

Comparative analysis of Inspector responses to complaints about Psychosocial and Physical Hazards

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Abstract

Work Health and Safety Inspectors are at the front line of efforts to protect workers against harm from psychosocial hazards, yet the application of regulatory theory in this area of practice has not been adequately explored. Drawing on models of responsive regulation (Ayres and Braithwaite, 1992) and strategic enforcement (Weil, 2008, 2010), we analyze extensive ($N=46,348$) complaint and incident notification data from an Australian Work Health and Safety Inspectorate in order to compare Inspectors' responses to psychosocial versus non-psychosocial hazards. We found that psychosocial hazards were less likely to be actioned than non-psychosocial hazards. When actioned, psychosocial hazards saw more Inspector activity (phone calls, correspondence, site visits), yet fewer enforcement notices than non-psychosocial hazards. Since these findings are not consistent with the version of responsive regulation adopted by the regulator, our theoretical conclusion is that Weil's strategic enforcement approach offers greater possibilities for guiding future resource allocation.

Keywords: Hazard, Inspector, Psychosocial, Regulation, Health and Safety

Work Health and Safety Inspectors' Treatment of Psychosocial Hazards as Part of Their Wider Responsibilities

Regulating for work-related psychosocial hazards is hard. If you can, imagine you are a work health and safety (WHS) Inspector. Your job is to determine whether there has been a breach of WHS laws when a worker makes a complaint to you, stating they have been bullied by their manager and overloaded with work. At the same time, the employerⁱ tells you that for years they have been responding to issues of poor performance, interpersonal deviance, sense of entitlement, and team conflict associated with that very worker, and indeed, feel like they are being bullied themselves.

Even in this brief paradigmatic example, shorn of extraneous detail and drawn from the researchers' experience, key issues and common challenges are immediately visible—the core characteristics of work design and/or a person's behaviour as a hazard, entrenched conflict, complex interactions between psychosocial hazards when determining risk, and the cumulative nature of injury, to name but a few (Jespersen et al, 2016). Perhaps not surprisingly, Inspectorates around the world struggle with this work (Boland, 2018; Johnstone et al, 2011; Leka et al, 2015).

Compounding these challenges, WHS Inspectorates are increasingly being called upon to respond to psychosocial hazards (Boland, 2018; Leka & Jain, 2016). The increased prevalence of psychological injury (Guthrie et al., 2010), with its economic, social, and personal impacts, has resulted in greater community expectation for action (Goetzel et al, 2018). As a result, academics, governments, unions, and employer groups alike are rightly clamouring for more to be done to improve work-related mental health, compelling WHS Inspectorates to do more (Lyons, 2017).

These unresolved tensions are a grand challenge, unique to our period of economic history and particularly evident in liberal market economies (LMEs). LMEs encourage the creation of organisational systems and management structures that intensify work to drive productivity, while simultaneously tolerating less external regulation of work relations. Work intensification is occurring during a fourth industrial revolution, where digital and technological disruption is increasingly the norm and rapidly evolving work arrangements provide new challenges in safeguarding workers' psychological health (Boland, 2018, Min et al, 2019). Concomitantly, managements within LMEs expect workers to be free from harm in order to drive economic productivity. Business practices that focus solely on productivity can be in tension with the concept of worker psychological wellbeing. This tension comes sharply into focus when WHS Inspectors act to minimise harm by reducing exposure to psychosocial hazards, such as high job demands, low job control, and role overload.

Our study focuses on these tensions drawing on and examining the utility of two regulatory theories or models: responsive regulation (or more particularly, responsive enforcement; see for example, Ayres and Braithwaite, 1992), and strategic enforcement (Weil, 2008, 2010). We apply our theory-driven thinking to the analysis of extensive complaint and incident notification data from an Australian WHS regulator to answer questions about whether WHS Inspectorates' make different decisions and conduct different activities when they address psychosocial versus non-psychosocial hazards. We test whether espoused regulatory models (in this case interpretations of responsive regulation), are applied in the same way across physical and psychosocial hazards, and whether strategic enforcement may be better suited to prevent and manage psychosocial hazards.

In addition, our study aims to contribute new empirical knowledge about regulator activities in this space. Despite its priority status, little is known about the profile of

complaints and injury notifications specific to psychosocial hazards, or the nature of WHS Inspectorates' responses. Published WHS evidence and other insights are mostly drawn from compensation data (e.g., SWA, 2017) with limited information provided about the profile and nature of complaints and injury notifications made directly to WHS regulators. Empirical studies have focused on proactive work (e.g., audit or intervention programs), rather than reactive work (e.g., responses to complaints or injury notifications) undertaken by WHS Inspectorates (e.g., Weissbrodt et al, 2018). The difference is important since the latter (complaints and incidents) are initiated by workplace stakeholders (employers or workers) whereas the former are regulator-led initiatives. Insights from real (rather than perceived) Inspectors' decision-making and compliance promotion and enforcement work provide foundational, and as yet untapped, knowledge about how various enforcement models may be applied to practice for WHS Inspectors attempting to regulate psychosocial hazards. This answers a recent call to provide more evidence about Inspector activity thereby providing a sound base for practice and to inform the development of regulatory standards, regulations and processes around how psychosocial hazards are prioritized and managed (Weissbrodt et al, 2018).

The Nature of Psychosocial Hazards versus Physical Hazards in Occupational Contexts

Work characteristics that may increase the risk of workers sustaining a psychological injury are known as work-related psychosocial hazards (Johnstone et al, 2011). They emanate in part from how work is designed and organized (Brun & Milczarek, 2007) and how workers' conditions are broadly conceived (Laine et al, 2014). Underpinned by theories of occupational stress such as the Job Demands-Resources model (Bakker & Demerouti, 2007), established psychosocial hazards that increase the risk of harm include high job demands, low job control, role ambiguity, inadequate support from co-workers or supervisors,

interpersonal conflict, low procedural or relational justice, low job security and high effort-reward imbalance (Nieuwenhuijsen et al, 2010; Wong et al, 2015). Many WHS regulators group psychosocial hazards into categories, such as work-related stress, bullying, violence, and fatigue, to better operationalize their regulatory responses (Way, 2012a).

Inherent differences exist between psychological and physical manifestations of hazards, risks, and injury (Boland, 2018). Psychosocial hazards are characterized as complex and multifaceted, with many options for solutions (Jespersen et al, 2016). The complexity of assessing risk from exposure to psychosocial hazards is further complicated by their interactive effects and less visible, potentially long-term health impacts which can cloud hazards' severity (Johnstone et al, 2011). Inconsistencies in diagnosis of psychological injuries (Brijnath et al, 2014), associated stigma (Hipes et al, 2016), and ambiguity around the antecedents that raise these hazards to critical risk thresholds for some individuals and not others (Kyaw-Myint et al, 2017) all add complexity. Like other evolving, cumulative disorders that present long after a workplace 'event' (if there is one), gathering evidentiary support for psychosocial hazard-related breaches can be challenging (Pryor, 2019; Way, 2012a).

Neo-liberal orthodoxies about the employment relationship, especially prevalent in liberal market economies, are in tension with the risk management of psychosocial hazards. LMEs coordinate relationships between businesses and others by way of hierarchies and market mechanisms to promote competition, whereas Co-ordinated Market Economies (CMEs) rely more heavily on collaborative, non-market forms of interaction. The Australian LME shows many of the structural institutional features in existence in the USA and UK, even if its larger companies' employment relations practices show slightly more concern with employee attitudes than the former (McDonnell et al, 2015). LMEs relatively weak

acceptance of the legitimacy of external regulation of employment relationships and the relatively sharp decline in unionism have constrained broader remits and holistic assays of work domains, and therefore creates a challenging environment for Inspectors (Vibert, 2014), particularly when addressing psychosocial hazards. In addition, Australian WHS Inspectors relate changes in the fragmentation of work to increased logistical problems for their Inspectorial activity (Quinlan et al, 2009). These difficulties reduce scope for Inspectors to intervene to reduce psychosocial hazards or the “sources of work pressure” for employees, and intervening is likely to involve challenges to managerial prerogative (their ‘right to manage’). Inspector efforts to influence risk management of psychosocial hazards have been questioned, with suggestions that this is only likely with skilled Inspectors in supportive regulators (Weissbrodt & Giauque, 2017). Overall, Inspectors’ perceptions of public and organizational support are conditioned by operating in an LME context and are likely to influence their management of psychosocial hazards.

Given the nature of psychosocial hazards in the context of LMEs, it is perhaps not surprising that they are viewed as difficult by Inspectors within them. Inspectors note limited training, resource constraints, complainants’ fears of workplace victimization during investigation processes, and insufficient guidance from regulatory frameworks (Johnstone et al, 2011). All of these factors can mean Inspectors may shy away from determining compliance with WHS laws and indeed there is a global tendency for Inspectors to focus their inspection efforts on workplace physical hazards as opposed to psychosocial hazards (Boland, 2018; Johnstone et al, 2011; Leka et al, 2015). Concerns about a lower frequency of inspection visits for psychosocial hazards particularly in small and medium enterprises (Leka & Jain, 2016), alongside studies demonstrating that psychosocial hazards constitute only a marginal area of Inspectorate activity (Johnstone et al, 2011), support these claims. Given

that some ten years have passed since the Johnstone et al. (2011) work, and the apparent differences in the nature of psychosocial and physical hazards, our broad research aim is to investigate possible differences in the nature of regulator responses to psychosocial versus physical hazards.

Legal Regulation of Psychosocial Hazards in Australian Workplaces

Australian WHS legislation was first enacted in the late nineteenth century and followed the regulatory model in the then UK Factories Acts, which laid down detailed technical standards relating to particular hazards specifying safeguards to be adopted by employers focusing on these physical hazards, most particularly dangerous machinery. These standards were inspected and enforced by state Inspectorates, with limited formal sanctions (criminal prosecution in the courts); and in practice Inspectors preferred to use informal ‘advice and persuasion’ strategies rather than formal enforcement (Gunningham, 1984; Walters et al., 2011). It was only in the reformed WHS statutes in the decade from the late 1970s that broad general duties, which covered all kinds of hazards (including health and psychosocial) and all kinds of workplaces (not just factories), were introduced. From the late 1980s the regulations and codes created under these statutes began to adopt a risk management approach to addressing hazards. Inspectorates were also given a broader range of enforcement powers, including administrative sanctions (for example, improvement and prohibition notices) and, later, the *power to accept an enforceable undertaking* offered by a person, usually an employer, against whom a prosecution had been brought (Johnstone et al 2012). The process of harmonizing the WHS statutes in 2008-2011 further reformed the regulatory model by imposing the key duties on all persons conducting a business or undertaking (PCBUs), not just ‘employers’, and affording protection to all kinds of workers, not just ‘employees’ (Johnstone et al, 2012).

The aim of modern Australian WHS statutes is to set down statutory WHS standards, facilitate worker representation and participation in WHS, and to establish a WHS Inspectorate with broad inspection and enforcement powers to enforce the statutory standards. This approach demonstrates similarities to other LMEs, such as the United Kingdom and parts of Europe, and Canada. Updates in WHS laws and guidance documents and psychosocial risk management tools for Inspectors and others (Jimmieson et al, 2016) have attempted to clarify the legal obligations to address psychosocial hazards (e.g., Safe Work Australia [SWA], 2018). However, the absence of specific psychosocial hazard provisions in the Regulation, Codes and National Compliance and Enforcement Policy (NCEP), and a reliance on general duties provisions to enforce breaches of psychosocial hazards, contribute to Inspectors feeling ill prepared and inappropriately equipped, both in Australia and internationally (Lippel, Vézina & Cox, 2011; Walters et al, 2011). This appears likely to have implications for regulatory responses since the concrete application of general duties requirements in particular situations tend to leave considerable scope for debate.

Regulatory Theory and Inspectorate Responses to Psychosocial Hazards: Responsive Versus Strategic Enforcement

Contemporary Australian Inspectorates claim to be adopting a loose version of responsive enforcement, based on Ayres and Braithwaite's (1992) initial and influential model of responsive regulation. In the current study, we explore the possibility that a different enforcement strategy, strategic enforcement (Weil, 2008 & 2010), which to some extent has been adopted by general labor Inspectorates in the United States and Australia (Hardy & Howe, 2017; Weil, 2018; Vosko et al 2020), may have greater utility for enforcing standards addressing psychosocial hazards.

Responsive enforcement, an element of responsive regulation (Ayres & Braithwaite, 1992), encourages regulators to be sensitive to the culture, conduct and context of those they seek to regulate in seeking to achieve interactive compliance where self-regulation is effectively adopted (Braithwaite, 2011). As businesses may have various motives for complying with WHS standards, responsive enforcement invokes escalating enforcement tools depending on whether business is co-operative with the Inspectorate and internally motivated to self-regulate to improve WHS outcomes (Ayres & Braithwaite, 1992). Regulators employ a graduated approach to achieving compliance using a hierarchy of possible sanctions, known as the 'enforcement pyramid' (Ayres and Braithwaite, 1992). At the base are advisory and persuasive techniques, followed by administrative sanctions in the middle and more punitive sanctions at the top of the pyramid (SWA, 2011, p. 6). Although not empirically validated (Parker, 2013), this approach to enforcement assumes that only a minority of offenders will require formal enforcement measures as most employers will comply voluntarily with WHS legislation (Wood et al, 2010) because of the threat of large criminal penalties at the top of the pyramid (Ayres & Braithwaite, 1992). Yet the reality of resource limitations in Inspectorates serves to push regulatory activity away from a truly responsive approach and toward the pyramid's bottom layers (Lindholm & Hansson, 2004; Weil, 2008). This leaves regulators with a tension of balancing the community's expectation that employers will be held accountable for non-compliance, with the need to support industry to build WHS capacity (Boland, 2018; Guthrie et al, 2010; Hayne, 2019).

In jurisdictions around the world, fatal workplace tragedies have demonstrated that many corporations are not suited to an enforced self-regulation approach, where organizations internalize responsibility for their own compliance (Hayne, 2019; Leka & Jain, 2016; Parker, 2002; Regan & Mason, 2017; Tombs & Whyte, 2013a; Tombs & Whyte,

2013b; Vosko et al, 2020). Concerns about soft negotiations with employers, limited accountability and ineffectual enforcement activities mean that regulators are now under mounting pressure to explain and review how WHS Inspectors make discretionary decisions between softer negotiation tactics and hard court-based enforcement options (Boland, 2018; Lyons, 2017). The strategy of beginning enforcement responses with soft 'advise and persuade' approaches with an underlying threat of escalation, requires extensive resourcing and repeat encounters between regulator and regulatee to continually monitor compliance and the regulatee's level of co-operation (Braithwaite & Hong, 2015; Gunningham & Johnstone, 1999).

As Inspectorates face the central problem of how to deploy limited resources most effectively, particularly in relation to psychosocial hazards, Weil's (2008, 2010 & 2018; Vosko et al 2020) strategic enforcement approach to WHS inspection and enforcement aims to provide a clear alternative framework to maximize the effectiveness of increasingly constrained regulatory resources through six guiding principles and strategies. Inspectorates should *prioritise* industries with high levels of violations and vulnerable workers, and where there is the prospect of widespread and sustainable change. *Complaints handling* should be transformed from a reactive to a proactive process, by using complaints data to map levels of compliance across industries. *Deterrence* should be enhanced to seek 'ripple' and 'local' effects at organisational, industry and geographic levels. Inspection and enforcement should be *focused at the top* of industry structures on companies that affect markets and incentives, and *on systemic effects*, by addressing drivers, incentives and root causes of non-compliance. Inspectorates should aim to achieve *sustainable and ongoing proactive compliance* across the target industry, using private monitoring by exemplary firms and others (Weil 2010, 2018). Since the number of complaints and injury notifications surpass the number of available

Inspectors, the strategic enforcement approach may offer an alternative way of directing attention toward determining the relative priority of different complaints (Weil, 2008) and potential for altering triaging in order to better manage Inspectorate resources. Its specific advantage over responsive enforcement is that it more directly prioritizes strategic allocation of resources at the initial triage stage.

Operationalization of WHS Inspection for Psychosocial hazards by the WHS Regulator

In local practice, reflective of broader international operating principles, WHS regulators typically deploy a range of approaches broadly categorized as proactive or reactive work. Proactive work, with or without enforcement activities, aims to assist employers improve their WHS performance, for example, via education campaigns, public health marketing, and supporting worker Health and Safety Representatives (SWA, 2019a).

Reactive work, on the other hand, occurs mostly in response to two types of WHS events: complaints and incident notifications. 'Complaints' are typically made by workers, members of the public, or even Inspectors themselves who identify a potential breach of WHS laws (such as an unguarded piece of machinery or incidence of workplace bullying). 'Incident notifications', notifiable by law, are typically made by employers as soon as they become aware of a death, serious injury or illness, or a dangerous incident that arises out of the conduct of a business' (SWA, 2019a). Both of these events indicate workplace hazards, risks, injuries or illnesses which may constitute non-compliance with WHS law. The primary public expectation in response to these events is an Inspectorate determination of compliance or non-compliance and for the Inspector to take action to secure compliance (Walters et al, 2011).

Inspectors' work responding to complaints and incidents is a complex and often emotional process (Starheim et al, 2014). In making decisions about the most appropriate

enforcement action to undertake, Inspectors must consider: the nature of the offence; the severity, imminence and seriousness of potential risk or harm; the demeanor and history of the employer; compliance history; employer attitude and likelihood of addressing risk; and the likely efficacy of enforcement (SWA, 2011). Inspectors can experience conflict when determining whether to advise and persuade or implement hard court-based enforcement, dubbed 'Inspectors' dilemmas' (Lindholm & Hansson, 2004). These challenges can be greater for the more complex, diffuse and often emotional psychosocial hazards (Jespersen et al, 2016).

Prioritisation of Complaints/Injury Notifications for Psychosocial Hazards.

The first step of regulator responses to psychosocial hazards involves a prioritization process whereby information provided in complaints and injury notifications is used to triage cases (Bluff & Johnstone, 2017). This process typically asks key questions about the seriousness of injury outcomes or risk potential, and whether the management of the risk has been sufficient to date (SWA, 2011). Escalating levels of response related to this prioritization may include 1) closing with an administrative response to the event, such as a letter to the employer; 2) creating a response assessment, where the event is funneled into a pool of work for possible proactive response by an Inspector sometime in the future; 3) forward to regional management team (RMT) for assessment by an Inspector and possible lower level enforcement sanctions (such as enforcement notices); or 4) forward to regional investigations manager (RIM) for investigation with a view to possible prosecution (SWA, 2011).

In practice, however, regulators use considerable autonomy and discretion in their decision-making (excluding the more clear-cut events with fatalities or serious injury) as interpretation of the principles in the NCEP lead to discrepancies in triaging processes (Bluff

& Johnstone, 2017). In light of the literature associated with Inspectors' challenges around psychosocial hazards, including the lack of a standard enforcement framework for psychological health and safety complaints and incidents (Leka & Jain, 2016) psychological theories may be able to explain why individual decision makers within the regulator may prioritize psychosocial hazards differently from physical hazards. Risk perception theory outlines how judgmental heuristics, or cognitive approaches and biases may result in perceptions of lower likelihood or lower severity of risk associated with psychosocial hazards thereby influencing individuals' decision-making (Jespersen et al, 2016). These include the stigma of workplace mental health (Tversky & Kahneman, 1974); temporal discounting for distal events as psychological injury can have long latency periods (Seijts & Latham, 2001); cumulative effects as smaller, multiple incidences which may increase the risk of psychological injury over time may seem less severe and be harder to quantify (Alves, Tilghman, Rosenbaum & Payne-Sturges, 2012); and intangible features of triggers and symptoms of psychological injury (Laroche et al, 2003). Cost/benefit analyses may also explain differences in behavior as regulatory decision makers balance high perceived effort (to determine compliance with WHS laws) and low perceived results (less likely to take enforcement action) when deciding how best to use limited resources (Hersel et al, 2017).

Prioritization is the initial and key process in strategic enforcement and in managing constrained resources. However, classification of complaints and incidents rely less on strategy than on codified procedures and rules of thumb. For example, drop down features within database management aim to standardize Inspectors' documentation but also limit their decisions to narrow, pre-defined categories. Weil (2008) argues that such practices are often misaligned with workplace issues. This may be the case with psychosocial hazards since regulators and their human decision makers are more comfortable with the better

specified and supportive legislation surrounding concrete physical hazards (SWA, 2015). For these reasons, it is hypothesized that:

H1: Complaints and incident notifications received by the WHS regulator regarding psychosocial hazards are prioritized differently to events regarding physical hazards such that psychosocial cases will be less likely to be prioritized across the second, third and fourth tiers of prioritization (create response assessment for possible future proactive response, refer to regional Inspector for assessment, and refer to RIM for investigation), respectively.

While psychosocial hazards may be given a lower priority than physical hazards, they are not alone in this respect as there is a predisposition in WHS practice to focus on ‘safety’ over ‘health’ (Schill, 2017). This may be a result of the historical roots of WHS laws, or that physical injuries tend to be more immediate and obvious, while occupational diseases and illnesses tend to be multifactorial and cumulative (Ellis, 2012). Whatever the reason, given the similarity of challenges in regulating health hazards generally, we also aim to determine whether psychosocial hazards are treated differently to other health hazards. When investigating this aspect, we specifically focus on the comparator of musculoskeletal hazards. As outlined in the previous section, it is proposed that differences in the prioritization of psychosocial hazards are related to challenges in determining non-compliance associated with the mechanisms of psychological injuries (i.e., multi-factorial, cumulative, and limited physical evidence to collect) when compared to traumatic physical injuries. Many of these features and regulatory issues are similar to musculoskeletal risks and injuries (Lyons, 2017), in particular, the number of interacting risk factors involved, and the cumulative and repetitive effect of strain (Chiasson, Imbeau, Aubry & Delisle, 2012). As psychosocial hazards share similar features to musculoskeletal hazards, we hypothesize that:

H2: No differences exist between the prioritization of psychosocial and musculoskeletal hazards.

Inspector Activities and Notices for Psychosocial Versus Other Hazards

WHS Inspectors have a range of powers and enforcement tools at their disposal (SWA, 2019a). When complaints and incident notifications meet the threshold for allocation to an Inspector, they can use these powers to determine whether a breach of the WHS Act is evidenced. These actions can involve interviewing complainants or workplace stakeholders (witnesses), requesting documents, taking photographs, seizing workplace communications or recordings and undertaking site visits.

Contraventions of the WHS Act are addressed by sanctions via issuance of written notices (SWA, 2019a) which can be subjected to internal and/or external review upon request by the employer. Improvement notices, the most frequently used, instruct remedies or preventions of contraventions in a specified time period (Comcare, 2019a), while prohibition notices prohibit a person or business from an action or a particular practice (Comcare, 2019b). Infringement notices permit an immediate form of punishment with ‘on the spot’ fines as consequences for non-compliance. The most severe level of enforcement involves the civil and criminal justice system for court sanctions with criminal penalties (e.g., the suspension, cancellation or revocation of authorizations, and enforceable undertakings) (SWA, 2019a). These notices are examples of the ‘deterrence’ component of responsive enforcement and strategic enforcement (Weil, 2008), where Inspector attention and enforcement notices are negative consequences of non-compliance. Where cases attract more Inspector attention and work, we expect that this will translate to more notices being issued as Inspectors accrue a greater body of evidence to make their reasonable belief in determining a breach of WHS legislation. In line with earlier theorizing about the cognitive

biases, risk perception, cost-benefit ratios, difficulty gathering evidentiary support for psychosocial hazards, we expect that psychosocial hazards will have less activity and less enforcement notices issued than physical hazards. It is therefore hypothesized that:

H3: Complaints and Incident Notifications related to psychosocial hazards are associated with (a) lower levels of Inspectorate activity; and (b) lower numbers of enforcement notices than events regarding physical hazards.

As we argued above, psychosocial hazards share many of the same features as musculoskeletal hazards in that there are often cumulative, multifactorial and invisible elements (Laroche et al, 2003; Way, 2012a). We hypothesize that as these hazards are complex in similar ways, Inspectors will manage them in similar ways. It is expected therefore that:

H4: Complaints and Incident Notifications related to psychosocial hazards are associated with the same regulator (a) activity; and (b) enforcement notices, as events regarding musculoskeletal hazards.

Inspector Activities and Notices Across Psychosocial Hazard Types

The range of psychosocial hazards investigated by regulators typically include work-related stress (or job strain), workplace bullying, work-related violence, and fatigue (beyondblue, 2014; Nielsen et al, 2009; Paterson & Dawson, 2012). Work-related stress (job strain) occurs when people perceive that the demands of a job exceed their personal capabilities or capacities to meet these demands, as outlined in the job demands-resources model (Bakker & Demerouti, 2007) or when there are effort-reward imbalances at work (Siegrist et al, 2004). Although what constitutes a threshold for bullying is a topic of much debate, those incidents that reach the regulatory threshold typically include repeated, unreasonable behavior directed towards a worker or group of workers that constitutes a health

and safety risk (Way, 2012b; SWA, 2016). Work-related violence includes any incident where a person is abused, threatened or assaulted at work (SWA, 2019b). Fatigue is the decreased capability to perform mental or physical tasks as a result of inadequate restorative sleep or disrupted circadian rhythms (Caldwell et al, 2019). Bullying and work-related violence are hazards that often have distinct events associated with them that occur on particular occasions (for example, a worker being spat on by a client), whereas work-related stress and fatigue hazards evolve more cumulatively with multifactorial components where thresholds of harm can be harder to define.

Access to an archival source of reactive regulator behavior in response to these four psychosocial hazards allows us to examine the outputs of the regulator for different psychosocial hazards. We hypothesize that Inspectors are more able to secure physical evidence for occasion-based hazards, such as video footage of violent episodes and emails demonstrating bullying, whereas cumulative hazards, such as stress, that often have less physical evidence or require multiple individual pieces of related evidence to determine risk. As bullying and violence are commonly typified by event-based occasions for which risk perception may be higher, injuries may be more visible, and collection of evidence and decision-making regarding psychosocial safety breaches may be easier, it is expected that:

H5a: The two event-based psychosocial hazards (i.e., bullying, violence) have similar levels of activity and enforcement notices.

As both work-related stress and fatigue are more likely to be evolving, cumulative and multifactorial, it is expected that:

H5b: The two psychosocial hazards where the risk of harm is cumulative (i.e., work-related stress, fatigue) have similar levels of activity and enforcement notices.

Work-related stress and bullying are the two most common classifications of psychosocial hazards accounting for over 40% of serious mental health claims (SWA, 2019b), and it is therefore of interest to understand if differences exist between them. When cases are prioritized for regional assessment, we expect that Inspectors will find the evidentiary burden easier for bullying than for work-related stress. Bullying often involves observable individual behaviors. We believe Inspectors will be more easily able to follow chains of evidence and provide objective and substantiated evidence in contrast to work-related stress that often relates to broader systemic WHS issues and is further complicated by the attribution of individual coping mechanisms and personal stress. Taking into account the different features noted above, it is hypothesized that:

H5c: Differences exist in activity and enforcement notices between psychosocial hazards that are event-based (bullying) and those where the risk of harm is cumulative (work-related stress), such that bullying will be associated with less activity and more enforcement notices than work-related stress.

Method

We use data from a government department responsible for undertaking all regulatory activity relating to WHS law enforcement in an Australian state-based jurisdiction. This provided an opportunity to compare how an Inspectorate prioritizes and manages all psychosocial hazards to other hazards in a specified time period. The dataset spans the calendar years 2014 to 2018, in which WHS Inspectors and other officers in the regulator record workflows and interactions between the regulator and obligation holders (typically employers).

Data Preparation

The data preparation, integration, and file merging undertaken for this study was informed by Aguinis, Hill and Bailey's (2019) best practice recommendations. Four different dataset files (Complaints, Incidents, Activities and Notices) from the government organisation were used in the current study. First, complaint and incident data files were merged resulting in 66,987 unique events recorded by the WHS regulator. Second, Activities ($n=49,799$) and Notices ($n=9,719$), were deconstructed and reconfigured from multiple entries nested within events to prevent data distortion during file merging. These files were merged with Event file (i.e., complaints and incidents) using a common Event ID to create a single events dataset including all activities and notices aligned with each of the relevant 66,987 events.

Hazard types with substantial missing information were cross checked with another field, 'event description', and removed if they were duplicates or determined by a subject matter expert (SME) as being related to administrative/other issues rather than actual hazards (e.g., plant registration). The field 'triage outcome' used to create the prioritization dependent variable was found to have substantial missing information and these cases were cross checked with corresponding field 'activity types'. Any cases originally designated as 'No Further Action' or 'Advisory Assessment Services' (either independently or conjointly) were re-categorized as the minimal response category 'closed out with administrative response' while all others were removed $n=2375$. The finalized dataset consisted of $N=46,348$ events.

Research Design

This study employed three quasi-experimental designs to examine the hypotheses. First, a one-way three-level (hazard type: psychosocial, physical, and musculoskeletal) between subjects' design was used to examine the categorical dependent variable of prioritization (close out administrative response, create assessment for possible future

proactive response, forward to regional Inspector for assessment, forward to RIM for investigation). Second, a one-way three-level (hazard type: psychosocial, physical, and musculoskeletal) between subjects' design was used to examine the dependent variables of frequency of activity (analysis 1) and notices (analysis 2). Finally, a one-way six-level (psychosocial hazards type: fatigue, work-related stress, bullying, violence, substance abuse and other) between-subject design was employed to examine their specific frequency of activity and notices.

Measures

Hazard type. The category of hazard was coded by three levels of hazard type: psychosocial hazards e.g., bullying (1); musculoskeletal hazards e.g., load handling (2); physical hazards e.g., falling objects (3).

Prioritisation. Prioritisation of events by the regulator were derived from the triage outcome field with predetermined responses coded as: closing out (1); create response assessment (2); Regional Inspector assessment (3); Regional Investigations Manager (RIM) investigation (4).

Activity Frequency. The number of Inspectorate activities associated with each case was derived by summing the number of different activity types (e.g., site visits, correspondence, phone calls) that occurred for each complaint or incident.

Notice Frequency. The number of notices issued for each case was derived by summing the number of notices (e.g., improvement notices) for each complaint or incident.

Psychosocial hazard type. Psychosocial hazard type was derived from the psychosocial subset of the hazard classification field. Six predetermined categories were coded: fatigue (1); work-related stress (2); bullying (3); violence (4); substance abuse (5); and other (6).

Results

Descriptive data are shown in Table 1 which displays means, medians, standard deviations and zero-order correlations between independent and dependent variables. Table 2 displays count and percentages by each hazard type for the categorical dependent variable of prioritization. Table 3 displays means and standard deviations by each hazard type for the dependent variables of activity and notice frequency.

INSERT TABLE 1, 2 & 3 ABOUT HERE

Data Analysis Overview.

Two standard multinomial logistic regressions were used to predict the prioritization of a) psychosocial versus physical hazards (H1) and b) psychosocial versus musculoskeletal hazards (H2). Four Kruskal-Wallis tests, with follow up Mann-Whitney U tests where results were significant, were used to test the differences between psychosocial versus physical hazards and outcomes (H3a and b); and psychosocial versus musculoskeletal hazards and outcomes (H4a and b), and differences between psychosocial hazards of bullying, violence, fatigue and stress for and outcomes (H5a, b and c).

Prioritization of Complaints/Injury Notifications for Psychosocial hazard types.

Indicating support for H1, hazard type (psychosocial versus physical) was a statistically significant predictor of prioritization (see Table 4).

INSERT TABLE 4 ABOUT HERE

For the category of creating a response assessment psychosocial hazards were approximately two thirds less likely to be prioritized than physical hazards ($OR = 0.67, p < .001$). For the category of regional Inspector assessment psychosocial hazards were less than half as likely to be prioritized ($OR = 0.49, p < .001$); and for the category of RIM investigation psychosocial hazards were less than a third as likely to be prioritized than physical hazards ($OR = 0.30, p < .001$). Administration close out comparison for significance is precluded by its use as the reference category for this analysis, however we note in Table 2 that psychosocial hazards represented 61% of close out cases compared to only 46% of physical hazards. We also found hazard type (psychosocial versus musculoskeletal) was a statistically significant predictor of prioritization. For the categories of a) possible future proactive response psychosocial hazards were approximately three quarters less likely to be prioritized than musculoskeletal hazards ($OR = 0.75, p = .011$); b) regional Inspector assessment were approximately three quarters less likely to be prioritized ($OR = 0.79, p = .003$); and c) RIM investigation were slightly less than half as likely to be prioritized ($OR = 0.44, p < .010$). These findings were at odds with our prediction in H2 where we hypothesized that there would be no difference in prioritization between psychosocial versus musculoskeletal hazards.

Inspector Activity and notices for psychosocial versus other hazard types.

We found partial support for H3 with results indicating a statistically significant difference in activity frequency across hazard type, $\chi^2(2, n = 46,348) = 91.29, p < .001$. Follow up tests revealed psychosocial hazards ($Mean Rank = 23,666.86, n = 1,734$) generated significantly more activity than physical hazards ($Mean Rank = 21,668.85, n = 41,762$), $U = 32881222.50, z = -6.99, p < .001$, indicating H3a was not supported. We found a statistically significant difference in notice frequency across hazard type, $\chi^2(2, n = 46,348) = 68.76, p < .001$.

Follow-up tests revealed psychosocial hazards (*Mean Rank* = 20,650.44, *n* = 1,734) had significantly less notices than physical hazards (*Mean Rank* = 21,794.09, *n* = 41,762), $U = 34303610.00$, $z = -7.08$, $p < .001$) indicating support for H3(b). We also found partial support for H4 with results revealing no significant difference between the activities for psychosocial hazards (*Mean Rank* = 2,316.07, *n* = 1,734) and musculoskeletal hazards (*Mean Rank* = 2,279.78, *n* = 2,852), $U = 2433554.50$, $z = -1.00$, $p = .317$, indicating support for H4(a), while psychosocial hazards (*Mean Rank* = 2,256.32, *n* = 1,734) had significantly less notices than musculoskeletal hazards (*Mean Rank* = 2,316.11, *n* = 2,852), $U = 2408206.00$, $z = -3.40$, $p = .001$ indicating H4(b) was not supported.

Inspector Activity and notices across psychosocial hazard types.

We found a statistically significant difference in activity frequency across psychosocial hazard type, $\chi^2(5, n = 1734) = 15.03$, $p = .01$. Follow-up tests revealed as hypothesized, no significant difference between bullying (*Mean Rank* = 610.99, *n* = 988) and violence (*Mean Rank* = 648.43, *n* = 248), $U = 115090.50$, $z = -1.69$, $p = .091$, supporting H5a, and no significant difference between fatigue (*Mean Rank* = 133.02, *n* = 176) and work-related stress (*Mean Rank* = 153.16, *n* = 104), $U = 7835.00$, $z = -2.28$, $p = .023$, indicating support for H5b. There was a significant difference between bullying (*Mean Rank* = 539.38, *n* = 988) and work-related stress (*Mean Rank* = 614.18, *n* = 104), $U = 44337.50$, $z = -2.61$, $p = .009$, such that there was more activity associated with work-related stress than bullying, indicating partial support for H5(c). We found no significant difference in the issuance of notices across psychosocial hazard $\chi^2(5, n = 1734) = 0.29$, $p = .06$ indicating further support for H5(a) and (b), but not for H5(c).

Discussion

We examined regulatory complaints and incident notifications regarding psychosocial hazards, comparing prioritization processes and Inspector responses for different hazard types. We found psychosocial hazards to be prioritized and managed differently by WHS Inspectors when compared to both physical and musculoskeletal hazards.

Supporting our hypothesized relationships, we found prioritization for higher Inspectorate response levels was less likely for psychosocial hazards compared to physical hazards. Triaging psychosocial hazards into all three categories above ‘administrative close out of the event’ was significantly less frequent than for physical hazards. This finding suggests that although the profile of psychosocial hazards has increased through specific interventions (Johnstone et al, 2011), prioritization of this hazard does not appear to have translated to regulator responses to complaints and incident notifications.

We also found that as the resource allocation of the regulator response increased (i.e., from possible future proactive visit through to full investigation), the likelihood of prioritizing psychosocial hazards compared to physical hazards decreased. This meant that psychosocial hazards were less likely to get through to higher categories of priority than physical hazards. Strategic enforcement aims to maximize effectiveness of overstretched resources when regulators respond to incoming events. It posits that during the initial prioritization, transaction cost/benefit analyses are undertaken by the WHS Inspectorate to decide if the benefits from expended effort exceed costs (Hersel et al, 2017; Weil, 2008). At this early stage of prioritizing events, our findings suggest that psychosocial hazards were awarded higher costs-lower benefit ratios than other hazards. Our finding that the threshold criteria for the most severe category for investigation were much less likely to be reached for psychosocial hazards than physical or musculoskeletal hazards was also of interest. While this may reflect actual hazard severity, it may also be explained by the legislative slant

toward physical presentations, for example, physical or musculoskeletal hazards associated with single occurrences such as a fall where it is easier to gather physical evidence for observed hazards (SWA, 2015).

We found that fewer notices were issued for psychosocial than physical hazards. However, contrary to expectations, psychosocial hazards saw more activities per event than physical hazards did. Our findings nuance previous research that found psychosocial hazards were associated with fewer inspection visits (Johnstone et al, 2011) as our study included all Inspector activities, including telephone calls, emails and written correspondence. In the LME context, this may not be surprising, as it is foreseeable that employers may seek more notice reviews for psychosocial hazards. Review processes will not uphold notices with inadequate evidence and for psychosocial hazards, the collection of adequate evidence may be more arduous and emotionally charged than evidence collection for physical hazards (Potter et al, 2019). The risk of notice review and the relative difficulty in collecting evidence may be issues Inspectors consider within their cost-benefit based decisions.

We theorized that as psychosocial hazards share many similar features to musculoskeletal hazards, particularly their cumulative and multifactorial nature, (Way, 2012a), the differences seen from psychosocial-physical hazard comparison would not be present in the psychosocial-musculoskeletal comparison. Contrary to this hypothesis, we found that psychosocial hazards were less likely to be prioritized in all triage categories when compared to musculoskeletal hazards, although the pattern of discrepancy was different to the psychosocial-physical hazard comparison. For the categories of creating possible future proactive response assessments and full investigations, psychosocial hazards were less likely to be prioritized when compared to both physical and musculoskeletal hazards. However, in the regional Inspector assessment category, psychosocial and-musculoskeletal hazards were

prioritized more similarly. These findings can be assessed alongside data indicating a higher percentage of psychosocial hazard cases being closed out with an administrative response (psychosocial 61% versus musculoskeletal 53%). Taken together this pattern reinforces that issues of cognitive biases, risk perception of hazard severity, lack of legislative support, and cost-benefit decisions may be influencing the lower prioritization of psychosocial hazards.

Support was found for our proposal that there would be no differences in activity frequency between psychosocial hazards and musculoskeletal hazards, however, we found fewer notices were issued for psychosocial hazards than musculoskeletal hazards.

Psychosocial hazards and musculoskeletal hazards have both been identified as priority areas in WHS (Boland, 2018) and may explain the equivalence in activity levels, but this was not translated into parity for enforcement notices. As noted, enforcement notices require considerable substantiation to evidence breaches of WHS legislation, and the difficulties in acquiring evidence for complex and emotion laden effects may be a contributing factor that drives Inspectors' transaction cost analysis (Hersel et al, 2017; Laroche et al, 2003). Our finding may also reflect the existence of a specific Regulation relating to hazardous manual tasks (Model WHS Regulations, 2011) in the jurisdiction where the study occurred, whereas there was no specific Regulation related to psychosocial hazards, perhaps making notice writing more challenging.

As deterrence through the perception that violations will be penalized has the greatest potential impact, a lack of parity in the management of psychosocial hazards may threaten the effectiveness of Inspector activities in addressing psychosocial hazards (Weil, 2008). Similar to prioritization processes, it appears psychosocial hazards had idiosyncratic features that meant they were managed differently to other hazards. Risk perception theories offer avenues to explain why psychosocial hazards do not reach the same thresholds for different levels of

Inspector prioritization, activity and notices. Fundamental characteristic differences, such as challenges in assessing risk and a myriad of options for solutions combined with attribution biases where mental health and psychological injury may be seen as signs of individual weakness (Haugen et al, 2017), are potential reasons. In particular, stigma, a negative stereotype or action, may contribute to the unique discrepancies of psychosocial hazards. Over half of those with mental illness report experiences of stigma as the most frequently identified barrier to seeking help for mental health care (Queensland Mental Health Commission, 2019). However, stigma extends beyond the perceptions of those suffering with mental illness as seen by discrimination directed to supporters (Productivity Commission, 2019), also known as stigma by association (Prior, Reeder, & Munroe, 2012). Cultural norms and institutional policies are also shaped by structural sigma (Hatzenbuehler, 2016) that may influence Inspectors' attitudes to explain the specific treatment of psychosocial hazard prioritization and management.

Drilling further into responses to psychosocial hazard subcategories, we found support for our hypothesis that there may be similarities in events thought to group around occasion-based psychosocial hazards (i.e., bullying and violence), with similar levels of activity and notices found for these two hazards. Psychosocial hazards thought to be characterized by evolving, multifactorial and cumulative features (i.e., work-related stress and fatigue) (Way, 2012a), were also found to have no significant difference in activity and enforcement notice issuance between them. In addition to these hypothesized similarities between psychosocial hazard subtypes, we hypothesized that there would be different levels of activity and notice issuance between the occasion based psychosocial hazards of bullying and the cumulative psychosocial hazard of work-related stress, a proposal that was partially supported by our findings. Work-related stress was associated with more activity than

bullying however, this did not translate into differences in enforcement notices between work-related stress and bullying. Where psychosocial hazards qualify through the prioritization stage to reach Inspectors, reasoning that occasion-based events would be easier to address and therefore require less activity was confirmed while the hypothesis of more notices for occasion-based hazards was not confirmed. Multifactorial and cumulative hazards were associated with more Inspector activity. However, these failed to reach the same thresholds for evidence of WHS legislation breaches requiring enforcement notices. This meant that although they used higher levels of Inspector resources there was no difference in notices issued.

Theoretical and Practical Implications

Legislation acts to condition the prioritization of psychosocial hazards and is a necessary precondition to spur action (Leka & Jain, 2016). Our empirical findings support the call for a review of the “threshold” criteria for prioritization suggested by Boland (2018). This requires a re-definition of what is meant by ‘decent work’, the normative ideal as embraced by Australia and the International Labour Organisation, as the nature of jobs changes (Min et al, 2019). Developing methods to quantify unacceptable psychosocial risk (Tomaschek et al, 2018) is an area of urgent need. This may be aided by examination of the current typology of psychosocial hazards used by regulators in order to increase our understanding of the range and severity of psychosocial hazard presentations beyond the narrow regulatory framework of work-related stress, bullying, occupational violence, and fatigue (Johnstone et al, 2011). Currently, ambiguous, ill-defined complaints and incidents may be assigned to poorly fitting labels that fail to capture the nuances or complexity of these events. We propose that it may be possible for psychosocial hazards to be classified using similar and distinguishing features, such as occasion-based versus multifactorial, cumulative-

based features and may provide the foundations for rethinking psychosocial hazard classification architecture.

Internationally, WHS compliance is a major and ongoing challenge. Responsive regulation highlights a suite of enforcement approaches including those that are less interventionist, such as education, awareness, persuasion and advice which assume adequate regulatory resources to monitor and enforce along the enforcement spectrum, from negotiation to prosecution. However, our findings demonstrate that a conceptually tricky hazard like psychosocial hazards is often relegated by the Inspectorate, in part as a function of constrained regulatory resources. Strategic enforcement, with its six core principles: prioritization, complaints handling, deterrence, focus at the top of industry, sustainability and systemic effects, can be layered over responsive regulation principles to focus Inspectorates so that regulatory efforts are effective in reducing harm. These could include refining strategies for achieving prioritization and general deterrence, such as: strategic selection of litigation cases that focus at the top of high risk industry structures and consider the likelihood of successful changes in compliance behaviour; use of more flexible administrative sanctions, e.g., enforceable undertakings that may foster cooperation and commitment towards compliance; targeted campaigns that include audit and educational activities; leverage of third party involvement in monitoring and enforcing compliance; focusing on potential systems change that stems from good work design within organisations and supply chains (i.e., the content and organisation of work tasks, activities, relationships, and responsibilities; Parker, 2014, and its impact work-related mental health, e.g., Parker et al, 2017; Kelloway & Day, 2005; Lee & Ashforth, 1996); and evaluating sustainable and systemic effects across the longer term to reduce recidivism and ensure flow on impacts beyond individual organizations (Howe et al, 2014).

While individual Inspectors' perceptions of their own capacity, capability and responsibility for these cases may explain a proportion of how Inspectors prioritize and manage their workloads, consideration of system issues such as how tasks are allocated to particular staff, and policy constraints noted earlier such as the likelihood an issue will reach the required thresholds for prosecutions and absence of dedicated legislative provisions may also be vitally important (Leka & Jain, 2016). Examination of the reasons for why the lack of equivalency of prioritization for psychosocial hazards occurs and why increased Inspector activity does not translate into more notices are both warranted. In doing so, the barriers that Inspectors face when regulating work-related psychosocial hazards need to be considered at all levels including individual, organizational and societal in order to identify effective mitigation strategies such as policy change, more guidance and training, or better legislation. Our finding suggests that Australian Inspectors may require more support and guidance in managing psychosocial hazards and it is likely that other Inspectorates may have similar needs. A national guide for Inspectors on enforcing psychosocial hazards, factoring in the broader contexts and issues in which they occur, such as LMEs and work design, would complement the national guide for industry and result in better frameworks to address the complexities of psychosocial hazards (Boland, 2018).

Strengths, Limitations and Future Directions

Our study used a large archival complaint and incident database to complement the majority of studies that have been undertaken using claims data or via Inspector surveys/interviews. Examination of the scope of Inspectorate work and their decisions contributes to the understanding of the nature of psychosocial hazards beyond qualitative and self-report measures to capture how psychosocial hazards are regulated.

Future studies could examine the type of Inspector responses (i.e., correspondence and site visits) alongside their frequency to determine if types of inspection responses are different for psychosocial hazards. Qualitative analysis of Inspector notes could assess whether differences in prioritization are based on real and legitimate differences in hazard levels by illuminating the decision complexities noted above. Longitudinal methods and testing of mediation models would also help clarify causal mechanisms between decision processes and WHS outcomes and allow further investigation into other facets of strategic enforcement, including sustainability and recidivism (Weil, 2008). Analysis of complaints and incidents alongside claims data would help to expose those events that never reach WHS Inspectors. Further research itself could be enlarged to take better account of the institutional and social ecologies surrounding psychosocial hazards, examining relationships between employee safety representatives, civil society advice/support services, and medical services on the one hand and Inspectorates on the other, thereby providing a more contextualized guide to action. Finally, replication (or not) of the patterns of these results within different types of market economy and investigation of Inspector attitudes toward regulation as a whole would better illuminate the broader contexts that influence Inspectorate decisions.

Conclusion

We demonstrated that psychosocial hazards at work are treated differently to physical and musculoskeletal hazards by Inspectors as they are less likely to be prioritized for higher-level, resource-intensive responses, have less enforcement notices written for them, yet have greater Inspector activity per event. Our proposed approach using strategic enforcement theory provides an alternative to an often ideological and impractical responsive enforcement theory. Application of the principles of strategic regulation would mean psychosocial events are more effectively prioritized, complaints are handled more equitably, greater deterrence

strategies are implemented with a focus at the top of industry, and there are higher levels of sustainable compliance and system-level change. We believe that tensions seen in the Australian context are likely to exist in other nations, and particularly so in those with similar economic systems. Grappling with the regulation of psychosocial hazards and the need to address Inspectors' reality of regulating complex, interdependent causes of psychological harm to workers with restricted resources has never been more urgent.

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ⁱ A person conducting a business or undertaking (PCBU) is the most commonly accepted terminology in Australia however we have used 'employer' in its stead for easier understanding for international audiences.