



## **International Journal of Workplace Health Management**

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### **Article information:**

To cite this document:

Kate Daisy Bone , (2015)," The Bioecological Model: applications in holistic workplace well-being management ", International Journal of Workplace Health Management, Vol. 8 Iss 4 pp. 256 - 271

Permanent link to this document:

<http://dx.doi.org/10.1108/IJWHM-04-2014-0010>

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# The Bioecological Model: applications in holistic workplace well-being management

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Received 6 April 2014  
Revised 29 September 2014  
8 March 2015  
Accepted 16 March 2015

## Abstract

**Purpose** – The purpose of this paper is to exemplify how the bioecological model (BM) may be used as a systems approach framework to address workplace well-being in a holistic, meaningful and practical way.

**Design/methodology/approach** – This conceptual paper is structured according to the design of Bronfenbrenner's (1999) BM. As such, the different layers of the model are described and then examples from the recent international and interdisciplinary literature and current policy from Australia are provided to support the argument. These selected examples represent some key themes in the field of workplace health and well-being management.

**Findings** – The BM is ideal in holistically analysing workplace health promotion and management. This finding supports future research using this model. The limitations of the model are that it can lend itself to research projects that are unfocused. It is suggested that determining the research aims and objectives and then using the model to respond to this agenda would use the model effectively.

**Research limitations/implications** – This paper proposes the applicability of a specific model to a research agenda suggesting that interested parties could design a project around this model to investigate workplace health and well-being management.

**Practical implications** – The model gives weight to the lived experiences of employees and suggests that business owners and policy makers hold power in controlling aspects that influence employee well-being. This model could be used to inform policy makers about the holistic nature of employee well-being urging inclusive policies that support positive well-being practices.

**Originality/value** – This paper provides a unique contribution to the field by offering a topic-specific model useful to those concerned with workplace health and well-being management.

**Keywords** Workplace health, Bullying, Australia, Occupational health and safety, Policy, Qualitative research, Organizational culture, Systems approach, Health promotion, Well-being, Workplace wellness, Bioecological

**Paper type** Conceptual paper

## Introduction

In this paper it is suggested that the bioecological model (BM) proposed by Bronfenbrenner (1999) can assist research when considering workplace well-being. Contemporary literature supports this model as a theoretical paradigm ideal for current research in the field (Karanika-Murray and Weyman, 2013; Quintiliani *et al.*, 2010) and the model echoes the seminal works of key sociological theorists such as C. Wright Mills (2008). The BM (Bronfenbrenner, 1999) is a systems theory framework that provides a holistic approach to occupational health. The theory offers a broad contextual analysis model with which to “examine health problems encountered by individuals and groups in relation to the etiologic circumstances present in their day-to-day physical and social environments” (Stokols, 2000, p. 129). Stokols (1992, 2000) has identified the applicability of ecological models to examining workplace health. He declares that “The signal challenge of our time is to establish and maintain healthy environments” acknowledging the interconnectedness between small-scale health promotion and the “healthfulness of the global environment” (Stokols, 1992, p. 6).



According to this ecological systems theory the environment is “conceived topologically as a nested arrangement of concentric structures, each contained within the next. These structures are referred to as the micro-, meso-, exo-, and macrosystems [...]” (Bronfenbrenner, 1979, p. 22). In this paper a new version of the BM is proposed, specifically related to a sociological examination of workplace health and well-being. The body of this paper is structured according to the model. Interdisciplinary literature from the field supports the argument being made here and policy examples from the context of Australia reinforce the applicability of this model in a real-world context. The methodology will be outlined followed by a description of the history and evolution of this model.

### Methodology

What started as an exploratory study about workplace well-being was underpinned by a literature review with two main objectives: finding a suitable theoretical perspective to guide the research project and understanding some issues currently being addressed in the literature highlighted as key features of the workplace well-being climate.

The first focus, to find a theoretical perspective, drew attention to the social ecological model and the later development of the BM. When applied to the field of workplace well-being it was decided that some changes were called for and the original BM was modified by the author to represent a framework that would address the needs of this field. The emphasis on systems theory as a holistic model was often referred to in the workplace and health promotion literature (Karanika-Murray and Weyman, 2013; Quintiliani *et al.*, 2010; Stokols, 2000). However, an application of the BM was missing and thus a research gap emerged (Punch, 2006). To the author’s knowledge, the BM has not been previously modified to practically address the agenda of workplace health and well-being research and thus the model presented here was created to serve this purpose.

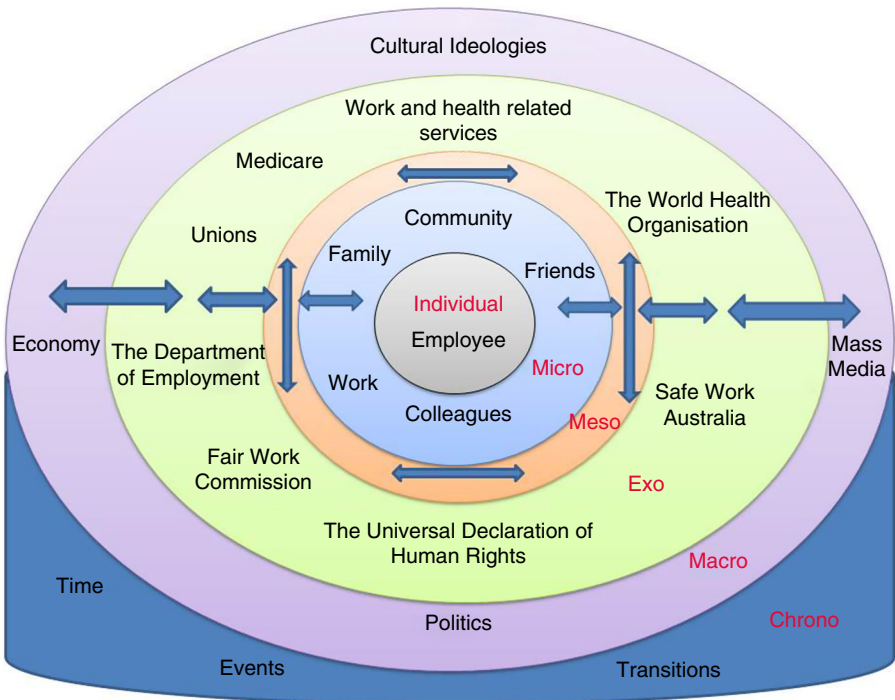
The second literature search led to an understanding of current issues facing workplaces and workers’ health globally. The main focus is placed upon Australia in 2014 as this reflects the context of the author and the primary research interest. Bullying is heavily featured in this paper due to the introduction of a new national Bullying Code (Ball and Trembath, 2013). Academic literature, the grey literature and popular media coverage of workplace well-being issues emphasised highly topical problems facing the field. The importance on psychosocial aspects of well-being became apparent alongside current issues that are seen to threaten workplace well-being such as stress, bullying, work-life conflict, work load pressure and boundary breakdowns to name just a few commonly cited challenges. A few of these threats to workplace well-being were then analysed as exemplars using the BM which highlights the practical functionality of the model.

### Ecological theory – an evolving paradigm

Bronfenbrenner’s (1979) ecological orientation has long provided a holistic framework from which to address many areas of research interest. Originally placed within the field of early childhood development, social ecological theory has been used by researchers with various disciplinary interests to analyse peoples’ relationships in and with particular contexts. For example, in recent years the scope for the use of ecological systems theory has ranged from its application in sport psychology (Krebs, 2009) to social marketing communications (Lindridge *et al.*, 2013). The theory has also been

used to analyse resilience to natural disasters in the context of climate change (Boon *et al.*, 2012) and to reviewing the literature on psychosocial and mental health interventions intended to address mental health needs of children affected by war (Betancourt *et al.*, 2013). Social ecological theory has a “long-standing background, drawing from both public health and psychology fields” (Quintiliani *et al.*, 2010, p. 188). This popularity reflects the theory’s adaptability to differing research areas as “many models of interactions of biology and ecology within a system have drawn on contextual models” (Miller, 2002, p. 437). The BM is being used in the modern world for research far from that of the theory’s origins and according to Bronfenbrenner (2000, p. 133) “we have arrived at a point where the concerns of basic developmental science are converging with the most critical problems we face as a nation”.

Systems approaches, of which the BM is one, take into consideration the relationship between personal troubles that an individual character faces and explains how this intersects with issues in greater society thus informing “the sociological imagination” (Mills, 2008, p. 44). The state of the modern workplace is busy, insecure, fluid and fragmented and offers new areas of research in the interests of the global population. The BM addresses various organisational determinants of health and the political and cultural dimensions that are influential to an employee’s well-being. The layers and specific facets of the system that influence and are influenced by the individual employee with regards to workplace health and wellness are outlined in the following proposed model (Figure 1).



**Figure 1.**  
The bioecological  
model of workplace  
health and  
well-being  
management

**Note:** Model created by author  
**Source:** Adapted from Santrock (2014)

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### Addition of the chronosystem

The BM is an advanced and evolved version of a social ecological model (Bronfenbrenner, 2000). The chronosystem, a distinguishing feature of the BM, places emphasis on “space through time” (Bronfenbrenner, 1999, p. 20). This progression has stemmed from understandings that life and life situations are not static but rather change over time and this creates chaos that “interrupts and undermines the formation and stability of relationships and activities” (Bronfenbrenner, 2000, p. 133). The chronosystem has been added to the model in recognition that for particular interactions to be effective, they must occur regularly over extended periods (Bronfenbrenner, 2000). This proposes, for example, that if an employee was to engage in only one health and wellness programme session in a year this is likely to be less effective than if the employee were to engage in the programme three times per week over several years. It also suggests that the creation of a healthy workplace environment would be more effective than trying to remedy an unhealthy working context by offering well-being interventions (Kelloway and Day, 2005).

One study conducted at a hospital workplace environment found that promotion of employee stair-use through health endorsing posters was largely ineffective, potentially due to the fact that the initiative was not carried out for a long period of time and therefore the researchers felt certain elements of the programme were not realised across time (Blake *et al.*, 2008). Another case study found that the implementation of a workplace well-being programme alone “may not be sufficient to sustainably engage employees [...] let alone beyond the challenge” (Scherrer *et al.*, 2010, p. 134). This highlights the complexities concerning the sustainability of employee well-being and the necessity to address the chronosystem in research. Acceptable ways to apply this model in workplace health promotion research will now be discussed.

### Holistic well-being, holistic research

An ecological approach accepts holistic conceptions whereby biological, psychological, sociocultural and physical environmental elements are seen to cumulatively affect well-being (Stokols, 2000). A holistic conception of well-being alongside a holistic model of analysis is ideal in addressing the gaps in the literature concerning workplace health and wellness programmes. A bioecological approach considers both physical and social environments important for the creation of health: physical aspects include the geography, architecture and technology within a context; the social environment refers to the cultural, economic and political dynamics that are working within the setting (Stokols, 1992). Long-standing emphasis on ill-health prevention has neglected the promotion of wellness (Stokols *et al.*, 1996).

This paper is derived from the standpoint that work contexts have the potential to be healthy environments and this theorisation is rooted in conceptions of health promotion, rather than injury or ill-health prevention. For example, the BM can be used to holistically inform the design and assessment of workplace health and wellness initiatives. The use of the BM as an occupational health assessment tool is increasingly relevant as an amounting body of research suggests that “multi-component interventions based on an ‘ecological’ model of health may be most effective” and will need to be researched using a matching analysis tool (Lee *et al.*, 2010, p. 59). There are clear methodological features that align with this model.

### Comparison to other models

A model presented by the Centres for Disease Control and Prevention (2013, n.p.) highlights the “systematic process of building a workplace health promotion program”

centred on the assessment, planning, implementation and evaluation of interventions. This model is far narrower than the BM proposed here. The World Health Organisation's (WHO) Healthy Workplace Framework and Model outlines an extensive number of factors that contribute to workplace well-being and is a comprehensive general guide.

The WHO framework has some notable gaps that are addressed by the BM in the exosystem and macrosystem. For example, when considering the relationship between workplace health and community, the discussion of the WHO model focuses on issues that primarily face developing nations:

All workplaces exist in communities and societies [...] there are very big regional differences based on the level of development of countries. The examples listed below are probably not issues in most of Western Europe, North America, or in more developed parts of the Western Pacific Region (Burton, 2010, pp. 37-38).

The Healthy Workplace Framework and Model considers workplace well-being impacts. The BM is applicable to research in Western nations whereby it is acknowledged that policies and regulations are in place and are being continually developed in order to manage employee health beyond basic needs.

At the macro level the BM also considers contextual politics, economics and cultural ideologies, including those presented in the media. The importance of these aspects of the macrosystem in creating conceptions of well-being is a unique feature of the BM. The strength of the BM is that it is a dynamic model and issues can be added or subtracted to make the systems relevant to specific contexts and research agendas.

### **The BM as methodology**

The use of ecological methodologies should be in "the discovery mode rather than the mode of verification" suggesting that inductive enquiries are better suited to this model than deductive reasoning (Bronfenbrenner, 2000, p. 131). The theory has evolved from social ecological model to the BM in a way that stays true to this concept (Bronfenbrenner, 2000). Inductive research can help to generate unforeseen findings within this field of inquiry, for example, one study found that by qualitatively investigating nurses' perceptions of their work environment three unknown well-being themes emerged from the data (Geiger-Brown *et al.*, 2004). The BM, as a theoretical archetype, requires holistic consideration as it lends itself to generative research designs where "implications derived from the theoretical model play a more prominent role than those drawn from research findings" (Bronfenbrenner, 2000, p. 131). This critiques the prominent outcome and statistical focus that currently dominates the field of workplace health intervention research (Baptiste, 2008; Rod and Ashill, 2013; Vingard *et al.*, 2009).

Ecological systems theory research should illuminate connections between layers such as relationships between the employee and broader societal ideologies, the bureaucratic system associated with their workspace, and the family and colleagues that the employee engages with. Using the BM as an exploratory research approach provides a holistic framework within which issues, both known and unknown, concerning employee well-being, can be brought to light.

### **Limitations of the model**

The limitations of this holistic model are connected to the capabilities of the researcher and the scope of the project at hand. The breadth of the model creates endless possibilities for the researcher and so focus is required. It is both the strength and weakness of this model that all aspects of the research matter are given weight. This

aspect of the BM is important to informing holistic research findings but it also might result in a mass of data being collected and unfocused findings if the researcher does not adequately define and set boundaries for their project.

Systems theory has also been critiqued by Burton (2010, p. 62) who argues that in terms of addressing workplace well-being “A systems theory on its own may not be enough”. Writing for the WHO, Burton (2010, p. 62) claims that “In trying to achieve coordinated action, practitioners can learn valuable lessons not only from systems theory, but also from knowledge transfer and action research”. However, the BM enables knowledge transfer and action research to be encompassed as part of the model if required and the Bronfenbrenner Centre for Translational Research (2014) was recently involved in an action research conference. The methodological approach of any project can guide the use of the BM so that study objectives are fulfilled and the research interest is addressed specifically.

### **Application of the BM in this work**

The remainder of this paper will outline the various layers of the model in order to assist the reader in understanding the holistic nature of ecological systems theory. It is also hoped that by accompanying an explanation of the layers with real-world workplace well-being examples, the research framework value of this model can be realised. To start with, the role of the individual employee within this system will be discussed followed by the micro-, meso-, exo- and macrosystems. In this way it is possible to conceptualise how workplace health management needs to go beyond the individual and extend to the broader context.

### **The individual employee**

The individual employee is at the centre of this model. The employee is influenced by environmental settings such as the workplace, home, community, broader society and culture and their personal biography will inform this. The employee also has an effect on these locales and therefore the relationship between the employee and the outer layers of the paradigm is one of reciprocity (Bronfenbrenner, 1979). The individual is positioned as active, rather than passive; the employee can impact their environment as much as the environment can influence the individual.

A way to describe the researcher concerned with multiple level contextual analysis is as a “contextualist” meaning the researcher is focused on examining not only different contexts (work, home, community) but also the influences of the individual’s experiences between contexts (Miller, 2002; Stokols, 1992). Despite these models visually looking like individually centred approaches (see Figure 1), the model is based on the mutual influences between the individual and their environment including cultural and political processes through time. Related to workplace health management, the BM can be used to analyse the employee and their workplace and society and thus a holistic encounter with occupational health and wellness can be observed by recognising the influences of all levels of an employees’ life on his or her well-being. This relationship can be felt and is experienced by the employee in the microsystem but becomes more elusive, yet still highly detrimental, in the outer levels reaching out to the macrosystem. The microsystem will now be described.

### **Employee microsystem**

The microsystem is defined as “a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and

material characteristics” (Bronfenbrenner, 1979, p. 22). From an ecological perspective “certain behaviors, social roles, and environmental conditions within an individual’s life situation can exert a disproportionate influence on his or her well-being” (Stokols, 2000, p. 131). Micro settings are directly experienced by the employee and include the workplace and home.

These settings are places that the employee can engage with and as such are experiential spaces where the employee forms perceptions; work environments are made of both objective and perceived properties (Bronfenbrenner, 1979). This explains why two employees sharing an office space might conceive of the room differently. One might find it inspiring and cheerful while the other finds the same space dull or depressing. The physical space is the same for both employees. Differences in the perceptions of the setting stem from the individual’s unique set of memories, personal tastes, cultural ideals, beliefs, or associations which all add to the experience of being within the office for that worker. This has been studied by Hua *et al.* (2010, p. 429) who provide a review of workplace space layout literature and claim that “the literature examines the sociopsychological impact of spatial settings on individual reactions to work and to the work environment in particular depth”. Not only is layout important in perceptual ideas but also letters, numbers and symbols can be viewed as elements that “form part of an environment full of signs in many shapes and sizes that compete for our attention. Our perception of these elements contributes towards our spatial guidance and sense of place” (Gouveia *et al.*, 2009, p. 339).

The ability of the work context to be controlled on multiple levels poses a unique advantage for organisations to create healthful change (Karanika-Murray and Weyman, 2013; Nippert-Eng, 1996). Workplaces have the ability to use high-impact “leverage points”, with which to influence health such as moderating workloads and other common stressors that can be altered to support, rather than diminish, employee well-being (Stokols, 2000, p. 131). The workplace is a context that can highly influence an individual’s well-being. This poses a distinctive edge for business owners whereby their organisation might be exceptionally influential on employee health; this organisational power also creates vulnerability among employees whose health is subject to their working conditions, workplace culture and managerial decision making. For example, an employee has their workload determined by their manager, the physical workspace environment mediated by the organisation’s infrastructure planner and the working culture is determined by the social dynamics of the organisation of which the employee also plays an active role. The following paragraphs describe how social dynamics within work contexts can impact upon employee health. Micro level social interactions are directly experienced by the employee, often on a daily basis, and are highly influential to peoples’ perceptions of their workplace as either a supportive and rewarding environment or alternatively a detrimental context where well-being is threatened.

#### *Workplaces as psychosocial settings*

It is well-documented that employee health and psychosocial well-being can be threatened by negative social interactions at work (Dumay and Marini, 2012; Klein and Martin, 2011; Vickers, 2009). Negative social exchanges that occur within an employee’s work space have the potential to create psychosocial dysfunction; workplace bullying, harassment, violence, fatigue and work-load pressure, among other things, are directly linked to work-related stress claims (Productivity Commission, 2010). These claims are on average more costly than physical injury claims yet psychosocial hazards are not



given as much Occupational Health and Safety leverage as physical hazards. This can be due to an uncertainty on the part of business owners on their duty of care for employees and also ways of dealing with such issues (Productivity Commission, 2010).

The business interest in workplace stress stems from the rationalisation that increased stress levels lead to reduced productivity (Halkos and Bousinakis, 2010). It is a condition of the modern world that employees are often contradictorily challenged in pressures to maintain productivity and well-being; the trials and tribulations of this balancing act are reflected in national mental illness statistics. Currently three million Australians each year are affected by mental illness' such as depression and anxiety; these illnesses are linked to stress (Beyondblue, 2014).

Stress is high on the agenda in literature concerning workplace health and a number of studies seek to understand this issue. For example, the relationship between the presence of employees dogs at work and employee stress levels has been explored finding that self-reported stress levels were lower among employees who brought their dogs to work and dramatically higher if the same employees left their dogs at home during a working day (Barker *et al.*, 2012). The authors suggest that workplace dog-presence could be an effective incentive incorporated into employee benefit packages (Barker *et al.*, 2012).

A number of diverse studies have directly focused on stress. For example, Baruch and Lambert's (2007) study on workplace anxiety is of interest as well as the literature concerning stress-related burnout (Diez-Pinol *et al.*, 2008; Leung *et al.*, 2011; Rumbles and Rees, 2013). Mindfulness, as a unique aid in stress management, has been discussed by Hede (2010) and Mueller *et al.* (2012) have examined how readiness for change relates to stress. Wickramasinghe (2012) has written about the role of supervisor support in terms of stress management. The spill-over effects of stress and satisfaction between work and home have been considered (Lourel *et al.*, 2009) as have the social and organisational aspects of the workplace in order to find ways to "cure" work related stress (Zeffane and McLoughlin, 2006). Mental health issues such as stress are important to employee well-being because as many as two million Australians currently face such mental health difficulties in the workplace at any one time (Sane Australia, 2013). The breadth of the research in this area highlights the significance of workplace stress.

### *Colleagues – bullying or support*

Organisational health is often overlooked by employers when considering the personal health of employees although organisational interventions are generally considered to be low cost and beneficial (Smith *et al.*, 2012). Colleagues specifically can influence the well-being of employees either negatively or positively. In one study a survey respondent said "I really find my job interesting but my coworkers really make me feel like I would rather stay at home. Many of my coworkers' attitudes 'stink' " and another participant from the same study noted that "if it weren't for my coworkers, my job would be very difficult right now. The stress of my job comes from excessive workload and demands of clients [...]" (Sloan, 2012, p. 2). Both negative aspects of the working environment, such as bullying, and the positive benefits of working, such as social support, are of interest to the researcher and the BM can assist in understanding how workplace dynamics affect employee well-being. The following paragraphs describe the significance of social relationships on employee health.

To first address harmful social relationships, such as bullying, it is necessary to locate bullying as an organisational problem that can have drastic effects on employee well-being (Einarsen *et al.*, 2009). Many workplace issues affecting employee well-being

stem from anti-social behaviour that has become “an issue of increasing concern to workers and their organisations, as well as unions and even government agencies [...]” (O’Driscoll *et al.*, 2011, p. 391). The bully, often a senior staff member, commonly stays in the organisation like a “destructive pathogen” (Bentley, 2013, n.p.). Workplace bullying induces situational stress across all layers of the ecological model with the victim being physically and psychosocially affected as well as her observers, family members, managers, workplace organisation, policymakers, courts and national health care system (Lovell and Lee, 2011). At the micro level managers need to be sensitive when presented with cases of workplace bullying by their employees (Lovell and Lee, 2011). Organisational culture is closely linked to workplace bullying even to the extent where organisations may actually be seen to enable and amplify workplace bullying (Vickers, 2009) and this is significantly disadvantaging to employee well-being. Work is a necessary feature of life to many and consequently when employees are subject to bullying their well-being is threatened in an inescapable context (Lovell and Lee, 2011). Occupational bullying is a topic gaining much research interest.

The positive effect of social support can also mediate worker well-being when “by changing workplaces to be more socially supportive of positive work-family relationships, employment contexts serve a proactive role that shape critical employment and societal outcomes” (Kossek *et al.*, 2011, p. 306). Social support is closely related to employee well-being, however, the concept and significance placed on notions of support must be considered with caution. Support is primarily defined as “A thing that bears the weight of something or keeps it upright” (Oxford University Press, 2014). In this sense the idea of support reflects a response to a problem; that an employee must be provided care due to the burden of some weighty situation. It is noted in the literature that social support can act as a buffer in unpleasant or stressful situations (Sloan, 2012). However, there are mixed results with regards to “the role of social support at work in protecting workers from the detrimental effects of a poor work environment” (Sloan, 2012, p. 1). Likewise, it is argued that while the benefits of leadership support for workplace health promotion are widely acknowledged, this is not necessarily reflected in the literature and further practical investigations need to explore the area further (Milner *et al.*, 2013). The BM requires a critical examination of the microsystem with a need to examine the practical implications of social dynamics that take place within the work context.

### **Employee mesosystem**

The employee mesosystem contains the interrelations among two or more settings in which the employee actively participates; for example, work and family domains (Bronfenbrenner, 1979). Various elements of an individual’s life overlap creating a chain-of-influence effect. The mesosystem is where an analysis of these overlapping and interrelated domains of an employees’ life can occur. In this section an analysis of work-life boundaries aims to clarify how different settings such as the workplace and home mutually affect the employee and their well-being.

#### *Work-life boundaries*

Work-life balance refers to “a state where an individual manages real or potential conflict between demands on his or her time and energy in a way that satisfies his or her needs for well-being and self-fulfilment” (Clutterbuck, 2003, p. 8). There has been a call for research addressing organisational facilitation of work-life balance

and interventions that focus on organisational culture (Scherrer *et al.*, 2010). Work and life should not necessarily be viewed as separate or exclusive because of the significant overlap between these spheres; the phrasing “work-life boundaries”, as opposed to “work-life balance”, has been suggested (Warhurst *et al.*, 2008). Boundary breakdown pressures have been identified and include the impacts associated with: higher rates of labour market participation by women; work intensification; feelings of job insecurity; working at odd hours; new technologies; free time increasing more slowly than people’s incomes and spending aspirations and; the long hours culture (Roberts, 2007).

Technological advancement and conceptions of work “flexibility” have led to the spatial and temporal blurring of work-life boundaries as smart phones and other such devices have created a modern challenge in maintaining boundaries such as resisting taking work phone calls and e-mailing while in bed or on holiday (Warhurst *et al.*, 2008). Indeed, technological advancement has completely changed the working life and is “no longer a set of tools that we might leverage to accomplish certain tasks; the use of technology is the definitive way in which we communicate and accomplish our work” (Thomas, 2014, p. 285). The rise of technological working conditions can be seen as both beneficial to well-being but is also potentially threatening to employee health. When framed in terms of “workplace flexibility” the merging of work and life domains appear to contribute to “an essential strategy for dealing with workload stress in today’s uncertain global economy” (Hill *et al.*, 2010, p. 357). When considered in a balanced way it is not the merging of working tasks into other domains that poses an intrinsic problem but rather the phrase work-life balance itself “which juxtaposes the two and puts work before life” (Schell, 2014, n.p.). It is through the analysis of work-life boundaries, or rather life-work boundaries, that the relationship between the workplace and holistic well-being can be explored. The mesosystem underpins this exploration of different segments of life and the relationship between them in impacting overall well-being.

### **Employee exosystem**

The exosystem refers to the settings that do not involve the employee as an active participant “but in which events occur that affect, or are affected by, what happens in the setting containing” the employee (Bronfenbrenner, 1979, p. 25). There are multiple policies and organisations dedicated to workplace issues in Australia. Many of these operations focus on the health, well-being and safety of employees and “the last decade has witnessed an unprecedented public policy emphasis on preventing ill health and promoting good health” (Karanika-Murray and Weyman, 2013, p. 105). The exosystem can be seen as a “protective” domain in terms of employee well-being. Federal government agencies concerned with workplace health are numerous. The Department of Employment (2014) is “responsible for national policies and programmes that help Australians find and keep employment and work in safe, fair and productive workplaces” (n.p.). Safe Work Australia (2014, n.p.) was established in 2008 and functions with the primary responsibility to “lead the development of policy to improve work health and safety and workers’ compensation arrangements across Australia”. Various policies evolve from this ongoing national preoccupation with workplace health and safety. New legislation that affects all workplaces and employees in Australia is the Bullying Code. The following description of this code will provide an example of how the exosystem operates in relation to policies that aim to protect employee health and well-being.

*The policy level*

Exosystem policies help to define occupational well-being issues and also ways to deal with them. This level operates with huge practical implications for the lived experiences of large numbers of employees. According to Ball and Angelopoulos (2013) there is currently no Australian legislation that specifically prohibits workplace bullying. The new Bullying Code effective from January 2014 changes this. This new code provides a definition of workplace bullying as “repeated and unreasonable behaviour directed towards a worker or a group of workers that creates a risk to health and safety” (Ball and Trembath, 2013, n.p.). The Code offers guidelines for employers to develop workplace policies that prevent bullying and also deal with complaints; employees are also provided with a strategy to file complaints to an independent Fair Work Commission that will deal with the complaint and uphold the employer to dealing with such issues (Flores-Walsh and Yap, 2013). The Bullying Code places the organisation in a position of responsibility and investigations into bullying will bring about scrutiny of organisational culture and workload issues. Such a Code is of utmost importance to the well-being of workers as it provides resources and guidelines to ensure that issues which threaten the health and safety of employees are dealt with. It has been acknowledged that “in practical terms the draft Bullying Code is also revolutionary because it expands the frontiers of work health and safety law into mental well-being” and it also pushes the boundaries of such laws into the realm of white collar work (Ball and Trembath, 2013, n.p.). This policy-level influence over employee health and well-being affects the lived, daily experience of workers. The exosystem policies acknowledge that workplaces are controllable environments that can actively support employee well-being.

**Employee macrosystem**

The macrosystem refers to “consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief systems or ideology underlying such consistencies” (Bronfenbrenner, 1979, p. 26). In order to gain a rounded understanding of the current health and wellness climate influencing workplaces in the west it is necessary to consider how the macro levels within Western civilisations (government, capitalism, culture, society) are influencing individual and community behaviours and attitudes. Contexts are fluid, they “change over time, as a result of sociohistorical changes” (Miller, 2002, p. 437). At present, an individual’s occupation is a defining feature of personal identity. Historically, one’s kin association or village of origin would have been ascertained by strangers in greeting but nowadays questions relating to occupation and work are more common in the west (Vallas *et al.*, 2009).

“The spirit of capitalism” concept relates to how Protestant and other religious ethics have bound labour and capitalism to ideologies surrounding the morals and virtues of working (Watson, 2008, p. 80). In a society where shopping malls can be conceptualised as modern “cathedrals” (Ritzer and Jurgenson, 2010, p. 15) the pressures associated with capitalism and materialism are immense and this is reflected in the ever-increasing demanding nature of work (Productivity Commission, 2010). Ironically, alongside this demanding and exhausting society defined by alienation and distress, a global obsession with health and well-being exists. Individualistic self-help trends subsist in society suggesting that “wellbeing, at individual, social and global levels, can be understood as a collateral casualty of modernity” (Carlisle *et al.*, 2009, p. 1559). The desire for health and well-being has resulted in a global well-being industry worth

a conservatively estimated two trillion dollars in 2010 (Spas and the Global Wellness Market: Synergies and Opportunities, 2010, p. iii). Described as a wellness movement, there is “a growing impetus for a paradigm shift, a switch from mere reactivity – trying to treat or fix our problems – to a proactive and holistic approach to addressing and preventing the root causes of our personal and societal ills” (Spas and the Global Wellness Market: Synergies and Opportunities, 2010, p. i). All too often the impetus to increase employee well-being is placed on the individual without any tangible organisational or societal commitment to improving employee experience.

### Conclusion

This paper provides a baseline model that can be implemented for specific ecological enquiry into the topic of occupational health and well-being management. As the researcher analyses the strata that make up this model, and sees the interconnectedness of the systems, development of this model may emerge. This is anticipated in the hope that data collected will not only produce findings but an evolution of people-in-place contextual theory. This honours Bronfenbrenner’s (2000, pp. 131-132) assertion that it is the model’s features “that point to more differentiated and precise formulations”, not the results that are of primary interest.

This paper has been explicit in describing and exemplifying how the BM can be applied to workplace well-being and this will hopefully “result in progressively more powerful and precise research designs that, in turn, will advance scientific theory and knowledge” (Bronfenbrenner, 2000, p. 132). The BM stems from an evolving theory and as such it is anticipated that the dynamic model proposed here will change in response to diverse research interests and needs. As research into workplace health and well-being issues increases, the strength of the model will be tested. Meanwhile, the literature presented in this paper supports the author’s contention that the BM lends itself to workplace health and well-being research design and analysis. From the overview presented here it is clear that the model remains fluid and useful across time and space so that research may be carried out in a way that continuously develops theory and practicality; providing scope for remodelling if required. Some key connections between the individual, micro-, meso-, exo-, macro- and chrono-systems have been illuminated and these relationships will remain central to research informing holistic workplace health and well-being management research.

### References

- Ball, A. and Angelopoulos, T. (2013), “Australia: workplace bullying – amendments to the Fair Work Act 2009”, available at: [www.mondaq.com/australia/x/254920/employee+rights+labour+relations/Workplace+bullying+amendments+to+the+fair+work+act+2009+CTH](http://www.mondaq.com/australia/x/254920/employee+rights+labour+relations/Workplace+bullying+amendments+to+the+fair+work+act+2009+CTH) (accessed 18 December 2013).
- Ball, A. and Trembath, D. (2013), “Australia: Australia’s harmonised work health and safety laws pushing boundaries into white collar work”, available at: [www.mondaq.com/australia/x/271890/Health+Safety/Australias+harmonised+work+health+and+safety+laws+pushing+boundaries+into+white+collar+work](http://www.mondaq.com/australia/x/271890/Health+Safety/Australias+harmonised+work+health+and+safety+laws+pushing+boundaries+into+white+collar+work) (accessed 18 December 2013).
- Baptiste, N. (2008), “Tightening the link between employee wellbeing at work and performance: a new dimension for HRM”, *Management Decision*, Vol. 46 No. 1, pp. 284-309.
- Barker, R., Knisely, J., Barker, S., Cobb, R. and Schubert, C. (2012), “Preliminary investigation of employee’s dog presence on stress and organizational perceptions”, *International Journal of Workplace Health Management*, Vol. 5 No. 1, pp. 15-30.

- Baruch, Y. and Lambert, R. (2007), "Organizational anxiety: applying psychological concepts into organizational theory", *Journal of Managerial Psychology*, Vol. 22 No. 1, pp. 84-99.
- Bentley, T. (2013), "Tell me why I don't like Mondays: bullying and ill-treatment in the New Zealand workplace", Inaugural Professorial Address, conducted from AUT University, Auckland, 27 August.
- Betancourt, T., Meyers-Ohki, S., Charrow, A. and Tol, W. (2013), "Interventions for children affected by war: an ecological perspective on psychosocial support and mental health care", *Harvard Review of Psychiatry*, Vol. 21 No. 2, pp. 70-91.
- Beyondblue (2014), "Beyondblue: depression. Anxiety", available at: [www.beyondblue.org.au/](http://www.beyondblue.org.au/) (accessed 18 March 2014).
- Blake, H., Lee, S., Stanton, T. and Gorely, T. (2008), "Workplace intervention to promote stair-use in an NHS setting", *International Journal of Workplace Health Management*, Vol. 1 No. 3, pp. 162-175.
- Boon, H., Cottrell, A., King, D., Stevenson, R. and Millar, J. (2012), "Bronfenbrenner's bioecological theory for modelling community resilience to natural disasters", *Natural Hazards*, Vol. 60 No. 2, pp. 381-408.
- Bronfenbrenner Centre for Translational Research (2014), "BCTR at the CU Action Research Conference", available at: [www.bctr.cornell.edu/bctr-at-the-cu-action-research-conference/](http://www.bctr.cornell.edu/bctr-at-the-cu-action-research-conference/) (accessed 29 September 2014).
- Bronfenbrenner, U. (1979), *The Ecology of Human Development: Experiments by Nature and Design*, Harvard University Press, Cambridge, MA.
- Bronfenbrenner, U. (1999), "Environments in developmental perspective: theoretical and operational models", in Friedman, S. and Wachs, T. (Eds), *Measuring Environment Across the Life Span: Emerging Methods and Concepts*, American Psychological Association Press, Washington, DC, pp. 3-28.
- Bronfenbrenner, U. (2000), "Ecological systems theory", in Kazdin, A. (Ed.), *Encyclopedia of Psychology Volume 3*, Oxford University Press, New York, NY, pp. 129-133.
- Burton, J. (2010), WHO healthy workplace framework and model: background and supporting literature and practices", Report No. 2009/26011-0, Agreement for Performance of Work Temporary Advisor, World Health Organization, Geneva.
- Carlisle, S., Henderson, G. and Hanlon, P. (2009), "'Wellbeing': a collateral casualty of modernity?", *Social Science & Medicine*, Vol. 69 No. 10, pp. 1556-1560.
- Centers for Disease Control and Prevention (2013), "Workplace health model", available at: [www.cdc.gov/workplacehealthpromotion/model/](http://www.cdc.gov/workplacehealthpromotion/model/) (accessed 22 September 2014).
- Clutterbuck, D. (2003), *Managing Work-life Balance: A Guide for HR in Achieving Organisational and Individual Change*, Chartered Institute of Personnel and Development, London.
- Department of Employment (2014), "Australian Government Department of Employment", available at: <https://employment.gov.au/> (accessed 27 March 2014).
- Diez-Pinol, M., Dolan, S., Sierra, V. and Cannings, K. (2008), "Personal and organizational determinants of well-being at work: the case of Swedish physicians", *International Journal of Health Care Quality Assurance*, Vol. 21 No. 6, pp. 598-610.
- Dumay, J. and Marini, L. (2012), "Bullying in context: a risk management perspective", *Journal of Human Resource Costing & Accounting*, Vol. 16 No. 4, pp. 281-301.
- Einarsen, S., Hoel, H. and Notelaers, G. (2009), "Measuring exposure to bullying and harassment at work: validity, factor structure and psychometric properties of the negative acts questionnaire-revised", *Work & Stress*, Vol. 23 No. 1, pp. 24-44.
- Flores-Walsh, S. and Yap, K. (2013), "Australia: new workplace bullying laws", available at: [www.mondaq.com/australia/x/267586/Health+Safety/New+workplace+bullying+laws](http://mondaq.com/australia/x/267586/Health+Safety/New+workplace+bullying+laws) (accessed 18 December 2013).

- Geiger-Brown, J., Trinkoff, A., Nielsen, K., Lirtmunlikaporn, S., Brady, B. and Vasquez, E. (2004), "Nurses' perception of their work environment, health, and well-being: a qualitative perspective", *Official Journal of the American Association of Occupational Health Nurses*, Vol. 52 No. 1, pp. 16-22.
- Gouveia, A., Farias, P. and Gatto, P. (2009), "Letters and cities: reading the urban environment with the help of perception theories", *Visual Communication*, Vol. 8 No. 2, pp. 339-348.
- Halkos, G. and Bousinakis, D. (2010), "The effect of stress and satisfaction on productivity", *International Journal of Productivity and Performance Management*, Vol. 59 No. 5, pp. 415-431.
- Hede, A. (2010), "The dynamics of mindfulness in managing emotions and stress", *Journal of Management Development*, Vol. 29 No. 1, pp. 94-110.
- Hill, E.J., Erickson, J.J., Holmes, E.K. and Ferris, M. (2010), "Workplace flexibility, work hours, and work-life conflict: finding an extra day or two", *Journal of Family Psychology*, Vol. 24 No. 3, pp. 349-358.
- Hua, Y., Loftness, V., Kraut, R. and Powell, K. (2010), "Workplace collaborative space layout typology and occupant perception of collaboration environment", *Environment and Planning B: Planning and Design*, Vol. 37 No. 1, pp. 429-448.
- Karanika-Murray, M. and Weyman, A. (2013), "Optimising workplace interventions for health and well-being: a commentary on the limitations of the public health perspective within the workplace health arena", *International Journal of Workplace Health Management*, Vol. 6 No. 2, pp. 104-117.
- Kelloway, E. and Day, A. (2005), "Building healthy workplaces: where we need to be", *Canadian Journal of Behavioural Science*, Vol. 37 No. 4, pp. 309-312.
- Klein, A. and Martin, S. (2011), "Two dilemmas in dealing with workplace bullies – false positives and deliberate deceit", *International Journal of Workplace Health Management*, Vol. 4 No. 1, pp. 13-32.
- Kossek, E., Pichler, S., Bodner, T. and Hammer, L. (2011), "Workplace social support and work-family conflict: a meta-analysis clarifying the influence of general and work-family-specific supervisor and organizational support", *Personnel Psychology*, Vol. 64 No. 2, pp. 289-313.
- Krebs, R. (2009), "Bronfenbrenner's bioecological theory of human development and the process of development of sports talent", *International Journal of Sport Psychology*, Vol. 40 No. 1, pp. 108-135.
- Lee, S., Blake, H. and Lloyd, S. (2010), "The price is right: making workplace wellness financially sustainable", *International Journal of Workplace Health Management*, Vol. 3 No. 1, pp. 58-69.
- Leung, M., Chan, Y. and Dongyu, C. (2011), "Structural linear relationships between job stress, burnout, physiological stress, and performance of construction project managers", *Engineering, Construction and Architectural Management*, Vol. 18 No. 3, pp. 312-328.
- Lindridge, A., MacAskill, S., Ginch, W., Eadie, D. and Holme, I. (2013), "Applying the social ecological model to social marketing communications", *European Journal of Marketing*, Vol. 47 No. 9, pp. 1399-1420.
- Lourel, M., Ford, M., Gamassou, C., Guéguen, N. and Hartmann, A. (2009), "Negative and positive spillover between work and home: relationship to perceived stress and job satisfaction", *Journal of Managerial Psychology*, Vol. 25 No. 5, pp. 438-449.
- Lovell, B. and Lee, R. (2011), "Impact of workplace bullying on emotional and physical well-being: a longitudinal collective case study", *Journal of Aggression, Maltreatment & Trauma*, Vol. 20 No. 3, pp. 344-357.
- Miller, P. (2002), *Theories of Developmental Psychology*, 4th ed., Worth Publishers, New York, NY.
- Mills, C. (2008), "The sociological imagination", in Earle, S. and Letherby, G. (Eds), *The Sociology of Healthcare*, Palgrave Macmillan, New York, NY, pp. 40-49.

- Milner, K., Greyling, M., Goetzel, R., Da Silva, R., Kolbe-Alexander, T., Patel, D., Nossel, C. and Beckowski, M. (2013), "The relationship between leadership support, workplace health promotion and employee wellbeing in South Africa", *Health Promotion International*, Vol. 30 No. 3, pp. 514-522.
- Mueller, F., Jenny, G. and Bauer, G. (2012), "Individual and organizational health-oriented readiness for change: conceptualization and validation of a measure within a large-scale comprehensive stress management intervention", *International Journal of Workplace Health Management*, Vol. 5 No. 3, pp. 220-236.
- Nippert-Eng, C. (1996), *Home and Work: Negotiating Boundaries Through Everyday Life*, The University of Chicago Press, Chicago, IL.
- O'Driscoll, M., Cooper-Thomas, H., Bentley, T.A., Catley, B., Gardner, D. and Trenberth, L. (2011), "Workplace bullying in New Zealand: a survey of employee perceptions and attitudes", *Asia-Pacific Journal of Human Resources*, Vol. 49 No. 1, pp. 390-408.
- Oxford University Press (2014), "Support", available at: [www.oxforddictionaries.com/definition/english/support](http://www.oxforddictionaries.com/definition/english/support) (accessed 22 September 2014).
- Productivity Commission (2010), "Performance benchmarking of Australian Business regulation: occupational health & safety", available at: [www.pc.gov.au/projects/study/regulation-benchmarking/ohs/report](http://www.pc.gov.au/projects/study/regulation-benchmarking/ohs/report) (accessed 18 March 2014).
- Punch, K. (2006), *Developing Effective Research Proposals*, 2nd ed., Sage, London.
- Quintiliani, L., Poulsen, S. and Sorensen, G. (2010), "Healthy eating strategies in the workplace", *International Journal of Workplace Health Management*, Vol. 3 No. 3, pp. 182-196.
- Ritzer, G. and Jurgenson, N. (2010), "Production, consumption, prosumption: the nature of capitalism in the age of the digital 'prosumer'", *Journal of Consumer Culture*, Vol. 10 No. 1, pp. 13-36.
- Roberts, K. (2007), "Work-life balance – the sources of the contemporary problem and the probable outcomes: a review and interpretation of the evidence", *Employee Relations*, Vol. 29 No. 4, pp. 334-351.
- Rod, M. and Ashill, N. (2013), "The impact of call centre stressors on inbound and outbound call-centre agent burnout", *Managing Service Quality*, Vol. 23 No. 3, pp. 245-264.
- Rumbles, S. and Rees, G. (2013), "Continuous changes, organizational burnout and the implications for HRD", *Industrial and Commercial Training*, Vol. 45 No. 4, pp. 236-242.
- Safe Work Australia (2014), "Safe work Australia", available at: [www.safeworkaustralia.gov.au/sites/SWA](http://www.safeworkaustralia.gov.au/sites/SWA) (accessed 27 March 2014).
- Sane Australia (2013), "Depression in Australian workplaces more 'hidden' than in Europe: new research", available at: [www.sane.org/news-comment-2013/1222-depression-in-australian-workplaces-more-hidden-than-in-europe-new-research](http://www.sane.org/news-comment-2013/1222-depression-in-australian-workplaces-more-hidden-than-in-europe-new-research) (accessed 15 November 2013).
- Santrock, J.W. (2014), *Child Development*, 14th ed., McGraw-Hill Education, New York, NY.
- Schell, P. (2014), "Work less, do more, live better", available at: [www.timeshighereducation.co.uk/features/work-less-do-more-live-better/2014929.fullarticle](http://www.timeshighereducation.co.uk/features/work-less-do-more-live-better/2014929.fullarticle) (accessed 15 September 2014).
- Scherrer, P., Sheridan, L., Sibson, R., Ryan, M. and Henley, N. (2010), "Employee engagement with a corporate physical activity program: the global corporate challenge", *International Journal of Business Studies*, Vol. 18 No. 1, pp. 125-139.
- Sloan, M. (2012), "Unfair treatment in the workplace and worker well-being: the role of coworker support in a service work environment", *Work and Occupations*, Vol. 39 No. 1, pp. 3-34.
- Smith, S., Makrides, L., Lebel, F., Allt, J., Montgomerie, D., Farquharson, J., MacDonald, M. and Szpilfogel, C. (2012), "The healthy lifeworks project: the role of organisational health in the personal health of employees", *International Journal of Workplace Health Management*, Vol. 5 No. 3, pp. 194-209.



- Spas and the Global Wellness Market: Synergies and Opportunities (2010), "Global spa summit, spas and the global wellness market: synergies and opportunities", prepared by SRI International.
- Stokols, D. (1992), "Establishing and maintaining healthy environments: toward a social ecology of health promotion", *American Psychologist*, Vol. 47 No. 1, pp. 6-22.
- Stokols, D. (2000), "Social ecology and behavioral medicine: implications for training, practice, and policy", *Behavioral Medicine*, Vol. 26 No. 1, pp. 129-138.
- Stokols, D., Pelletier, K. and Fielding, J.E. (1996), "The ecology of work and health - research and policy directions for the promotion of employee health", *Health Education Quarterly*, Vol. 23 No. 1, pp. 137-158.
- Thomas, K. (2014), "Workplace technology and the creation of boundaries: the role of vhrd in a 24/7 work environment", *Advances in Developing Human Resources*, Vol. 16 No. 3, pp. 281-295.
- Vallas, S., Wharton, A. and Finlay, W. (2009), *The Sociology of Work: Structures and Inequalities*, Oxford University Press, New York, NY.
- Vickers, M. (2009), "Bullying, disability and work: a case study of workplace bullying", *Qualitative Research in Organizations and Management: An International Journal*, Vol. 4 No. 3, pp. 255-272.
- Vingard, E., Blomkvist, V., Rosenblad, A., Lindberg, P., Voss, M., Alfredsson, L. and Josephson, M. (2009), "A physical fitness programme during paid working hours – impact on health and work ability among women working in the social service sector: a three year follow up study", *Work*, Vol. 34 No. 3, pp. 339-344.
- Warhurst, C., Eikhof, D. and Haunschild, A. (2008), "Out of balance or just out of bounds? Analysing the relationship between work and life", in Warhurst, C., Eikhof, D. and Haunschild, A. (Eds), *Work Less, Live More? A Critical Analyses of the Work-Life Boundary*, Palgrave Macmillan, Hampshire and New York, pp. 1-21.
- Watson, T. (2008), *Sociology, Work and Industry*, 5th ed., Routledge, New York, NY.
- Wickramasinghe, V. (2012), "Supervisor support as a moderator between work schedule flexibility and job stress: some empirical evidence from Sri Lanka", *International Journal of Workplace Health Management*, Vol. 5 No. 1, pp. 44-55.
- Zeffane, R. and McLoughlin, D. (2006), "Cooperation and stress: exploring the differential impact of job satisfaction, communication and culture", *Management Research News*, Vol. 29 No. 10, pp. 618-631.

### Further reading

- Australian Government (2014), "OHS (Workplace health and safety)", available at: <http://australia.gov.au/topics/employment-and-workplace/ohs-workplace-health-and-safety> (accessed 27 March 2014).
- Taylor, W., Shegog, R., Chen, V., Rempel, D., Baun, M., Bush, C., Green, T. and Hare-Everline, N. (2010), "The booster break program: description and feasibility test of a worksite physical activity daily practice", *Work*, Vol. 37 No. 4, pp. 433-443.

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