainable, mainstream policies and practices.

Interventions should complement ongoing organisational policies and development activities, thus enhancing their sustainability and acceptance (Adkins and Weiss 2003; Kompier et al. 1998). This may be achieved by adopting participatory processes: for example, engaging employees and managers from the outset of the intervention development process ensures a more comprehensive contextual understanding of work stress issues; enables a more optimal fit between the problem and proposed intervention (LaMontagne et al. 2007; Le Blanc et al. 2007); increases acceptance of the intervention (Giga et al. 2003b); and enhances organisational capacity through employee skill development (Landsbergis and Vivona-Vaughan 1995; Nielsen et al. 2007). The participation process can be ongoing, by building capacity within the organisation to continue the OD cycle, and by aligning intervention strategies in annual review processes. We also advocate for long-term collaborations between academic researchers and organisations as a cost-effective means of enhancing the sustainability of intervention strategies and commitment to continuous improvement. Case study 2 is an example of the beneficial effects of a long-term collaborative research relationship.

The sustainability of organisational interventions is not just an issue at the development and implementation stage of interventions. There is a need for more controlled, follow-up evaluations to establish the long-term sustainability and cost effectiveness of interventions, and to determine how often interventions should be implemented to maintain their positive effects (Caulfield et al. 2004). The time elapsing between pre-intervention, post-intervention, and follow-up assessment should be considered with regard to the actual time-lag expected for the effects of the intervention strategy on targeted outcomes to transpire. The ability to choose a time-lag based on theoretical reasoning is limited, however, due to the lack of empirical and theoretical research focused on time-lags in intervention evaluation research (Biggs et al. 2014a). Further research incorporating multiple waves of data to determine short- and long-term effects would significantly contribute to this literature.

19.5.3 Developing a Multidisciplinary Approach to Organisational Interventions

A key challenge when identifying and addressing the work-based sources of job stress is to recognise that the issues impacting on the stress and mental health of workers cut across a range of organisational responsibilities and professional

disciplines. Particularly influential psychosocial conditions are often located at the work-unit level (e.g., quality of interpersonal relationships, communication, and teamwork). Program coordinators need to work closely with the diverse individuals and groups who have a detailed understanding of these conditions. Workers and their direct supervisors, for example, need to be heavily involved in identifying the specific situations and circumstances contributing to job stress; these insights and experiences may then be applied to develop stress prevention/reduction strategies.

In addition to front-line staff, individuals or groups with responsibility for the health and welfare of employees can also make a valuable contribution to this process, such as OHS practitioners, HRM personnel, OD staff, and organisational psychologists. There is a large amount of overlap in the work undertaken by these different disciplines and program coordinators need to utilise the expertise offered by each and help ensure there is a high level of coordinated action.

OHS practitioners, for example, can play a key role in identifying features of the work setting that threaten or undermine employee health and safety, and have a high level of expertise in identifying, assessing, and controlling the risk associated with these work factors (Ellis 2001). Likewise, HRM generally have responsibility for ensuring the organisation meets the requirements of relevant legislation (e.g., equal employment opportunity law, health and safety legislation) and will, therefore, be concerned about policies and practices that influence the organisation's ability to attract, retain, or develop an appropriately qualified workforce, and/or risk breaching work-related legislation and associated codes of practice. Finally, OD specialists can provide valuable guidance on the processes and methods that enhance the effectiveness of individuals and groups and place a heavy emphasis on developing strategies that can simultaneously benefit employees and the organisation (Greenberg 2013; Tetrick et al. 2012). They also have specialist organisational change knowledge and, taken together, can play a leading role in devising processes that uncover organisational sources of job stress, developing and embedding strategies into everyday operations, and ensuring there is a continuous cycle of self-monitoring and development.

There are a number of mechanisms that can be used to strengthen multilevel, interdisciplinary collaboration. In the early stages of program development, organisers need to first identify those people who have responsibility for relevant functions such as HR, OHS, and OD and ensure that they, along with employees and line supervisors, are involved in planning and developing stress prevention initiatives. Forming a coordinating group or committee is widely recognised as an important way of formalising this involvement and helping to ensure that the organisation can capitalise on the expertise offered by each of these groups (Goldenhar et al. 2001; Noblet and LaMontagne 2009). A guiding committee that represents key stakeholders can have a range of other benefits, including ensuring the views of various groups are represented; minimising the duplication of effort; integrating strategies and amalgamating resources; providing a "powerful guiding coalition" (Kotter 1995, p. 62) that can challenge the status quo and change the structures and systems that undermine employee wellbeing; and utilising the group's existing communication channels to quickly disseminate accurate information about the aims of the initiatives.

The needs assessment and strategy development stages also provide valuable opportunities for involving multiple stakeholders and generating intersectoral action. For example, interviews and focus groups can be a particularly useful way of better understanding the often complex array of systems and practices that impact on the psychological health of employees. In turn, collaborative strategy development forums (such as workshops or cross-functional problem solving groups) can be used to review the findings from these and other needs assessment initiatives, to prioritise influential job stressors, and then to help devise a comprehensive, integrated approach to addressing the key sources of stress.

19.5.4 Gaining and Maintaining the Support of Managers and Supervisors

Most organisational stress management frameworks recognise that the success of any intervention will rest heavily on the extent to which senior management understand the importance of employee psychological health and support the initiatives that have been established. The support of senior managers is particularly important early in the program's lifecycle (Harden et al. 1999; Kohler and Munz 2006; Kompier et al. 2000). Activities aimed at identifying and addressing the organisational sources of job stress often require the involvement of many people, are time consuming, and generally involve interruptions to everyday operations. Coordinators therefore need the support of key decision-makers to ensure they have access to the necessary individuals and groups, and have the time and resources required to undertake comprehensive program development. Senior managers also exert a strong influence on the culture of an organisation and gaining their support sends out a message that management values the health and wellbeing of employees and is prepared to devote considerable time and resources to address key sources of job stress.

Although the support of senior management is central to the overall success of job stress interventions, direct supervisors are considered even more critical to the day-to-day effectiveness of these initiatives (Lewis et al. 2012; Nielsen and Randall 2009; Saksvik et al. 2002). Direct supervisors can influence psychosocial working conditions in four important ways: (a) by directly contributing to the psychological health of employees through their own actions; (b) using their people management roles to continually monitor the employees' psychological health and address adverse conditions as they arise; (c) by acting as gate-keepers for their teams and protecting workers from new pressures being placed on members; and (d) by being responsible for the implementation, or allowing the implementation, of health-related interventions within their team and, therefore, influencing the quality and reach of these initiatives (Lewis et al. 2012). In view of the myriad ways in which direct supervisors effect job stress and the implementation of organisational interventions, an ongoing challenge is to ensure that they have a strong appreciation for the rationale behind the program and actively support the development and implementation of the interventions.

Participatory planning processes provide valuable avenues for gaining the support and involvement of direct supervisors, and program coordinators need to ensure that the views and concerns of this group are well represented during the planning phase. However given the critical role of supervisors in being both the agents for change as well as the targets for change, additional resources are required to ensure this group has the knowledge and motivation to perform these roles. As per the two case studies (Biggs et al. 2014b; Biggs and Brough *in press*; Brough et al. 2013; Tsutsumi et al. 2009), this could be achieved by providing training to help supervisors and line managers appreciate the relevance of psychological health in the workplace and understand how psychosocial working conditions (including their own management practices) can contribute their employees' well-being. Supervisor education should also include methods for identifying the needs of their work groups (taking into account positive and negative work experiences) and consider the role that supervisors can play in the development and implementation of unit-based stress prevention interventions.

Strategies for gaining and maintaining the buy-in of direct supervisors should not only aim to enlist their support and involvement, but should also consider how they can be supported to effectively fulfil their roles. As lower and middle-level managers, supervisors are expected to simultaneously implement the decisions made from executive personnel while also responding to the needs of team members and, contrary to popular opinion, their responsibilities often far exceed their level of decision-making authority. The impact of being 'piggy in the middle' includes a range of adverse health outcomes and can be especially acute during periods of organisational change. Efforts to improve organisational conditions, therefore, need to take into account the often competing demands faced by supervisors and ensure that they have the resources to fulfil these responsibilities (Biggs and Brough *in press*; Biron et al. 2010; Brough et al. 2013). Strategies could include seminars to help enhance their resilience and coping capacity, as well as intervention management systems that track the progress of supervisors acting as change agents, to help identify barriers early and ensure that their support needs are being met.

19.6 Conclusion

Despite legislative requirements for organisations to adopt strategies that minimise exposure to stressors, there is a dearth of published evidence for the effectiveness of organisational interventions. This is particularly pronounced in the Asia-Pacific region, given the US/European-centric nature of the research. Both organisational and academic reasons for the greater focus on individual interventions strategies were discussed, including organisational preferences and difficulties conducting robust scientific evaluations. By presenting examples of successful organisational interventions, and suggesting solutions to commonly encountered challenges, we hope to encourage OHP researchers to engage in research documenting the

development, implementation, and evaluation of organisational-level interventions. Many of the recommended strategies emphasise the importance of adopting participatory and multidisciplinary approaches that involve employees, executive leaders, OHS professionals, and line managers. Participatory approaches in particular increase the relevance and longevity of intervention strategies. In addition, adopting systematic approaches is increasingly advocated, as the process of implementing the intervention is as, if not more, important than the content of the intervention. Furthermore, cross-culture research initiatives are likely to build upon knowledge of OHP and organisational interventions specifically within the Asia-Pacific region. Finally, greater dissemination of process and effect evaluations, even when non-significant effects are obtained, will contribute to knowledge of what strategies work, and why they work, so as to more effectively promote positive employee and organisational outcomes.

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Chapter 20

National Benchmarking and Standards for Psychosocial Factors

Tessa S. Bailey and Maureen F. Dollard

20.1 Introduction

Wellbeing at work is important as it promotes benefits for individuals and employers as well as economic and societal gains. Some occupations, in particular those involving stressful tasks, can be a contributing factor to mental illness and workers' compensation claims (Wang 2005; Work Cover New South Wales 2006). Stressful factors include lack of job control such as decision making, and high levels of demands such as work load (Karasek 1979). A lack of balance between family life and work life (Geurts and Demerouti 2003) can be a stressor, as can bullying or harassment in the workplace (Law et al. 2011). Lack of rewards commensurate with level of effort can also be related to stress (Siegrist 1996). Resources including management support, co-worker support, and job security can play an important role in promoting positive worker mental health and wellbeing outcomes (Demerouti et al. 2001). The importance of these psychosocial factors for health promotion and injury prevention are increasingly being recognized by academics and industry experts in the Asia Pacific region and around the world (Leka et al. 2010; Stephens 2008).

Initiatives to address the health risks associated with these work-related factors at the macro-level tend to include policy-oriented interventions, such as changes to legislation and regulations, or setting best practice standards for psychosocial risk prevention and hazard management (Leka et al. 2011b). Setting standards often involves the development of benchmarks, tools, and resources, as well as awareness raising through social dialogue. It can include changes to workforce health and safety, education, and training requirements. Examples of these macro-level interventions are evident in a variety of forms across numerous countries around

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the world. However there is a noticeable lack of systematic surveillance of work-related psychosocial factors in developing countries as well as in emerging and industrial economies within the Asia Pacific region (Dollard et al. 2007; McDaid et al. 2005). In this paper we review some of these macro-level approaches from around the world and then focus on benchmarking psychosocial factors at work in the Asia Pacific region. In particular we highlight a national approach to surveillance and benchmarking in Australia, with a case study of the Australian Workplace Barometer project.

20.1.1 Best Practice Standards and Benchmarks for Work-Related Psychosocial Factors

Psychosocial risk occurs as a result of the interaction between an individual and a range workplace factors including job design, management, and the organisational environment that has the potential to have a hazardous influence on employee health (International Labour Organisation 1986). A hazard is when one or more of these factors have a detrimental effect on a worker's wellbeing, resulting in poor health outcomes such as exhaustion, anxiety, or depression. The first step in managing psychosocial risk factors is to ascertain its prevalence and identify groups at risk (Houtman et al. 2007). Benchmarks enable organisations/enterprises, states/regions, and nations to assess and calibrate risk levels and thus identify work-related psychosocial hazards as well as groups that are at risk. National benchmarks can also be used to establish a baseline allowing for evidence driven evaluation of interventions. Regular risk assessment at the national level is being conducted in many countries, in particular those across Europe, UK, and North America (Dollard et al. 2007).

Psychosocial factors at work have received prominence among many international public health agencies. At an intergovernmental conference on mental health organized by WHO Regional Office for Europe in 2005, governments of all 52 European countries signed a declaration calling for action to promote mental wellbeing for individuals, families, and communities including education and working environments (WHO 2005). The European Union (EU) through the Directorate General Employment and Social Affairs requested European trade unions and employer organisations develop a plan to address workplace stress (Monks et al. 2004). This agreement included awareness raising and educating employers, employees and safety representatives on how to identify and address factors that create risk to employee health and wellbeing such as risk assessments, policy development, or interventions targeting psychosocial hazards.

The EU also commissions research projects that focus on particular aspects such as social inclusion of people with mental health issues (McDaid et al. 2005) and strategies to cope with anxiety, stress and depression (Berkels 2004). A more recent innovation is the development of a European framework for psychosocial risk

management (PRIMA-EF; Leka et al. 2011a), the results of a combined effort between industry experts, academics, social partners, and key organisations. Outcomes included a range of policy-oriented interventions such as guidelines, benchmarks, and online resource materials for employers, and workforce safety professionals.

The European Survey of Enterprises on New and Emerging Risks (ESENER 2010) developed by European Agency for Safety and Health at Work reports on results drawn from 36,000 interviews carried out with managers and/or health and safety representatives across 31 countries. They were asked about how health and safety risks are managed at their workplace. This included a particular focus on psychosocial risks, such as work-related stress, violence and harassment. The survey also assessed the prevalence of safety and occupational health policies within organisations.

Results from ESENER (2010) show that in Europe formal occupational health and safety policies are more frequent in larger establishments where there is a health and safety representative. Smaller enterprises state that they find policies are not necessary or that they lack the required expertise, and are more likely to out-source risk assessment. It is interesting to note that legal complexities were not reported as a key reason for lack of adopting health and safety policies in these countries. For organisations, some of the main barriers to addressing psychosocial risks are the perceived sensitivity of the issue in addition to lack of awareness and lack of resources. The role of the social partners is recognized as a key component in the implementation of effective measures for psychosocial hazard management.

In North America, the Mental Health Commission of Canada (MHCC 2013) has recently developed standards for psychological health in the workplace with a vision of workers being safe from psychological harm, in an environment that promotes positive wellbeing. The standard is developed from a broad range of scientific literatures including areas such as workplace health and safety, law and social sciences, and also considers the economic value of psychological health at work for business owners.

While the standard is voluntary it provides detailed information on steps including prevention of harm, promotion of health, and resolution of incidents (MHCC 2013). It suggests assessment of a range of aspects relating to psychological safety including social justice, self-efficacy, and autonomy. Factors relating to intervention success are discussed such as participation by both employers and employees, building leadership commitment, and developing systems that can be integrated into current and future policy across the organisational structure. Evaluation is also identified as being important for assessing the effectiveness of interventions and for ongoing continuous improvement. Examples of hazard management processes including audit tools are provided for large and small organisations.

In the United Kingdom (UK) the Health and Safety Executive (HSE) provides access to detailed online information regarding psychosocial risk factors such as staffing, fatigue, organisational culture and change, as well as a selection of psychosocial risks (high workloads, tight deadlines, lack of control) and hazards including

stress and violence (www.hse.gov.uk). The online resource provides a workplace psychosocial risk assessment tool with results set against UK benchmarks.

It should be noted that the HSE tool does not provide assessment for some factors such as bullying and harassment that have a major impact on worker health. Suggestions for accessing services to seek support in addressing any identified hazards are provided. For example the British Standards Institution (BSI 2011) has developed a publicly available specification that offers guidance and good practice on the assessment and management of psychosocial risks at work. A range of initiatives by private businesses and consultation services exist throughout the UK to assist with psychosocial hazard management although many are not a free service.

It is clear that numerous academic institutions and industry partners are collecting data and analyzing work stress factors and their relationship to worker health at the national level across Europe, North America and UK. In a review of 35 national surveillance systems across 20 countries Dollard et al. (2007) found 12 countries (Austria, Canada, Denmark, Finland, France, Germany, the Netherlands, Baltic Countries, Spain, Sweden, UK, and USA) possessed two or more separate surveillance systems for psychosocial factors at work. Four countries (Czech Republic, Italy, Portugal, and USA) were also identified as having conducted assessment of work-related psychosocial factors at the national level but had only one point of data collection and there was no indication whether or not future data collections would occur. While it was noted that these systems varied substantially in quality, content and method, a significant outcome was the noticeable lack of access to data and tools in some developing nations such as Africa, South America, and across regions such as the Asia Pacific. Since then some countries such as Japan and Korea have implemented national systems (see Chap. 2).

20.2 National Standards and Benchmarking in the Asia Pacific Region for Work-Related Psychosocial Factors

The Asia-Pacific region hosts a broad spectrum of countries at various levels of development. The issue of work related stress is common to all countries whether industrialized, developing or those whose economies are rapidly emerging. Nations where industry is quickly growing face drastic social changes including an increase in the demand on workers, erosion of traditional values, changing needs for work health and safety policy in addition to a variety of poor working conditions (Dollard 2007; Houtman et al. 2007).

For instance, cultural factors in developing countries can include how spirituality, religion or community based obligations can affect a worker's level of stress or work-life balance (Hassan 2010; Hassan et al. 2014, see Chap. 15, this volume). For example, the importance of religion and perception of religiousness is positively related to work-family and family-work enrichment and negatively related to work-family and family work conflict in Malaysian samples. Community support and demands from

neighbours and friends are stronger predictors of work-life balance compared to work and family demands and resources. Without the conveniences of modern living seen in more industrialized nations daily tasks can be time consuming. When a country is developing there are often extreme socio-economic differences between urban and rural areas including availability of resources, job opportunities and income. In addition to workplace factors employees may also be struggling with socio-economic issues regarding health, housing, access to food and sanitation.

Representatives from the WHO recently investigated levels of systematic methods for collecting data on psychosocial risk factors at work in developing countries and emerging economies (Kortum et al. 2010). Interviews were conducted with industry experts and a two-tiered investigation based on the Delphi survey methodology was used with results showing that there is a noticeable lack of consistent data collection, awareness, and action regarding psychosocial risk and work-related stress in these countries. While awareness of psychosocial risk factors and their relationship to stress at work in developing countries is comparable to levels displayed by representatives from more industrialized nations, there is a clear gap in the application of this knowledge (Kortum et al. 2010).

Examples of initiatives to address work-related psychosocial risk factors in the Asia Pacific do exist, often involving collaboration between academics, government organisations, and/or industry partners. For instance, in 1998–1999 a Healthy Workplace Program was initiated in Vietnam with the support of the WHO through the Healthy Cities initiative (Houtman et al. 2007). The program targeted small- and medium-sized organisations in two Vietnamese cities where surveys were conducted to assess workers' needs in terms of health, safety, and wellbeing. Results were used to develop action plans including changes to job design, positive health activities, and reward systems for achievements. Results showed improvement in workplace culture, physical health, and increased productivity relevant to financial investments in the initiative.

However, while recognition of psychosocial factors and work-stress is growing across the Asia Pacific, strategies tend to be based on actions by a specific group, industry, or organisation. Systematic methods for setting best practice standards and national benchmarking still do not exist across most of the region. The following case study describes a recent Australian initiative to measure and assess work-related psychosocial risk factors at the national level as part of the Australia Workplace Barometer project.

20.3 Case Study

20.3.1 *Benchmarking Psychosocial Risk and the Australian Workplace Barometer (AWB)*

The AWB is a national workplace monitoring system developed by the Centre for Applied Psychological Research in collaboration between national and international experts over several years. Between 2009 and 2011 it collected data from

4,740 Australian workers across most states and territories, with repeated measures from 2,793 workers (Western Australia, South Australia, New South Wales, Australian Capital Territory, Northern Territory and Tasmania). The tool is based on highly regarded psychometric scales. It identifies psychosocial factors that impact on people's wellbeing and effectiveness at work, such as:

- Psychosocial safety climate
- Job demands and pressure
- Job resources, supports and control
- Job satisfaction and engagement
- Bullying and harassment
- Work-family balance
- Physical health and psychological wellbeing
- Burnout and cardiovascular risk.

20.3.1.1 What Are the Benefits of the AWB?

The computer-assisted telephone survey method of data collection captures workers in their home environment, rather than on the job, where it is likely they feel more comfortable with providing an honest assessment of their workplace conditions. This method is important as it also captures those employees who may be away from work due to sickness or injury. Many organisations that are stressful to work in do not freely enable surveillance of staff. Therefore population based research provides the best national representation of work conditions and worker health.

The results from the AWB provide important direction for Australian workforce health and safety (WHS) policy by establishing national, state, and industry benchmarks for psychosocial factors at work. The type of information gathered has many uses including:

- Organisational level psychosocial risk assessment
- Informing prevention policies and practice
- Setting priorities for preventions and interventions
- Benchmarking progress at a national, state, and industry levels
- Identifying psychosocial risk prevalence and high risk groups
- Evaluating interventions, actions and campaigns
- Monitoring changing trends over and forecasting emerging trends
- Background data for development of best practice standards, WHS tools, and resources
- Supporting academic research and theory development
- Providing an evidence basis for WHS training and education

As working conditions relate to psychological distress, and work-life balance, we can establish high risk industries, and workplace factors, that can be targeted in order to improve psychological well-being, and reduce work related illness. Ongoing data collection is essential for longitudinal analysis and will provide a better



Fig. 20.1 Psychosocial safety climate by Australian industry

understanding of casual factors impacting on worker health and a means for evidence based evaluation of worker stress intervention policies.

Here we provide an example of benchmarking industries at a national level for psychosocial safety climate (PSC) (i.e., organisational concern for psychological health and safety exemplified by policies, practices, and procedures for psychological health and wellbeing). Figure 20.1 depicts the status of Australian industries on PSC in comparison with the Australian national standard (shown as a vertical line). The national standard was estimated through calibrating levels of PSC to job strain and depression (see Bailey et al. [in review](#)). The information can be used to target industries to improve PSC. Note from Chap. 2 the very high levels of depression among workers in the accommodation, cafes and restaurant sector in Australia. This graph indicates that building the very low levels of PSC in this industry may pay dividends to improve the mental health outlook for employees in that industry.

20.4 Challenges and Future Directions

As in Europe there are extensive cultural and behavioral differences among countries in the Asia Pacific. Difficulties also exist in the lack of awareness about how psychosocial factors relate to workplace stress, and the division between physical

and psychological health at work continues to be a barrier to understanding and intervention (see also Chap. 13, this volume). Issues which are increasingly being recognized and addressed by occupational health and safety professionals in many of the more industrialized countries (Houtman et al. 2007).

Global market forces play an important role, for example there are massive shifts in the location of industries such as manufacturing, from industrialized countries to developing countries, where companies benefit from higher productivity and greater profit margins largely via lower labor costs (Ahasan 2001; Hermanus 1999). It is widely believed that multi-national corporations base their industries in developing countries to take advantage of less systematic and stringent workplace regulations, rendering workers unprotected and exposed to psychosocial risk and occupational hazards (Dollard 2007; Rantanen 1999). This in essence is shifting hazardous jobs to developing economies, underpinning reports in industrialized countries of improved work conditions and safety outcomes (Dollard 2007).

Context also plays an important role as individuals who believe they must accept their circumstances and accept lower standards to have a job at all (Houtman et al. 2007). In addition, how to effectively access informal workers, rural workers, and migrant workers and assess risks among those with limited access to resources and education, is likely to be an ongoing issue.

20.5 Conclusion

While a wide range of macro-level initiatives to address work-related psychosocial risk factors are evident in a number of countries around the world they are mainly concentrated in more industrialized nations across Europe, North America, and the UK (Dollard et al. 2007). Although awareness of psychosocial risk factors and their relationship to stress at work is increasing around the world there continues to be a clear gap in the practical application of this knowledge (Kortum et al. 2010).

To address lack of action, it is important for countries in the Asia Pacific to establish national surveillance systems for benchmarking and evidence based best practice that are comparable across regions, with some adaptation to each region. Benchmarks and standards can be incorporated into existing training and education mechanisms along with tools and information about how to collect data, interpret results, and take action to protect worker health and safety. Prevalence data at international, national, and regional levels will provide important baseline data for cost benefit analysis and evaluation. Networks of academics, industry experts and representatives from private and public institutions can work together to develop these systems with benefits including better work conditions as well as improved worker health, safety and productivity outcomes across the Asia Pacific region.

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Part VII

Conclusion

Chapter 21

Psychosocial Factors at Work in the Asia Pacific: Final Thoughts and Future Research Directions

Paula Brough, Maureen F. Dollard, and Michelle R. Tuckey

21.1 Key Contributions and Future Research Directions

This book has succeeded in showcasing pertinent research related to psychosocial aspects of work within the Asia Pacific. The 20 chapters each described applied research exploring the current scope of psychosocial factors at work in the Asia Pacific and outlined why these factors are of increasing concern to employers, employees and researchers based both within this region and more globally. The research described within this book is clearly of a high international standard and indeed was produced by some of the key leading researchers within the Asia Pacific.

Part I of this book consisted of two introductory chapters and introduced the issue of psychosocial factors at work in its broadest context. The chapters proposed a multi-level model of psychosocial factors at work combining national, employment, organisational, job design and other workplace psychosocial risk factors, that all have an important influence on worker health. It is important then to consider national and local political power actors such as governments and unions, national culture, corruption, legal requirements, welfare regimes, and occupational health and safety policies and guidance, in order to improve work conditions and worker health in the Asia Pacific. At the outset it was held that knowledge production within and across nations commands attention to similarity and diversity, including cultural differences (e.g. individualism versus collectivism), religious beliefs,

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welfare regimes, economic systems and political systems. This book has taken these factors into account when considering national differences between four countries in the Asia Pacific, Japan, Korea, Australia and China. Moreover throughout the book there is a critique of theories and constructs developed in Western economies from an Asia Pacific perspective, and using grounded approaches (see Part III), Western assumptions have been challenged and new dimensions and meanings of constructs have evolved.

Chapter 1 provided background context as to why psychosocial work-related factors are of an increasing interest in the Asia Pacific and the chapter also described our annual conference meetings aimed at formally recognizing and organizing this research in this region. These meetings culminated in the 2012 formal launch of the *Asia Pacific Academy for Psychosocial Factors at Work*. Chapter 1 described the aim of this book as being: “a platform to discuss psychosocial factors at work, to share and generate knowledge and build greater understanding and opportunities to prevent psychosocial work injury and contribute to better working arrangements in both developed and emerging economies in the Asia Pacific region and beyond.” The book achieves this aim by considering innovative research methods, key psychosocial risk factors, the links between psychosocial and physical aspects of health and safety, and interventions. Chapter 2 discussed the specific context of psychosocial work-related factors within Japan, Malaysia, Australia, China, and Korea. Together these two chapters explained the context for both this book and for the increased interest in psychosocial work-related research within this region. The chapters clearly demonstrated that interest is ripe for this research to be formally organized within the context of a specific Asia Pacific professional society and for representative samples of this research to be collected here within this volume.

Part II of this book consisted of six chapters examining innovative methods for studying workplace health and safety issues. These chapters described current scholarly discussions and research exemplars concerning cultural response bias, longitudinal research designs, accurately assessing worker’s emotions and working conditions on a momentary basis, multilevel modeling, and the value of assessing different types of job characteristics. Together these six chapters illustrate some of the key methodological discussions currently occurring internationally in this field. For example, the discussion of time lags in Chap. 4 exemplifies the increased interest occurring with the broader literature concerning the specific clarification of characteristics of ‘longitudinal’ research methods. In this chapter, Dormann and Van de Ven successfully advocated for the use of the terms “immediate”, “short-term”, “mid-term”, “meso-term”, “long-term”, and “grand-term” to more precisely describe the time lags included in different longitudinal research investigations. They also made a strong case for using shorter time intervals to assess the relationship of changes in stressors to changes in strains.

Both Chaps. 7 and 8 discussed the need to more precisely investigate the assessment of job demands and job resources. In Chap. 7, Brough and Biggs argued convincingly for the inclusion of *occupation-specific* job characteristics in addition to common assessments of generic job characteristics. Brough and Biggs noted that

current scholarly discussions about how to advance the stress management intervention field in particular, have identified the value of assessing occupation-specific measures of job characteristics. Thus, asking prison officers to rate their 'job demands' of interactions with offenders, or nurses to assess their experiences with patients, has both intuitive appeal, potentially greater applied value, and produces more accurate assessments of their work environments.

In Chap. 8, Boyd and Tuckey expanded upon recent discussions of job 'enactment' and 'crafting' to provide more specific definitions of job demands and job resources and deeper discussion of how both are involved in the enactment process. Boyd and Tuckey argued for the value of separating job demands in the enactment process, for example, into the elements involved in activating a latent job demand versus the processes involved in responding to a demand stimulus. The point being made here is that it is the *interactions* between the worker and their environment that shape workers' experiences and behaviors and therefore, these interactions require specific theorizing and assessment. This issue has largely been overlooked to date. Similarly, Chaps. 3 and 5 address other issues pertinent to the assessment – understanding and handling potential response biases due to cultural factors and the momentary assessment of emotions and other variables, respectively. Finally, Chap. 6 showcases one way in which the multi-level model that frames the book can be applied to uncover new knowledge about psychosocial factors at work.

In combination, these six methodological chapters successfully describe some of the current key research methods issues and innovations for researchers assessing psychosocial factors at work. These issues are not, by any means, restricted to the Asia Pacific region. However, it is vitally important that the significant growth in this research field within this region is suitably informed by these methodological considerations. It can be tempting to conduct 'new research' quickly with little due consideration for these methodological issues. However, for research in this region to be suitably represented within the global scholarly community, an emphasis upon *research quality* and informed methodologies must be adopted.

Part III contained four chapters examining the pertinent issues relating to workplace risk factors for employee health and well-being, including workplace bullying, interpersonal anger, workaholism and unemployment. These four issues each have an established history of research investigation and are certainly not issues unique to the Asia Pacific. Indeed, risk factors such as bullying and workaholism are recognized globally as being particularly prevalent within the Asia Pacific (e.g., Japan) and are established antecedents of workplace injuries and fatalities for these workers. However, as noted below, the increasing 'Westernization' of employment practices within this region is, of course, producing 'Western-style' problems (as well as benefits) for Asia Pacific workers. It is apparent that workplace risk factors are increasing being recognized as problematic and requiring solutions in order to maintain the health and safety of workers in this region. The four chapters in this section highlight some of the progress being made to both recognize and reduce these psychological workplace risks. One of the pertinent issues these four chapters collectively identify, and which of course is a key theme of this book, is the impact of a historical collectivist culture upon many of the

workers employed in this region. Such a culture generally places a strong emphasis upon working hard and being a suitable provider for the extended family. Individual sacrifices of leisure, family time and non-work activities are often applauded and tolerated (especially for male workers) to a greater extent than typically occurs within Western individualistic cultures. In such a cultural context work experiences of bullying, anger, violence, workaholism and occupational stress may indeed occur more frequently and be tolerated to a greater extent by workers as compared to employees within individualistic cultures with a lower power distance between workers at different organisational levels. It is, therefore, essential that these psychological workplace risk factors are identified as being problematic and that alternative working practices are discussed and implemented for Asia Pacific workers.

Part IV of this book contained two chapters describing some key physical workplace health and safety risks. Some of these issues have long been recognized as a physical risk, such as the job tasks which cause musculoskeletal disorders for workers such as nurses. Such physical work risks are obviously not specific to workers within the Asia Pacific; however, it is heartening to learn of new research which addresses these problems being conducted in this region. Benefits in working practices learnt here can be represented within more global discussions aiming to reduce workplace health and safety risks. Chapter 13 made the pertinent observation that the management of key physical workplace health and safety risks remains over reliant on the identification and control of single hazards. Instead Oakman proposed a more effective management system should consider a *multifactorial approach* to better identify the relationships between psychosocial hazards and the development of a physical injury. Oakman described a highly original “*work-related musculoskeletal disorders risk management toolkit*” as a feasible and effective process for both hazard surveillance and to inform the development of risk controls. Similarly, in Chap. 14, O’Keeffe argued that *psychosocial* risk factors should be more fully incorporated into health and safety risk management, in addition to the existing emphasis on *physical* health and safety risk factors.

Part V contained three chapters describing work-life balance research conducted within the Asia Pacific. Chapters 15 and 16 tested how well theoretical models of work-life balance developed by Western researchers and tested in samples of workers employed in Western countries could be applied to workers employed in both China and Malaysia. Chapter 17 focused specifically on how having multiple roles within the work and non-work domains can benefit individual health and performance in both these domains, via the process of work-life enrichment. The chapter highlighted specific work-life enrichment research conducted within Australia, New Zealand and Malaysia. These three chapters in culmination provide a pertinent illustration of current scholarly discussion in this (global) field of work-life balance research. For example, it is widely recognized that the accurate evaluation of individual health and performance includes estimates of multiple role demands from work and non-work domains (e.g., Brough et al. 2009; O’Driscoll and Brough 2010). However, there is also increasing recognition for a

more comprehensive approach to organisational theory testing and knowledge advancement, via the inclusion of non-US and non-European research samples (e.g., Brough et al. 2013; Cadogan 2010). This recognition is informed by two key observations. First, that the majority of published work-life balance research tests theoretical explanations derived by Western authors and tested on Western samples of employees. Representations from non-Western authors and samples are relatively scarce to date in this field (e.g., Brough et al. 2013; Masuda et al. 2012). Second, economic, social and political developments currently occurring in a number of Asia Pacific nations are increasing the occurrence of 'Western-style' employment problems and practices, including for example decreased employee loyalty and increased employee turnover. An increasing number of Asia Pacific employers are experiencing employee recruitment and retention problems which are more traditionally associated with Western employment. This includes for example, the issue of work-life balance and an increasing demand for equitable and 'family-friendly' organisational policies (e.g., Brough et al. 2013; Lapierre et al. 2008; Spector et al. 2007).

These three chapters also illustrate the importance of assessing both negative (conflict) and positive (enrichment) processes within work-life balance. These dual process have been described for some time (e.g., Brough et al. 2007; Hanson et al. 2006; O'Driscoll 1996; Wayne et al. 2004) but gaps in the empirical testing of the positive pathway in particular are apparent. There is however increasing recognition that individual health and performance can be positively (as well as negatively) influenced by experiences in a different context. Thus employers interested in the maintenance of high levels of health and performance of their employees, are increasingly recognizing the value of ensuring employees have sufficient rest, recovery and detachment from their work demands (e.g., Brough and O'Driscoll 2010; Westman et al. 2009).

Finally, Part VI of this book contained three chapters describing interventions in workplace health and safety. These three chapters discussed effective individual-level stress management processes, a review of common organisational interventions, and the establishment of a national benchmarking process for workplace psychosocial risk factors. In Chap. 18, Biding and Nordin, present an individual approach to stress management, based on breathing, relaxation, cognitive training, and emotional intelligent. They find some merit in the approach, as the stress management intervention, SMIP, was effective in reducing the anxiety levels, but not the stress or depression levels, of hotel employees. Since work stress levels are increasing in the Asia Pacific region there is a case for individuals to be trained to self-manage stress symptoms, and within their capacity avert stress symptoms.

A strategy that might be more sustainable, and more effective, is the implementation of organisational level interventions. In Chap. 19, Biggs, Noblet, and Allisey note a disproportionate focus on individual intervention approaches in developed economies, despite their potentially limited long-term value. These authors have highlighted the lack of intervention studies in the Asia Pacific region, and set out to review exemplars in the region, and for the first time propose potential solutions for implementing organisational interventions within this region.

Moving up in the hierarchy of potential intervention points, in Chap. 20, Bailey and Dollard provide evidence about macro-level approaches to work-related psychosocial risk and hazard assessment and management. Focusing on national surveillance and national standards, they find that while many countries particularly across Europe, North America, and the United Kingdom, have implemented national surveillance systems, and some have developed national standards (e.g., the UK, Canada) there are few examples throughout the Asia Pacific (e.g., Japan, Korea). Using the Australian Workplace Barometer as an example of a national population-based interview survey that assesses both risks and outcomes, the authors recommend that countries across the Asia Pacific establish a comparable national surveillance system for psychosocial risk factors at work, to draw attention to the issue, enable comparisons across regions, for purposes of benchmarking and evidence-based best practice.

As foreshadowed in Chap. 1, there are multi-level influences on worker psychological health at work (Dollard 2007). These three approaches separately illustrate the importance of targeting interventions at the individual, organisational, and national level to prevent stress at work. At each point there are different agents that important. At the national level there are political power actors such as unions, governments, and corporations, legal requirements, welfare regimes, national culture, corruption, and occupational health and safety policies and guidance that are important. At the organisational level, management and employee representative groups are important. Agency at the individual level is with the individual and their immediate social and familial resources. Worker health is a basic human right and agents at all levels share collective responsibility in this area.

21.2 Conclusions

This book has succeeded in addressing a striking gap in the global stock of knowledge about psychosocial factors at work by presenting scholarly research from the Asia Pacific. This book clearly identifies that as this Asia Pacific project evolves, greater attention will need to be directed to factors other than job design to explain differences in worker health between and within nations and organisations. This multi-level multi-factorial multi-sectoral research forms a complex, but also a rich foundation for the building of a strong and vibrant research community. We thank all our chapter authors for their contributions and congratulate them for the production of a valuable and unique reference book for researchers, professionals in occupational health and safety, human resource management, occupational health psychology, organisational psychology, students and policy makers. This book offers further support to our fledgling *Asia Pacific Academy for Psychosocial Factors at Work* and will stimulate both local researchers and those from further afield to participate in this Academy, to attend our annual *Expert Workshop on Psychosocial Factors at Work in the Asia Pacific* meetings and importantly, to collaborate with the researchers featured here.

This book has succeeded in describing the exciting and stimulating period of research in occupational health psychology and related fields we are currently experiencing within the Asia Pacific. Increased interest in this field is apparent from students, researchers both local and from afar, and from employers in this region. The recent increased research access to a number of Asia Pacific countries and the growing recognition of the value of producing high level scholarly research and informed practice is producing extremely rich opportunities for scholarly researchers in this area. We welcome and encourage this interest and are honored to be at the starting point of what will undoubtedly be a significant period of scholarly research into the provision of safer and healthier workplaces for workers employed within the Asia Pacific. We hope this book has been of value to you and that you find our contributions and observations useful in your own efforts to improve the psychological health of workers around the globe.

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