



**safe work australia**

# Motivations, Attitudes, Perceptions and Skills: Pathways to Safe Work



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# **Motivations, Attitudes, Perceptions, and Skills: Pathways to Safe Work**

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Report prepared for Safe Work Australia.

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## **Executive Summary**

The expectations that the public have of government in relation to workplace safety are of two kinds. The public expects that government will intervene when there is evidence of harm being done to workers and their communities. The public also expects government to prevent harm by pre-empting and safeguarding against newly emerging risk.

In order to meet public expectations to both fix problems and pre-empt risks, work health and safety regulators must rely on cooperation from those being regulated and others in the regulatory community. One reason is that the solutions are not completely under the regulator's control, shaped by commercial, economic, social, and psychological factors beyond the reach of government. A second reason is that work health and safety regulators must rely on those being regulated and others in the regulatory community to gain understanding of the working environment and the risks it poses. A third reason is that if failure to cooperate becomes endemic, regulators potentially face a problem of enforcement swamping – too many non-compliers to be controlled through available resources.

Regulatory authorities undermine their capacity to elicit cooperation if they are perceived as not offering benefits to those they are regulating and not adhering to principles of procedural justice, that is, assuming trustworthiness in regulatees until evidence accumulates to the contrary, treating regulatees with respect, and showing impartiality in their treatment of regulatees.

Where benefits and justice are not being perceived by the regulated community, the regulatory authority may lose legitimacy and dismissive defiance may emerge. Dismissive defiance is displayed when regulatory authorities have lost the respect of the public. Regulatory authorities may have little success in reining in dismissiveness.

The challenge for regulatory authorities therefore is to lead workers, managers and industry experts along a path that strengthens safe work capacities and introduces safe work practices in ways that will benefit the workplace and respect those who work within it.

The paradigms at the disposal of regulators include both the traditional legal approach of monitoring and enforcing law, the educative approach of explaining what law means and what compliance looks like, the social influence approach of modelling the benefits of compliance, and the architectural approach of making it

impossible to be non-compliant through clever job design. All are needed to create safe workplaces.

These propositions, derived from the literature, were examined using 762 working Australians who, through a telephone survey, shared their work experiences – their attitudes to safety and to their bosses, their perceptions of their workplace, their views about regulatory authorities and their motivation to take safety issues seriously. Broadly speaking, the findings were consistent with these propositions. At the same time, the findings extended knowledge of the dynamics that underlie cooperation and progress on work health and safety.

The data supported the importance of the following in securing workplace safety: (a) leadership where managers value safety for its own sake; (b) responsive dialogue where communication across levels of the organisation leads to identifying problems and fixing them; (c) participatory structures where formal avenues are in place within an organisation to ensure that safety issues are not overlooked and workers' voices are heard; (d) presence and fairness of work safety authorities to ensure that government is seen to be doing its job and is respected and trusted; and finally (e) an appreciation among individuals of safety issues and adoption of a personal priority for safety that is developed and nurtured within the work context.

These factors are implicated both in the (a) institutionalisation of safe work routines and in (b) individuals developing the capacity to self-manage their safety and that of others. They do so to different degrees, however. Having participatory structures is most important for safe work routines. Participatory structures regulate workplaces through saying “these things must be done as a means to ensuring safety.” Having participatory structures and responsive dialogue makes safe practice happen in a consistent way. Responsive dialogue, on the other hand, is the main driver of the capacity to self-manage safety issues. Talking over safety concerns, telling stories and joint problem solving help individuals internalise and understand safety issues, develop confidence in managing risks and ultimately embrace a safety consciousness.

Both routines and self-management are important to developing safe workplace culture. Institutionalised procedures allow workers to function safely under normal conditions when they can operate on automatic pilot. This does not help when routines change or disruption of unexpected kinds occurs, such as machinery breaking down. Capacity to self-manage is needed in such situations.

Yet capacity to self-manage safety is useful in an organisation only to the point where individual judgment is not swamped by habits and routines. In a workplace, habits and routines are at the heart of how work is done. For this reason, habits and routines will always tend to dominate the self-management capacities of individuals. It is therefore important to have habits and routines that progress safety. When such routines are in place and accepted as part of a safety program, individuals can reach their potential as ‘minders’ of their own well-being and that of their colleagues. Individuals who are able to self-manage on safety will not only be familiar with the logic behind the routines and practices, but also have knowledge and confidence to step in when habits and routines ‘go wrong.’

The findings in this report point to the importance of safe work authorities, managers, industry bodies and unions cooperating to find ways of offering safe work options to working Australians, while at the same time empowering workers to constructively engage with these options to make for a safer workplace and a healthier, more adaptive work culture. Specific steps like institutionalising near-miss reporting and analysis, and nurturing a market in making work safer, easier and more efficient are examples of approaches that simultaneously are regulating and empowering, holding parties accountable, while trusting them to do better.

## Introduction

Governments use legislation to regulate workplaces and practices. Legislation makes demands on owners, managers, supervisors, workers, contractors and suppliers to adopt standards that ensure a healthy and safe workplace. It also makes demands on inspectors and regulatory agencies to make sure standards are met in accordance with the law. The standards may be specific and prescriptive or they may be broad and general; they may be process oriented or outcome oriented; they may set targets for acceptable performance or they may require an organisational strategy for continuous improvement tailored to the work context (Bluff, Gunningham and Johnstone 2004). The regulatory task is substantial, made more challenging over the past two decades by rapid expansion of small and micro businesses and home-based work that need regulatory assistance or attention (Bluff 2005).

### *Public interest in safe workplaces through regulation*

While the task may be challenging, regulating for safe workplaces is a responsibility that the public places squarely at the feet of government, as evidenced by the public outcry that routinely accompanies workplace accidents and exposures to hazards (for example, see response to asbestos exposure<sup>1</sup>). The expectations that the public have of government in relation to workplace safety are of two kinds. The public expects that government will intervene when there is evidence of harm being done to workers and their communities. The public also expects government to prevent harm by pre-empting and safeguarding against newly emerging risks.

The reasons why government is expected to fill these roles are worth exploring briefly if we are to understand fully the demands of the regulatory task. First, the safety and well-being of workers, their families and communities can be jeopardised in pursuit of economic growth and development. Profit, production and performance targets are known to have overshadowed due diligence in taking care of people in work settings (Australian examples include the Westgate Bridge collapse<sup>2</sup> and the Longford gas explosion<sup>3</sup>). Government regulators are considered necessary to protect work health and safety in such circumstances. Unscrupulous employers may be part of this story (Kagan and Scholz 1984). Arguably a more common reason for neglecting safety is that in any sphere

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<sup>1</sup> Asbestos is associated with the illness and deaths of thousands of workers (see <http://www.benhills.com/books/blueMurder/index.html>, <http://www.aph.gov.au/library/pubs/rn/2004-05/05rn12.htm>, <http://www.historycooperative.org/journals/lab/92/mcculloch.html> <http://www.safeworkaustralia.gov.au/ABOUTSAFEWORKAUSTRALIA/WHATWEDO/PUBLICATIO NS/Pages/HS1994aIModelRegulationsForControlOfWorkplaceHazardousSubstances.aspx>

<sup>2</sup> <http://www.prov.vic.gov.au/exhibs/westgate/welcome.htm>

<sup>3</sup> <http://www.ema.gov.au/ema/emadisasters.nsf/00ed8726e14caddfca256d09001da856/51561bea38d1b17cca256fbe007bb49b?OpenDocument>

of human enterprise involving goal-directedness and competitiveness, it is possible to overlook or sideline what seem to be peripheral issues (for example, see repetitive strain injury literature). Even when best practice is known in theory, it may not be practiced. Other goals may be prioritised, with too little time and energy being devoted to advance work health and safety; sometimes by choice, sometimes through too little control over working conditions, and sometimes through being too narrowly focused to even see risk. A related problem is lack of knowledge. Workplaces may not be aware that certain risks can be reduced or may have too little understanding of the steps that need to be taken to reduce the risk satisfactorily (Kagan and Scholz 1984).

In all of these circumstances, regulators are valued as an authoritative voice, providing expertise and balance for businesses by putting forward knowledge and drawing on experience to raise work health and safety standards. Work health and safety officers, with the law behind them to justify their intervention into workplaces, are regarded as the legitimate authority for dealing with employers who lack know-how, are not convinced of the importance of safety measures, or who are unashamedly focused solely on profit margins (Kagan and Scholz 1984). This is not to say that when work health and safety officers do their job, their decisions are necessarily welcomed; nor is it necessarily the case that their authority is respected. The public expect regulators to catch the bad guys. They are often affronted when their own behaviour is challenged (Braithwaite, Murphy and Reinhart 2007).

The second basis of support for government regulatory capacity is early identification of new harms. The public expect government to have the capacity to provide an early warning system when dangers emerge in workplaces. Through engaging in work, being a breadwinner, and contributing to the economy, individuals and the enterprises to which they belong can unknowingly be doing damage to themselves and those living in their surrounds. For example, the use of asbestos or of lead in products illustrates how new technologies need to be monitored for long-term effects on workers. Their damage is not always obvious nor is it necessarily immediate.

In such circumstances, governments are expected to be vigilant and diligent in assessing risks and taking pre-emptive action to limit harm to individuals and communities. They are expected to be actively scanning work environments, advising government of their findings, and pushing for change to protect people exposed to potential work-based harms. Government is charged with seeing the big picture that is beyond the scope of individuals and entities carving out a niche to make a living.

It is unreasonable to expect a single regulatory agency to be sufficiently well equipped to anticipate all workplace harms. The task requires bringing together resources and various nodes of expertise from research to practice, from a physical, biological and social science

knowledge base. Cooperation between regulatory agencies, other branches of government, the private sector, non-government organisations and the community are necessary in order to realise the objective of pre-empting safety risks in the workplace.

Upon considering public expectations that the regulatory agency will both fix problems and pre-empt risks, it is apparent that work health and safety officers cannot achieve their objectives through doing it alone. In the first place, the solutions are not completely under the regulator's control. How workplaces function best and what individuals should or will do in those workplaces are determined not only by legal requirements but also by commercial, economic, social, and psychological factors outside the direct control of government. Second, work health and safety regulators must rely on cooperation from those being regulated and others in the regulatory community to not only indirectly shape work behaviour, but also to gain understanding of the working environment and the risks it poses. Where there is unwillingness to cooperate or listen or heed advice, the task of effecting change in workplace practices becomes time consuming and costly.

Improving the safety of workplaces and early risk identification become even more difficult if failure to cooperate becomes endemic. Problems that could have been pre-empted sit in the too hard basket until a disaster occurs or adverse publicity forces collaboration and a response. When those being regulated refuse to cooperate on a large scale, another problem emerges. Regulators face enforcement swamping – they do not have the resources to regulate their non-compliers. Costs of enforcement outstrip available resources and again regulatory agencies come under attack for failure to meet public expectations.

#### *Why does cooperation falter: no benefit, injustice and loss of freedom*

Cooperation in providing safety at work is in the interests of both government regulators and the public. Yet it is not uncommon for specific actions, purportedly taken in the interest of work safety, to push the relationship between regulator and the regulated into conflict. Risks of adversarialism in regulatory interventions increase as the benefits and justice of the intervention are brought into question (Braithwaite 2009a). Interventions are supposed to make things better on the key outcomes of safer workplaces and pre-empting risk. If a large enough segment of the population does not see benefits – not necessarily for themselves but for their industry more broadly, criticisms are likely over the regulator lacking sound purpose. Even if the purpose is sound, interventions implemented without due consideration of fairness risk a loss of reputation for the regulatory agency. The control of the arbitrary use of power is central to the idea of rule of law, especially a civic republican view of law (J Braithwaite and Pettit 1990; Liston 2010; Pettit 1997). When a regulatory agency uses its power to target entities or individuals without acceptable justification, public concern turns from soundness of purpose to justice and due process.

Doubts about benefits and justice undermine cooperation at a number of levels. Most seriously, such doubts raise concerns over the legitimacy of the authority (Tyler 1997), and as a result, freedom from interference is fiercely protected and dismissive defiance sets in (Braithwaite 2009b). Dismissive defiance or dismissiveness is a posture that is displayed toward regulatory authorities that have lost the respect of the public. The requests of authority for compliance are likely to be completely ignored by those adopting a dismissive posture. Should the regulator be challenged rather than ignored, a game playing mode becomes the face of dismissiveness. The objective becomes one of finding pathways around the law – finding the weaknesses, exploiting loopholes, and rejecting the principles that underpin law and give it meaning. Regulatory interventions may have little success in reining in dismissiveness (Braithwaite 2009b; Braithwaite, Braithwaite, Gibson and Makkai 1994).

At a less serious level are doubts about benefits and justice that are fuelled by misunderstanding and different perspectives on how a particular problem should be resolved. A complex problem, ambiguous legal requirements, or legal requirements that do not fit a particular context give rise to grievance. Those being regulated don't want to dismantle or crush the authority, they just want to convince the authority to change its ways (Braithwaite 2009b). As a result, regulatory authorities are viewed as trouble and kept at arm's length. And interventions, no matter how well formulated, are resisted by those they are designed to help.

*When interventions fail: complexity, uncertainty and insufficient human capital*

Interventions will range from those relating to the physical characteristics of a work environment, through those relating to procedures for handling dangerous substances or reducing the risk of error, through to imparting a duty of care and know-how into a workgroup. On the physical side, safety may be improved through better equipment, better workplace design, and better warning systems including automated shutdown. The evidence base for improvements to the physical work environment is probably the easiest to assemble and physical improvements have been associated with some of the most dramatic success stories in workplace safety (e.g. hazardous gas monitoring in coal mines). Such examples lead to the belief that acceptance of interventions involving improved technology would be relatively high. Even with such evidence-based interventions, purchasing new technology will not always be considered practicable, and in certain work contexts not even desirable. The uptake of new technologies can genuinely threaten the viability of some businesses that may have their own protective measures in place, even if they are not state of the art.

Procedures set down in safety guidelines and protocols have also played an important part in the prevention of accidents and have widespread support. The basic principle is

one of ensuring certain actions are routinised – people don't need to decide what they do next, they automatically follow their script or "to-do list", and checks and balances are introduced into the system to detect failure to abide by these protocols (see Heimer and Staffan's (1998) description of hospital routine). But then again, routines are not always the answer to a safety scare; and to impose better routines in a work setting can squash the reflection and insight that may be necessary to avert serious harm. Sometimes the desired processes involve a deeper understanding of the safety issues and the systemic causes of possible disasters. This is particularly so when dealing with complex systems and events that are out of the ordinary. Rees's (1994) study of safety in operating nuclear power plants highlighted the importance of staff understanding the dangers of a nuclear reactor and bearing professional responsibility for monitoring and thinking about what needs to be done to manage ever-present risk.

Design of physical space and the introduction of standard work procedures are not always straightforward interventions that solve safety problems. Their effectiveness depends on understanding the work context. And those who are most able to provide information about the context and are in the best position to suggest adjustments to suit the context are workers, managers and industry experts. When their input is not sought, resistance to, rather than cooperation with regulatory intervention can be expected.

The role of workers, managers and industry experts is not restricted to their observations of what works and what does not. Their capabilities and attitudes will vary from one context to another. Safety does not just depend on design and procedures, but on how those working in the industry choose to engage with design and procedures. Workers and managers alike are required to be knowledgeable, diligent and dutiful with regard to correct procedures and observant of safety risks, with willingness and capacity to act to correct potential or actual harm. If they don't bring such human capital with them to their work situation, design and procedure will invariably fall short in ensuring work safety.

Work health and safety regulators therefore have an unenviable task. They are required to implement the law, but what is best within the law is highly dependent on contextual factors. Regulators need to understand and be responsive to these factors, be they economic, industry-related, commercial, social or psychological.<sup>4</sup> In order to do so regulators must seek cooperation and insight from those they are regulating. Moreover, they must do so in circumstances where those being regulated know that the regulator is trying to change their behaviour to improve compliance standards and can use authority to threaten their freedom. It is not surprising that it is sometimes a challenge for regulatory agencies to regulate. Ultimately, to be effective, they have to transcend the social tensions

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<sup>4</sup> See the BISEP model used by the Australian Taxation Office  
<http://www.ato.gov.au/corporate/content.asp?doc=/content/5704.htm>

and power struggles just described to be leaders who are able to elicit commitment to an intervention from those in the workplace.

At this point the reader might say that when certain behaviour is required by law people have to obey: if not, coercion will be used to force compliance – it is a simple dynamic, that is how the legal system works. This may be so, but obeying law is unlikely to be enough to ensure workplace safety and certainly does not necessarily give rise to commitment. Obeying the law does not mean that one believes in the law, that one thinks about the spirit or purpose of the law, or that one acts on law with good sense and respect. Safe work practices, however, depend to a considerable extent on commitment and mindfulness<sup>5</sup> accompanying obedience to the law. Furthermore, it is essential that managers and workers display such qualities long after the inspector has visited. For commitment and mindfulness to permeate a workplace, be sustained and modelled, an understanding of safety issues needs to be shared and cooperation between the regulator and the regulated parties needs to be present.

This report focuses on human behaviour and how a regulator might go about getting people to be law abiding and cooperate to act safely in the workplace. In so doing, it is vital to acknowledge that this represents but one component of the full gamut of interventions that regulators make to create safe work conditions. There is no suggestion that a regulatory culture rich in evaluating particular designs and products is unimportant. Design and products that objectively improve safety conditions in workplaces are fundamentally important to the work health and safety agenda and are essential in providing regulators with the tools they need to do their jobs credibly and effectively. But the follow-on question presents a challenge for authorities as well. When a work health and safety authority has evidence that lives can be saved by adopting practice X, how can a government regulator be confident that knowledge of X will be taken on board in workplaces and translated into safer work practices? This is the question addressed in this report.

### *Outline of report*

The report comprises five parts. First approaches to explaining safe work behaviour are discussed. Second a composite model based on behavioural theories of work safety is developed to guide the analyses in the report. Third the national survey data used in this study are described both in terms of how the data were collected and what the data from 762 working Australians tell us about their work experiences – their attitudes to safety and to their bosses, their perceptions of their workplace, their views about regulatory authorities and their motivation to take safety issues seriously.

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<sup>5</sup> This use of mindfulness is compatible with that of Weick and Sutcliffe (2006).

Section 4 then turns to explaining work safety using two indices of safe work practices. One of these indices reflects adherence to best practice advocated by work health and safety inspectors and regulators, although admittedly the measure reflects the perception of the respondent and should not be thought of as an objective measure. This first indicator reflects the extent to which the individual perceives his/her workplace routinely observing principles of safe work practices.

The second indicator reflects individual efficacy in spotting unsafe practices and doing something to improve the situation, that is, the individual respondent's self-reported capacity to observe, recognise safety risks and act to correct them. The difference between the two indicators is that the first reflects what the social group of the workplace is doing, the second reflects the individual's preparedness to accept responsibility for safety and self-manage safe practices. The assumption is that both collective practices and individual efficacy are necessary: They will reinforce each other to ensure workplace safety is sustainable through continuously improving and adapting to new risks.

In the fifth and final section, consideration will be given to the implications of these findings for best regulatory practice and policy development.

### *Caveats in this study of regulating to change behaviour*

Before focusing on the conceptual framework for the study, two caveats are acknowledged.

First, contextual details about workplaces are not captured through the data collection procedure used in this particular study, but we know that the creation of safe work behaviour will depend on the context in which the behaviour is occurring. In some workplaces, the behaviour of managers in leading a safety culture may be vitally important. In another workplace, the ability of workers to do their jobs safely may be a far bigger issue. They may need highly sophisticated training or the job may need to be redesigned to reduce the likelihood of accidents. In yet another workplace, fatigue may be the greatest impediment to safety. In a study such as this, the ways in which specific features of a workplace combine to place people at risk of harm cannot be fully appreciated. Instead, the study "averages" over context to look at the kinds of psychological predispositions and workplace perceptions that in general place workers at risk of behaving in ways that are unsafe for self and others.

The second caveat is that the survey was restricted to the experiences of individual respondents who were in the workforce and did not include the various actors in the social networks who contribute to building a safety culture. This is a particularly important observation because in order to be serving a useful function, government agencies do not have to be directly influencing the actions of workers. Government may instead play an

indirect role or act as a catalyst for other sources of influence. In other words, a government inspector may visit a workplace and improve its safety by observing absence of guardrails on machinery or failure to use safety equipment. The inspector's greatest impact on safety, however, may be quite different. It may occur, not through issuing a notice for non-compliance – as important as this may be, but rather through being able to change the views of a manager who has been dismissive of work health and safety issues in the past. The manager may change, not because of anything the inspector said or did, but because the inspector used his/her capacity to connect the manager with similar but more successful businesses that had successfully reduced accident rates. Regulatory agencies often achieve their objectives through nodes of influence that are independent of government but which are willing to work in partnership with them.

The regulatory space, therefore, is not the sole province of the regulator and the regulated. Also included in the space are shareholders, boards of management, unions, families, training bodies, consultants, industry associations, media, lawyers, insurance companies, scientists, medics and therapists of various kinds. Who is most influential in any one case will depend again on context. Such agents may accelerate change in the interests of safety or block change through ignorance or neglect of safety concerns. The potential influence of some of these sources is acknowledged through the data analysed in this report. That said the focus of this particular study is primarily on workers and managers because they are the survey respondents. The voices of other sources of influence are therefore placed unavoidably in the background.

## **1. Approaches to explaining safe and unsafe work behaviours**

Theoretical paradigms for analysing workplace behaviours are of four major kinds. The first is the formalistic legal paradigm based on the assumption that law provides guidance for workers and managers as to how workplaces should operate to avoid injury and harm and that people will obey the law if they know what they must do and are negatively sanctioned for not complying. The formalistic legal paradigm and the enforcement model that has evolved out of this paradigm has been and remains critically important in protecting populations from exploitation. Laws and regulations around asbestos use are designed to ensure safe handling and protect the health of the population; laws and regulations around gas concentration levels in underground mines are designed to avoid explosions, protecting lives and property; laws and regulations around the installation of insulation materials in roofs are designed to protect workers from electrocution and houses from electrical fires. Laws and regulations are important for identifying potential harms and flagging the obligation that others in the community have to take action to prevent such harms from occurring. The obligation is underlined by the state's coercive powers to sanction non-compliance.

In the compliance process, the state accepts two further responsibilities. The first is to educate the public as to what the regulation means; people can't be expected to comply if they don't know or don't understand what they should be doing. The second is to monitor the public to ensure laws are followed. These three steps – to make law, to educate on the meaning of the law, and to monitor and enforce compliance with the law give rise to a rudimentary regulatory system. The problem is that in and of themselves these elements are unlikely to be sufficient to generate compliance at a level that is acceptable to communities and governments.

What is missing from the traditional legal paradigm is that sometimes people don't want to or are unable to do what authority wants. And sometimes they resist authority simply because they don't like authority intruding on their freedom. This is why other paradigms for developing safe and healthy work practices have come into being – the rational cost-benefit paradigm that stresses that the benefits of safe work behaviours should outweigh costs, social group paradigms that cultivate safety climates and cultures so that what authority is asking is in line with existing group norms and practices, and psychological paradigms that concentrate on individuals internalising safe work behaviours through anchoring them in their belief-attitude-value systems or identifying with authority figures who engage in safe work practices. These paradigms have brought about shifts in how we might think about safer work practices. Before focusing on these developments, the reasons why making law, educating, monitoring and enforcing compliance are insufficient regulatory interventions will be briefly discussed.

### *Why it is not enough to make law, educate, monitor and enforce*

Law does not cover all the contingencies that are relevant to the community's understanding of how to make a workplace safe. Even with something as broad as “duty of care” in legislation, there is no guarantee that regulators and the regulated community will share the same understanding, even less so in workplaces with rapidly changing environments. There will be aspects of work that are dangerous but not recognised as such by authorities. It is not unheard of in areas where public concern for an issue is almost universal (for example, that workers are entitled to feel safe) for best practice to be ahead of legislation and the priorities of authorities. In these situations, the gap between leaders and laggards (Gunningham and Sinclair 2002) can be great. Learning organisations (Reason 1997) are doing their own risk research, monitoring causes of risk and introducing solutions to the problems they identify regardless of what the regulatory agency will be demanding. Innovation shows what works. Law may then be introduced to bring all workplaces up to the new safety standards. In such situations, law may serve as affirmation for the organisations that have led the way. Smart regulation will ensure that the legal framing and implementation mimics the best practices of leaders in order to capitalise on progress already underway. Special provision may need to be made, of course, to raise the standards of laggards.

Law faces further difficulties as a mechanism for making workplaces safer when measures to detect and lift the performance of laggards inadvertently interfere with the activities of leaders. Law can cause offence to leaders, imposing additional costs on them through dismissing their progressive measures and destroying their motivation to pursue the desirable changes that have already been made. Law may be resisted by laggards who are simply unwilling and/or unable to improve their safety performance. In other words, law may fail with both groups for entirely different reasons. Law may rob leaders of their sense of responsibility to go beyond what is legally required in the interests of safety. It may also fail to transfer responsibility to laggards who instead adopt a minimalist posture with the regulator.

Just as law does not always have the desired effect of lifting safety standards, it is not always a simple matter for a regulatory agency to educate the public to secure compliance. Agencies with this objective confront the age-old quandary that what we are told is not necessarily what we hear, and more importantly, what we remember, understand and act upon. For an educational objective to be accomplished, the message must be presented in a way that is accessible and clearly actionable. Moreover, those expected to listen to the message must be in a state of responsiveness – that is, they must be ready to actively interpret the message in the way intended, remember it and practice it. Fundamentally, they must believe the message is relevant to them. Because it

comes from an authority does not mean necessarily that the message is credible or that people believe the message is being delivered with their best interests in mind. Mistrust of authorities, suspicion of big business and corporate bosses, and general alienation from those who 'run things' may lead some to spurn messages of safety before giving them any serious analysis.

Finally, while law invariably has an enforcement arm to it, it is not always so easy to check on whether laws and regulations are being followed or not. There is not always transparency around what is being done to ensure safety, and building systems that provide a window into activities for ensuring a safe workplace can be costly, unwieldy and may provide a narrow line of sight. Similarly, mechanisms for holding people accountable for what they do are not necessarily present or available in workplaces. Complex organisations have many actors who can influence how events unfold by action or inaction – without having to own responsibility for outcomes (J Braithwaite 1984; Benson and Simpson 2009).

In spite of the difficulties with the formalistic, legal paradigm, it remains the dominant way of thinking for regulatory agencies and their staff. Most effort has been directed to recognising the weaknesses outlined above and introducing changes that make the system work better. The changes coalesce around three important themes: (a) understanding behaviour so that the education phase can be executed more effectively; (b) using monitoring and enforcement more strategically aided by increased transparency, the use of market mechanisms to create incentives around safety compliance, and reliance on architectural regulation to remove possibilities for non-compliance; and (c) inspecting work sites with an eye to identifying and recognising strengths as well as weaknesses.

#### *Understanding workplace behaviour: educate and persuade for change*

In order to better understand opportunities for education and persuasion, a number of psychological paradigms have earned a place in the regulatory literature. Among the most popular are theories that advance the ideal of self-regulation as illustrated by the theory of planned behaviour (Ajzen 1985) and self-regulatory theory (Carver and Scheier 1998). The theory of planned behaviour draws attention to the importance of having a positive attitude to safe workplace behaviour, to have clear intentions to act in a particular way that ensures safety, to feel capable of doing so (self-efficacy) and confident that others are also behaving in that way (adherence to social norms). Self-regulatory theory combines these factors with belief that engaging in certain behaviour will lead to certain outcomes that are beneficial and that the pathways to achieving these outcomes are safe, supported, valued and easily followed.

These models offer to regulators insight into how to set the psychological levers so people will want to do what the regulator expects of them. The regulator manipulates the psychological field of the individual – sometimes by making changes to the objective conditions, as when a regulator makes compliance easier, and sometimes through educating and persuading people to look at things differently. The goal is to elicit compliance through creating confidence that certain behaviours can be done and portraying these behaviours in a positive light. A common theme in adjusting psychological levers is to reduce transaction costs and generate self-satisfying, if not rewarding, experiences. The mentality that regulators seek to engender through using this body of research is one that says “I can, I will, I want to do X”.

While these models focus on engaging people in conversations about making it easier and if possible, more satisfying to comply, social modelling (Bandura 1986) and social identity approaches (Tajfel 1978; Turner, Hogg, Oakes, Reicher and Wetherell 1987) persuade and influence behaviour through third parties who have sway over groups of people. The central idea is that people follow those they admire, without necessarily thinking through the reasons for their action. In this context, third parties may function as significant others, people who are role models and leaders of their communities. If a significant other engages in behaviour X, others engage in behaviour X. They see this as the way in which members of the group associated with significant other behave and they seek the approval of the significant other and the group. Perhaps membership of the group brings them the success they desire, or offers them support and encouragement, or makes them feel safe and secure. Whatever the reason for attachment to the group and to the significant other as leader of the group, behaviour changes to conform to group expectations, without necessarily involving serious reflection or critical thinking about the pros and cons of doing so. These kinds of models of persuasion point to the importance of regulators forming alliances with significant others in the community who can work on their behalf to improve workplace safety. Industry associations, consultancy groups, and compliance officer networks are nodes around which commitment to and capacity for safe work practices grow through modelling – as well as critical reflection on regulators’ expectations.

Regulators and regulatory agencies also can acquire the skills required to be significant others in their own right within their regulatory community. The skill set includes knowledge and competence with regard to how things can and should be done. Also important is the capacity to use power justly and fairly. In this regard, theories of procedural justice have emerged as vitally important (Tyler 1990, 1997; Tyler and Blader 2000; Tyler and Fagan 2008). The group engagement model explains how those being regulated are more likely to cooperate when authorities administer laws with procedural

fairness, that is, they exercise their duties with neutrality, communicate trustworthiness to community members, and treat those they are regulating with respect. The group engagement model shows the importance of authorities building social inclusiveness, attending to the relational aspects of regulation, and safeguarding attitudes of mutual respect between regulators and the regulated.

Theories of planned behaviour, self-regulation, social modelling, social identity and group engagement provide useful frameworks for regulators when education and persuasion is important and when no one questions the value of the intervention. In other words, people assume the regulatory expectations are in the best interests of all and should be implemented as quickly and painlessly as possible. The starting position of these theories is that it is desirable to intervene and that it is possible to engage the public in an un-politicised way.

Unfortunately, it is not always the case that interventions, even when legally justified, will be widely endorsed as being in the public interest. Political citizens ask critical questions about regulation and use various communication channels to make their voice heard in democratic societies (Kagan and Scholz 1984). Political citizens value their freedom and are likely to question regulations in terms of purpose and necessity (what is the problem the regulation is addressing?), efficiency (can the problem be regulated without having costs of regulation exceed benefits?), and equity (does regulation disadvantage some groups disproportionately more than others?).

Within a political citizen framework, government responsiveness to community criticism that is informed by open and honest dialogue around the benefits of regulation, its moral basis and justification, and its fairness is likely to improve the community's willingness to comply (Braithwaite 2009a). Community consultation, citizen juries and creating a deliberative democratic forum provide options for regulators who need to be sensitive to different perspectives on regulatory interventions and be aware of various points of view on benefits and justice before policy decisions are made.

### *Managing monitoring and enforcement: rationalising and using proxies*

Voluntary compliance may be the ideal, but in practice most of us need some external pressures to comply. This is particularly likely to be so when our habits and routines lead us to behave in ways that are contrary to that which is required to secure a safe workplace. Monitoring of behaviour and practices is a standard tool used by regulatory bodies to remind us of how we need to behave.

Monitoring can take a variety of forms in a regulatory context. Inspections that check the safety features of workplaces are commonly used by regulatory agencies. Such inspections may follow a roster of scheduled visits, may be based on risk profiles, be

triggered by incidents, or by complaints about the safety standards of a workplace. Whatever the basis, inspections by government agencies are resource intensive and agencies have looked to devote scarce inspection resources to high risk cases with more cost-effective ways of monitoring being used for low risk cases.

Monitoring by third parties and in-house monitoring by specialists is increasingly common in many fields of regulation (Parker 2002). Third parties include consultants contracted to devise a safe workplace plan or conduct an audit. Industry associations or trade unions may take on a regulatory role in some instances. In-house monitoring is also popular: Workplaces demonstrate to regulators that they have put in place measures to identify risks and ensure safety. This may include appointing work safety officers with special responsibility for ensuring compliance with regulatory standards, or safety consultative committees with union, employee and community representation. Monitoring can also be conducted through completion of written reports and documentation for regulatory agencies. In some instances, exchanges of paper between the regulator and the regulatee have virtually replaced face-to-face interaction.

Strategies to ease the monitoring and enforcement burden on regulatory agencies have grown in popularity. Increased transparency regarding the safety performance of workplaces may lead to improvements – through prospects of unleashing fear of reputational damage, or shareholder pressure, or risking higher employee insurance premiums (Gunningham 1984). Market mechanisms can be introduced to send a signal to business that competitive advantage lies in having a strong safety culture (Gunningham 1984). Insurance schemes to cover work injury can provide incentives for prioritising health and safety in workplaces through lowering premiums for enterprises with a proven track record in safety (Gunningham 1984). Government contracts can be awarded only to businesses that have work and safety accreditation. Accreditation can lead to reduced reporting requirements and allow a business to be prioritised in the placement of the best apprentices and the most talented graduates from technical colleges, or be sites for generously funded training schemes. Creating benefits or better still a market around good work health and safety practice can steer enterprises that are seeking a competitive advantage toward mainstreaming safety rather than sidelining it.

Technological developments, specifically new forms of surveillance, have opened possibilities for reducing the need for inspectors monitoring sites in person, although this in itself can lead to subterfuge and game playing (See J Braithwaite 2009 on causes of the Global Financial Crisis). In potentially dangerous work contexts, CTV cameras record behaviours that can be later checked by staff and regulators alike to systematically review procedures and ensure maintenance of best practice. Or such cameras may be used in certain circumstances to provide real-time surveillance of a work setting.

Taking the monitoring-enforcement agenda up a further notch is technology that rules out non-compliance, or at least makes it very difficult. Software may close down computer work screens at regular intervals to enforce breaks from keyboard processing.

Architectural regulation, which disallows behaviour that is likely to lead to harm, provides regulators with an attractive answer to the monitoring/enforcing problem (Braithwaite, Makkai and Braithwaite 2007; Shearing and Stenning 1984). By re-designing work tasks, risk of harm is eliminated and monitoring/enforcing becomes superfluous.

The appeal of transparency, compliance benefits, market regulation and architectural regulation in an era when the costs of monitoring and enforcement are spiralling is understandable. But such regulatory hopes depend on those being regulated accepting regulatory intent. There is, for example, often an assumption that the technological fix will remain unchallenged by those being regulated. Design and architecture may protect, but people can disarm such safety measures to make their job easier, efficient or perhaps more exciting and enjoyable – if not quite so safe. Similarly, market signals can be distorted and game playing can strip authenticity from “report cards” that are supposed to reflect presence of a genuine safety culture in a workplace (Braithwaite, Makkai and Braithwaite 2007). Cooperation from the public in the form of commitment to fostering safe workplaces is necessary for the long term success of these alternatives to surveillance and enforcement involving direct contact of regulator with regulatee.

When all else fails, non-compliance is met with punishment or deterrence. Regulators hold responsibility for enforcing the law through coercive measures if necessary. Generally, this is equated with applying fines and penalties to send a message that a serious offence has been committed and that the costs of non-compliance are high, that is, sufficiently high that they outweigh benefits (Becker 1968). The assumption is that next time, the person will see that it is in their best interest to do the right thing.

The extent to which deterrence dissuades future non-compliance is highly contested (J Braithwaite 2002). In some circumstances it does, in other circumstances it does not. Deterrence is generally considered as having three components – the perceived likelihood of being caught, the perceived likelihood of sanctioning, and the perceived severity of the sanction. Of these three aspects of deterrence, being caught seems to be the most consistently effective (Grasmick and Bursik 1990).

While there may be dispute over whether or not deterrence prevents a repeat of the non-compliant incident for a particular person or firm, there is no dispute about the importance of having a credible deterrence system. Monitoring and identifying non-compliance is fundamental to ensuring that the public are aware of what is permissible and what is not; and for ensuring that non-compliance does not fall into the category of illegal activity to which a blind eye is turned (Braithwaite, Makkai and Braithwaite 2007; Thornton,

Gunningham and Kagan 2005). When a regulatory agency has an aura of invincibility about it, those being regulated see it in their best interest to comply (Ayres and Braithwaite 1992; Hawkins 1984). Moreover, where regulatory agencies appear to be invincible, regulators have the advantage of being able to “walk softly” because they are known to “carry a big stick” (Ayres and Braithwaite 1992).

### *Strengths-based regulation*

The reasons for the failure of deterrence to dissuade some individual non-compliers are complex. While punishment may elicit subservience in some, in others it will elicit defiance. Even in a state of subservience, there is no guarantee that individuals will learn from their misfortune. They may be overcome by feelings of victimisation or humiliation, and these emotions may be what are carried forward – not thoughtfulness about what went wrong and how trouble might be avoided in the future (Sherman 2003). This is one reason why some advocate a responsive regulatory approach whereby the regulators apply only as much force or intervention as is required to turn non-compliance into compliance (Ayres and Braithwaite 1992).

Because deterrence threatens individuals, sometimes with adverse consequences for their future compliance, interest has turned to the value of strengths-based regulation. Strengths-based regulation involves praising, acknowledging and rewarding initiatives that regulated entities or individuals undertake that advance the compliance process and help achieve regulatory objectives (Braithwaite, Makkai and Braithwaite 2007; Feld and Frey 2007). The idea of strengths-based regulation is to build commitment that will spread, creating a new set of social norms, practices and culture that progresses regulatory ideals.

Strengths-based regulation is compatible with the ideas embedded in the safety climate and safety culture literature (Braithwaite, Makkai and Braithwaite 2007). Proponents of safety climate and culture advocate a whole of workplace approach to best safety practices. The emphasis is less on proscriptive and prescriptive rules that can be interpreted in some quarters as minimum standards to satisfy regulators, and more on transcending regulatory expectations and bringing the rest of the regulated community along in the wake of leaders of best practice.

Strengths-based regulation, like safety climate and culture training, actively encourages continuous improvement. Regulatory agencies adopting this approach become conduits of innovative ideas and best practice for the regulated community. Strengths-based regulation offers a powerful approach to changing behaviour, although its usefulness depends on also having an effective enforcement capacity so that “laggards” are not given the message that their non-compliance is tolerable.

### *Strategising on a regulatory approach: From smart to responsive regulation*

The many options for regulating for safe work practices provide the tools for smart regulation (Gunningham and Grabosky 1998). Using the tools strategically, however, becomes critically important if resources are to be preserved and if most attention is to be redirected to cases where workers' safety is most seriously at risk.

Responsive regulation provides a framework for how a regulator should go about regulating a person or entity to achieve the best outcomes. The seeds for its development were sown in the 1980s while observing and interviewing coal mine inspectors (J Braithwaite 1985) in a study which, like others of its time, drew attention to the extraordinary skills and discretion that regulators used to elicit compliance and cooperation from the public (Hawkins 1984; Kagan 1978). Effective regulators were competent and astute in detecting and pointing to evidence of breaches, but how they used these data to further the pursuit of compliance proved even more interesting. They acted in ways that confirmed many of the scientific principles outlined above. They respected the person, they offered help in exchange for compliance, and they did not routinely go by the book and administer penalties. Rather, they focused on understanding the context in which the non-compliant individual or company was operating – how was their business running, were there reasons for non-compliance that could be addressed, were there strategies and tips of advice that could be passed on to avoid future problems? Effective regulators knew the business of those they were regulating and could empathise where appropriate with the difficulties they were having. Their focus was future oriented – making things right through understanding problems and sharing solutions. They were not satisfied to tick boxes and administer fines.

The tension between establishing a supportive relationship with non-compliers and using sanctions to indicate disapproval and reduce reoffending provided the motivation for developing the theory of responsive regulation (J Braithwaite 1985; Ayres and Braithwaite 1992). The question was how to balance persuasion and punishment. How could the right balance be found, given that individuals and groups will differ in their tipping point for, on the one hand, cutting themselves off from influence by the regulator because of heavy handed treatment, or on the other hand, not taking seriously advice and suggestions for change because the regulator did not think the problem was big enough to warrant a fine?

Responsive regulation answers this question through first setting in place a basic building block of compliance. For most people in a democratic society, self-regulation is respectful and is both practicable and desirable. Furthermore, in a democracy, "following the rules" can be and should be morally grounded in the regulatory community and in the general population. As a result, most people recognise within themselves some interest in doing the right thing and are responsive to a regulatory authority that moves them in this

direction. This normative base represents shared social standards as well as the desire to be law abiding and to act in the spirit of the law.

Good intentions aside, none are beyond temptation. A regulatory pyramid of sanctions therefore comes to the regulator's aid, gradually increasing the level of intrusiveness of sanctions until compliance is obtained. For example, in a context where regulators are concerned about a small business cutting corners on safety, a responsive regulatory strategy might be organised as follows. The first steps might be gentle – largely educative and persuasive, suggesting systematic ways of keeping track of worker concerns and near misses as well as having proper workplace meetings about accidents, why they occur and what can be done to improve things. If education and persuasion is not achieving the compliance required, pressure may escalate through intermediate levels (perhaps closer auditing, increased surveillance, imposing penalties). If these strategies don't work, highly intrusive interventions will be called into play (for example, closing a worksite, incapacitation through imprisonment, removing a license).

The ordering of measures from the least to most intrusive represents steps up a regulatory pyramid. The shape of the pyramid reflects the fact that most require very little intervention to elicit compliance. Most of the regulatory action is conducted at the broad base of the pyramid. When it is clear to those being regulated that there is a peak to the pyramid and that deterrence increases as one goes up the pyramid, most opt to stay as close to the base as possible.

The pyramids described above are enforcement-based, ratcheting up intrusiveness and coercion as individuals or entities fail to show a willingness to cooperate with the compliance objective. Pyramids can also be constructed that are strengths-based, providing incentives for individuals or entities to take opportunities to practice compliance at higher levels, going beyond the basic requirements and contributing positively to regulatory objectives.

## **2. A composite model to frame analyses of safe work behaviours**

The above literature suggests that while regulatory agencies have responsibility to implement, explain, and monitor and enforce law, positive results from these activities are most likely to be achieved if agencies become mindful of how they might cultivate basic respect for safety consciousness in workplaces. This consciousness would go beyond specific laws and rules. It would permeate the organisational culture as well as the psyche of the individual. It would be evident in the way in which the collective attended to safety and conscientiously implemented safety measures. It would also be evident in the way in which individuals confidently accepted personal responsibility for their own safety and that of others. In this kind of work environment, observance of laws and rules should either be

subsumed in normal work routines or constitute an easy extension of what is already being done.

If safe practices are the normal way of doing business and if individuals are confident that they can manage risk for themselves and others, the workplace has a strong basis for meeting work health and safety requirements for compliance. Even if an inspector happened to identify a particular problem in such a workplace, the inspector should feel confident in such circumstances that the problem could be resolved with minimum fuss. Moreover, there is a good chance that the workplace will identify a safety risk without need for intervention by the inspector. This means that resources can be targeted to those workplaces where a safety culture is less well developed and where individual capacity is low.

So what are the factors that are likely to contribute to both collective and individual safety consciousness? Or more specifically, what are the enabling steps and what are the obstacles to *a workplace operating in accordance with best practice standards* and to *individuals feeling capable and responsible for their own safety and that of others?*

Having *leaders who prioritise safety issues* should move workplaces toward routine adoption of safe practices. Leaders change the behaviour of individuals and groups by example. Both social modelling and social identity theories point to the role that those with power and influence play in shaping the behaviour of their followers. Leaders set the standard for those who identify with the group. Followers model their leaders' behaviours, in part to be accepted by others in the group and to belong; but also, oftentimes unknowingly, to elicit their leaders' approval and respect. Where leaders prioritise or reward contributions to building a safety culture, safe practices will emerge and grow, as will the confidence of individuals that they can manage safety concerns for self and others. In contrast, where leaders display disregard for safety, or lack authenticity by failing to walk the talk, commitment to safe practice and risk management will be undermined as will the individual's capacity to develop efficacy and confidence to intervene personally to enhance safety.

Therefore,

Hypothesis 1 is that leaders who openly care about safety and prioritise safety issues build commitment to safe practice and risk management at the collective level and to self-management at the individual level.

Hypothesis 2 is that leaders who compromise safety, failing to put it above all other priorities, undermine commitment to safe practice and risk management at the collective level and to self-management at the individual level.

Modelling significant others or people we find attractive is part of the human condition. This is not to say that leaders are always right. The best leadership invites different perspectives and relies on subordinates to question, challenge and suggest new ways of doing things (Sutton 2010). If workers are to provide this service to their bosses in the area of work safety, they need to have the skills and knowledge to contribute constructively to solving work safety issues.

Constructively and confidently engaging in safe practices and managing safety concerns depends on exposure to relevant discussions and being given opportunity to learn about best practice. Opportunities for learning are central to processes of attitude change. If a person does not think about or understand the full range of consequences of taking short cuts on safety, it is little wonder that their attitude to safety is dismissive. Understanding and knowledge are also fundamental to motivating workers to take the initiative in matters of safety. Opportunity to learn enables the development of responsibility and efficacy, which are so important in self-regulatory theory.

Workplace structures have long been recommended and put in place for engaging workers in safety issues (J Braithwaite 1985). Through setting up committees and meetings with full representation of different interests, the basic infrastructure for the first steps of talking about safety improvement comes into being. Participation is formalised in this way to ensure that opportunity to learn about safety permeates the organisation and that some groups are not inadvertently excluded or marginalised.

Participation in meetings and exposure to information, however, does not necessarily mean that people will grapple with the important safety issues and will learn to manage safety risks better. Meetings may become occasions for ritualism to compliance indicators, not commitment to compliance itself (Braithwaite, Makkai and Braithwaite 2007). Quality dialogue about matters of substance is needed if these structures are to be used well. Such dialogue would occur in both formal and informal settings, involving managers and workers in listening and responding constructively to each other's safety concerns and taking corrective action.

Efforts to promote responsive dialogue of this kind are singled out for good reason. There is ample evidence that open dialogue from bottom to top flies in the face of well-known organisational practices. Protecting managers and those up the line from bad news is commonplace in organisations and a hazard for establishing a safety culture (Fisse and Braithwaite 1993; Stone 1975; Sutton 2010). For this reason, institutionalising *responsive dialogue* becomes an important adjunct to the *formal participatory structures* that are commonly put in place as special purpose measures to strengthen safe work practices and build individual efficacy.

Therefore,

Hypothesis 3 is that formal participatory structures build commitment to safe practice and risk management at the collective level and to self-management at the individual level.

Hypothesis 4 is that responsive dialogue builds commitment to safe practice and risk management at the collective level and to self-management at the individual level.

The adoption of safe work practices is unlikely to unfold without the organisation being sensitive to the actions of the regulatory authority. Regulatory authorities have legal powers. For many, being aware of the presence of the authority is enough to elicit compliance with the law. The effectiveness or otherwise of legal powers to monitor and enforce is not within the scope of this study, but the presence and knowledge of such power is likely to be part of people's attitudes to and motivations around work safety. The *presence of a work safety authority* is likely to improve safety consciousness at the collective and individual level.

Therefore,

Hypothesis 5 is that where workplaces are conscious that they have ready access to a work safety authority and its officers and they to them, commitment to safe practice and risk management at the collective level and to self-management at the individual level will be strengthened.

For others, the powerfulness of the authority may be less of an issue than the fairness and integrity it shows in carrying out its duties (Selznick 1992). Where that authority is seen to be credible and fair, trust is likely to be high and the authority will be well positioned to educate, persuade and encourage workplaces to move toward best practice in workplace safety. Social distance from the authority is another indicator of willingness to take notice of the authority, not only in terms of cooperating but also showing deference. Signals that those being regulated send to a regulatory authority to communicate cooperation and deference are called motivational postures. All of these *expressions of respect for the regulatory authority* not only provide an avenue for raising safety standards, but also reinforce individual commitment to safety.

Therefore,

Hypothesis 6 is that where workplaces regard the authority as trustworthy, procedurally just and deserving of cooperation and deference, commitment to safe practice and risk management at the collective level and to self-management at the individual level will be strengthened.

Last but not least is the individual's concern and commitment to avoiding unnecessary risk in the workplace. Individuals may be exposed to all kinds of information and forms of

sanctions and incentives, but still they may choose to ignore the message. Such individuals may be rebels or risk takers, they may feel they are not in control and defend through fatalism or not caring, or they may take pride in being different and standing apart from the group. Psychological theories like the theory of planned behaviour (Ajzen 1985) seek to soften resistance by presenting argument and evidence that a person's best interest lies in a change of attitude.

Individuals who dismiss safety warnings are not only a danger to themselves in collective settings. Such individuals can have a surprisingly negative effect on the culture of a workplace, either in the role of worker or manager (Sutton 2010). Their influence may be based on charisma. More often it comes about more insidiously through negativity that leads to the spread of cynicism and anomie.

Therefore,

Hypothesis 7 is that individuals who express low concern for work health and safety issues and are dismissive of work health and safety standards undermine commitment to safe practice and risk management at the collective level and fail to develop self-management at the individual level.

The model guiding this research is presented schematically in Figure 1. The two behavioural outcomes – best practice standards and individual capacity and responsibility for safety, appear on the right hand side. On the left are four sets of predictors: (a) Leadership by supervisors and managers that sets the standard of 'safety first'; (b) Opportunities to discuss and learn through participatory structures that bring together a cross-section of interested actors and responsive dialogue that talks about real issues and safety solutions; (c) Actions of regulatory authorities who through their presence and integrity communicate whether individuals should trust and cooperate with them; and (d) Priority of individual for safety.



**Figure 1 The theoretical model guiding the research**

### **3. The Motivations, Attitudes, Perceptions and Skills (MAPS) Survey**

#### *Method of data collection*

A national telephone survey was conducted in 2009-10 by Sweeney Research. Those eligible to complete the survey were over 18 years, were in paid work or had been at some time in the past six months, and worked in the following industries – Construction, Manufacturing, Agriculture, forestry and fishing, Transport and storage, and Health and community services. Workers in these industries face relatively higher risk of occupational injury.

Respondents were contacted by telephone using a combination of Desk Top Marketing Systems (a computerised dialling system based on Electronic White Pages) and random digit dialling. One eligible respondent was sought from each household.

A quota sampling frame was used to recruit respondents. The objective was to obtain interviews from all states and territories roughly in proportion to population. Quotas for the five industry groups and for three age groups (18-24 years, 25-44 years, 45 years and over) were equal.

Completed telephone surveys were obtained from 762 individuals who met the selection criteria. While those who took part were randomly selected, there is no way of knowing if

the sample of respondents is representative of those who were eligible for selection. Those who were not home or did not answer the phone may be just like those who participated – or may be not. Those who refused or were unable to finish the interview may be just like those who participated – or may be not. The only claim that can be made is that the 762 respondents represent a broad cross-section of the population in terms of their social demographic characteristics.

#### *Breakdown of respondents in terms of sampling frame*

State/territory, industry and age quotas produced reasonable representation across groups although the young age group (18-24 years) were difficult to recruit to the survey. Young people are traditionally under-represented in surveys, both telephone and mail surveys. There were sufficient numbers, however, to allow meaningful analyses to be conducted for younger respondents.

The percentage breakdown of the 762 respondents in terms of the state and territory where main workplace is based and their age group and industry is provided below in Tables 1 and 2. Also provided in these tables in brackets are the percentages reporting to the interviewer a work-related injury or illness in their current job. These data are not comparable to the ABS Work-Related Injury Survey, but rather are included to show that the sample has a spread of people with first hand experience of work health and safety. This table is included to demonstrate this spread within the sample and should not be interpreted to represent injury rates. Of the 762 respondents, 191 reported illness or injury (25.1%) and 80 (10.5%) reported being off work for 5 days or more. The question did not allow for estimation of the interval of time that had transpired since the illness or accident had occurred.

**Table 1 Percent of total sample in each industry-age category (N = 762) and percent of total sample reporting a work-related injury or illness in that category (in brackets)**

Industry	Age group in years			Total %
	18-24	25-44	45 and over	
Construction	2.49 (.92)	11.42 (3.41)	9.19 (2.36)	23.10 (6.69)
Manufacturing	0.78 (.13)	11.94 (2.76)	9.19 (2.23)	21.92 (5.12)
Agriculture	1.44 (.52)	6.43 (1.71)	9.71 (1.57)	17.58 (3.81)
Transport	1.71 (.39)	6.43 (1.57)	7.09 (2.10)	15.22 (4.07)
Health	2.62 (.00)	9.71 (2.62)	9.84 (2.76)	22.18 (5.38)
Total %	9.06 (1.97)	45.93 (12.07)	45.01 (11.02)	100 (25.07)

**Table 2 Percent of total sample from each state/territory (N = 762) and percent of total sample reporting a work-related injury or illness**

State/territory	Percent	
	Respondents	Respondents injured
Victoria	23.6	4.9
New South Wales	18.8	4.5
Western Australia	13.6	2.5
South Australia	12.1	3.9
Queensland	11.3	3.4
Tasmania	10.2	3.4
Northern Territory	5.6	1.3
Australian Capital Territory	4.7	1.2
Total %	100.0	25.1

Overall, the sample appears to provide a good cross-section of workers who might be expected to be interested in and familiar with safe practices in the workplace. Illness and injury reports did not differ dramatically across the categories, suggesting that the sampling procedure had captured a fairly steady proportion of those who had experienced work incidents.

### *Who participated?*

Those who took part in the survey comprised:

64% males, 36% females

55% had a managerial or supervisory role, 45% did not

78% worked for an employer, 4% a labour hire firm, 18% were self-employed (7% working alone + 11% employed others)

62% worked in companies with more than 20 but less than 200 employees, 39% in companies with fewer than 20 employees, and 31% in companies with more than 200 employees

71% had been working in their industry for more than 5 years, 17% for between 2 and 5 years, and 13% for less than 2 years

59% were working 40 hours a week or less, 41% were working more than 40 hours a week, and

71% worked full-time and 63% were permanent.

### *Survey questions*

Respondents were asked to express their views on work health and safety issues in general, on work health and safety regulatory authorities, on the safety practices of their current workplace, and their personal experiences of workplace safety.

Where attitudes or motives or perceptions were being measured, the views of workers were not represented by their answers to single items. Instead several questions representing different ways of approaching the subject of interest were asked of respondents. Responses to these individual questions were combined into composite scores. The reason for measuring attitudes and the like through multi-item scales is to improve reliability and validity. Rarely is it possible to accurately assess how a person feels or positions him/herself in an attitudinal sense through their responses to a single question. It is more realistic to use a set of different items, each with its own strengths and weaknesses, to obtain an appreciation of how a person is thinking and feeling and then to average across these less than perfect individual measures to obtain a superior overall measure.

All scales are scored such that a higher number reflects more of the characteristic being measured.

*How did respondents score on the outcomes of a workplace operating with best practice standards and individuals feeling capable and responsible for safety?*

Two kinds of behaviour are investigated: what the workplace is doing in terms of best practice and the degree to which individuals are willing to accept responsibility for their safety and the safety of others. These variables will be referred to as (a) *perceived safe practice routines* in the workplace; and an individual's self-efficacy in dealing with safety issues will be referred to as (b) *safety self-management*.

#### *Safe practice routines in the workplace*

Participants in the survey were asked how consistently the following six actions were taken in their workplace – when necessary and appropriate: (a) using personal protective equipment provided; (b) reporting accidents and near misses; (c) identifying work health and safety risks; (d) discussing work health and safety concerns with managers, supervisors and co-workers; (e) removing hazards as much as possible; and (f) making work practices safe. Respondents chose one of five response categories in relation to each item: always, most of the time, about half the time, sometimes, never.

Table 3 lists these items and the percent responding 'always' and 'most of the time.' In all cases except one, 80% or more of respondents were observed to be engaging in these practices at least most of the time. On safe practice routines, the vast majority of respondents were reporting high levels of compliance. The question one might ask in relation to these practices is should the percent responding 'always' be higher. The range of 55-70% for such well accepted safe work practices may suggest too much "elasticity" in on the ground behaviour.

**Table 3 Items in the safe practices routine scale with percent of compliance at least most of the time, and descriptive statistics (scale mean, standard deviation and reliability)**

Safe practice routine	% always	% most times	% Total
Using personal protective equipment provided	70	17	87
Reporting accidents and near misses	63	18	81
Identifying health and safety risks	60	24	84
Discuss with managers, supervisors, co-workers	55	22	77
Remove hazards	65	23	88
Make work practices safe	61	27	88
Scale mean = 4.31, standard deviation = .80, alpha reliability coefficient = .82			

### *Safety self-management*

The second outcome measure taps into a worker's confidence or belief that he/she is capable of handling safety issues and has internalised a sense of responsibility for the safety of self and others. Respondents indicated the strength of their agreement or disagreement on a five point scale to the following six items: (a) You have thought about and taken on board the safety issues in your workplace; (b) You feel confident acting in accordance with safety principles in your workplace; (c) You are confident that you have the knowledge and skills to protect yourself and others at work; (d) You can solve most health and safety problems if you try hard enough; (e) You have difficulty handling health and safety issues that come your way (reverse score); and (f) When other people ignore unsafe situations or unsafe practices in your workplace, you feel it is none of your business (reverse score).

Table 4 lists these items and the percent responding 'agree' or 'strongly agree.' Over 90% of respondents expressed confidence in themselves and workmates to handle safety concerns that might arise. From the perspective of these respondents, safety capability among workers is very high.

**Table 4 Items in the safety self-management scale with percent acknowledging capability and responsibility for handling risk, and descriptive statistics (scale mean, standard deviation and reliability)**

Safety self-management scale	% agree or strongly agree
You have thought about and taken on board the safety issues in your workplace	95
You feel confident acting in accordance with safety principles in your workplace	95
You are confident that you have the knowledge and skills to protect yourself and others at work	94
You can solve most health and safety problems if you try hard enough	92
You have difficulty handling health and safety issues that come your way (reverse score)	7.2
When other people ignore unsafe situations or unsafe practices in your workplace, you feel it is none of your business (reverse score)	6.7
Scale mean = 4.11, standard deviation = .45, alpha reliability coefficient = .75	

To provide a validity check on these scales, responses to another question were correlated with scale scores from safe practice routines and safety self-management. Respondents were asked: Do you think your workplace is safe? 13% said no, the majority, 87%, said yes. When belief in the safety of one's workplace was correlated with safe practice routines and safety self-management, the correlations were .48 and .18 respectively ( $p < .001$  in both cases). Those who reported that most times safe practices were followed in their workplace were also more likely to be those who reported capacity and responsibility to look after self and others on safety issues ( $r = .35, p < .001$ ). These measures reflect people's perceptions of a safe climate in their workplace.

Were reports of safe practice routines in the workplace and individual capacity for safety self-management related to social demographic characteristics?

For the most part social demographic differences were not marked on either the safe practice routine scale or the safety self-management scale. The more notable relationships are summarised in Table 5.

**Table 5 Correlations of selected social demographic indicators with the safe practice routines scale and the safety self-management scale**

Social demographics	Safe practice routines	Safety self-management
Supervisory role	.06	.09*
Age in grouped years	.09*	.15***
Size of company	.10**	.08*
Time in industry	.12**	.09*

$p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

States and different industry groups were not significantly different on safe practice routines and safety self-management. There were no gender differences.

*Does leadership predict safe practice routines and safety self-management?*

Two scales were constructed to measure the extent to which managers and supervisors were perceived by respondents to place priority on the health and safety of workers. The individual items that were used to represent the concepts of ‘bosses care’ and ‘bosses don’t care’ are listed in Table 6. The questions were not specific to current workplaces: Respondents were asked to consider each statement and indicate strength of agreement on a five-point scale (strongly disagree to strongly agree).

The vast majority of respondents endorsed the items stating that bosses care about work safety – over the 70% mark. The lowest endorsement on 70% was for the item, “bosses care at all times”.

On the ‘bosses don’t care’ scale, the issue is not that bosses don’t care in an absolute sense but rather that they sometimes care for other work goals more, including those closest to their own personal success. The percent giving responses of this kind is consistently below 50% – most respondents did not think of bosses as putting other things ahead of safety. By the same token, the percent claiming that in their view bosses don’t care about work safety for its own sake is not trivial. Whether or not this is general cynicism or speaks directly to the conditions of the workplace is impossible to say. It is of some interest that strongest support on the ‘bosses don’t care’ scale was given to the items “they are only interested in making their job easier” (49%) and “they are only interested in profits” (42%).

These scales were subsequently used to test Hypotheses 1 and 2 at the correlational level. It is of note that the hypotheses refer to causal relations between variables but cross-sectional data limits capacity to test for the direction of the relationship – does X precede Y and lead to Y or does Y precede X and lead to X. The best that can be achieved is to establish how plausible the hypothesised direction is, given the data that are available. First, however, the question asked is are the variables related to each other

in a non-directional sense. Correlations provide the answer to this question, the first necessary step, though not a sufficient step to establishing causality.

**Table 6 Items in the ‘bosses care’ and ‘bosses don’t care’ scales with percent endorsing each item, and descriptive statistics (scale means, standard deviations and reliabilities)**

Leadership scales	% agree or strongly agree
<i>Bosses care about safety of workers</i>	
Bosses are really concerned about safe conditions for their workers	77
Bosses work in partnership with their workers to ensure safety	80
Bosses consider worker safety at all times	70
Scale mean = 3.78, standard deviation = .85, alpha reliability coefficient = .84	
<i>Bosses don't care about safety for its own sake</i>	
Bosses are not interested in safety for its own sake; they are only interested in profits	42
Bosses are not interested in safety for its own sake; they are only interested in their next promotion	28
Bosses are not interested in safety for its own sake; they are only interested in their career	37
Bosses are not interested in safety for its own sake; they are only interested in making their job easier	49
Bosses are not interested in safety for its own sake; they are only interested in keeping their head down	33
Bosses are not interested in safety for its own sake; they are only interested in getting the job done	38
Scale mean = 2.84, standard deviation = .90, alpha reliability coefficient = .87	

*A non-causal test of Hypotheses 1 and 2*

Hypothesis 1 is that leaders who openly care about safety and prioritise safety issues build commitment to safe practice and risk management at the collective level and to self-management at the individual level.

Hypothesis 2 is that leaders who compromise safety, failing to put it above all other priorities, undermine commitment to safe practice and risk management at the collective level and to self-management at the individual level.

An assumption was made that participants were thinking of their current workplace at least in part when describing bosses as caring or not caring. Given that most had worked in their industry for more than five years (71%) and 94% for more than a year, the assumption of a reasonably stable employment history for this sample seemed reasonable. Responses to the 'bosses care' and 'bosses don't care' scales were correlated with scores on perceived safe practice routines in the workplace and individual reports of capacity for safety self-management. Respondents who expressed the view that bosses cared were more likely to report consistent adherence to safe practices in their work place and a sense of personal efficacy in managing and solving safety risks and concerns. Hypothesis 1 was supported at a relational level.

Hypothesis 2 was also supported by the data at a relational level. Respondents who reported that bosses didn't care about safety for safety's sake were less likely to report safe practice routines in their workplace and were less likely to express confidence in their capacity for self-management of safety risks and concerns.

**Table 7 Correlations of leadership scales with safe practice routines and safety self-management**

Leadership scales	Safe practice routines	Safety self-management
Bosses care about safety	.49***	.29***
Bosses don't care about safety for its own sake	-.40***	-.24***

\*\*\*  $p < .001$

In this situation, it is particularly difficult to tease out whether the perceived attitude of bosses determines the safety climate of the workplace or whether the safety climate of the workplace determines how bosses are perceived. There is no resolution at hand with cross-sectional data, but the plausibility of bosses influencing the work climate is increased by respondents' own accounts of what makes them try harder to improve health and safety at work.

Respondents were given a list of 10 possible motivators and were asked how much each would encourage them to take action to improve health and safety at work. The top motivator endorsed by 87% of respondents was "wanting to do the job more easily or efficiently". "Receiving positive feedback, recognition or reward from management/supervisor for taking action" was endorsed as a motivator by 74% of respondents. "Management or supervisors requiring the action to be taken" was endorsed as a motivator by 78%. Respondents believed that the standards set by management mattered in building a safer workplace. Furthermore, when asked what the three most important causes of work-related injuries and illnesses were in their workplace, respondents nominated pressure or stress as second only to workers being careless. It is

reasonable to infer that the pressure and stress of a workplace emanates from the behaviour of management.

*Do opportunities to discuss and learn predict safe practice routines and safety self-management?*

Two scales were constructed to measure opportunities to discuss and learn: the first, participatory structures, the second, responsive dialogue. The individual items that were used to represent the concepts of 'participatory structures' and 'responsive dialogue' are listed in Table 8. The questions related to practices in respondents' current workplaces.

In the participatory structures scale, respondents were asked how often they had access to work health and safety representation and information through unions, councils, OHS<sup>6</sup> inspectors and training courses. The focus was on consistent access to formal avenues for learning about and discussing safety issues. Responses were made on a five-point scale from never to always. Education through courses and information sheets was available most times or always to over half the respondents (60 and 71% respectively). Electing a worker as a representative on OHS matters was commonplace for 68% of respondents. Less common was having access to an OHS regulator with just over half reporting that they had this opportunity most times or always (58%). Only a minority reported consistently having a union representative on OHS matters (31%). These rates of endorsement for most times or always suggest that participatory measures are not available or known to the overwhelming majority.

Possibly they exist on paper but the structures are not well institutionalised to allow information about work safety to be shared, debated and contested.

While participatory structures may have been somewhat under-utilised, high proportions of respondents reported witnessing responsive dialogue at work. Respondents answered each statement about the presence or absence of responsive dialogue on a five-point strongly disagree to strongly agree scale. Between 80 and 90% considered communication over safety to be good in their workplace with workers feeling free to raise issues and managers taking safety seriously and responding effectively to sort out problems.

Of the 9 items singled out as representative of responsive dialogue, only 7 were sufficiently highly correlated to form a scale. The omitted items were using a no-blame approach and not being afraid to challenge management about their safety standards. The former was used by slightly more than half (59%). Not being afraid to stand up to management to protest about unsafe conditions was endorsed widely by 90% of

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<sup>6</sup> At the time this survey was administered, OHS was the accepted term. Occupational health and safety is now referred to as work health and safety.

respondents. The fact that neither item qualified to be part of the responsive dialogue scale suggests that the kind of dialogue taking place in workplaces may have the quality of informality as in a free flowing conversation. The more difficult aspects of systematic reality testing may not have been part of the responsive dialogue that was taking place, though such an assertion cannot be substantiated and requires testing through further data collection.

**Table 8 Items in the opportunity to discuss and learn scales with percent endorsing each item, and descriptive statistics (scale means, standard deviations and reliabilities)**

Scales of opportunities to discuss and learn	
	% most of the time, always
<i>Participatory structures</i>	
Attending health and safety training courses	60
Having union officials representing you on OHS matters in the workplace	31
Having access to the OHS regulator (to make complaints to, to seek advice from, or having inspectors visit the workplace)	58
Accessing health and safety information	71
Being able to elect a worker to represent workers on OHS	68
Scale mean = 3.40, standard deviation = 1.16, alpha reliability coefficient = .80	
	% agree, strongly agree
<i>Responsive dialogue</i>	
You use a no-blame approach to health and safety in your workplace (omitted)	59
You are not afraid to challenge unsafe situations or unsafe work conditions (omitted)	90
In your workplace managers and supervisors express concern if an unsafe situation occurs	88
In your workplace managers and supervisors express concern if safe work practices are not adhered to	83
Management corrects unsafe situations or unsafe practices when they become aware of them	86
There is good communication in your workplace about health and safety issues	84
Employees are encouraged to raise health and safety concerns in your workplace	89
You are confident that other people you work with know what to do to protect health and safety at work	77
Health and safety issues are not assigned a high priority in your workplace (reverse score)	14
Scale mean = 3.96, standard deviation = .66, alpha reliability coefficient = .87	

### *A non-causal test of Hypotheses 3 and 4*

Hypothesis 3 is that formal participatory structures build commitment to safe practice and risk management at the collective level and to self-management at the individual level.

Hypothesis 4 is that responsive dialogue builds commitment to safe practice and risk management at the collective level and to self-management at the individual level.

When formal participatory structures and responsive dialogue were correlated with the scales measuring safe practice routines and safety self-management, the coefficients were significant and supported Hypotheses 3 and 4. Both avenues for learning and discussing safety issues were associated with more positive outcomes. Formal structures and inclusive quality dialogue were associated with workplaces that were seen to be more safety conscious and in which individuals felt a greater sense of commitment and efficacy to contribute to improving safety.

**Table 9 Correlations of participatory structures and responsive dialogue scales with safe practice routines and safety self-management**

Scales of opportunities to discuss and learn	Safe practice routines	Safety self-management
Participatory structures	.62***	.30***
Responsive dialogue	.62***	.50***

\*\*\*  $p < .001$

The question of causality again limits interpretation of these data: Do opportunities to discuss and learn about safety issues build safe practices and self-management or is it the other way around? Do individuals who regard their workplaces as having safe practice routines and have confidence to manage safety issues notice and engage with participative structures and with more informal workplace discussions about safety.

The question cannot be satisfactorily answered with these data but the plausibility of the proposed direction of causality was supported by respondents' top three reasons for why injuries happened and how they learnt about work health and safety. Lack of training and education ranked highly as a reason for work-related injuries and illnesses (28%). Among the most important ways of learning useful things about work health and safety were training courses (34%), workplace meetings (25%) and the media (28%). The relative importance of these structures in the open ended responses to the question "what were the three main sources of information from which you have learnt something useful about workplace health and safety in the last year or so" lend support to the proposal that institutionalised structures help improve safety practices and individual efficacy in managing risk.

*Do the actions of the regulatory authority predict safe practice routines and safety self-management?*

The question of how the actions of the regulatory authority relate to work health and safety practice and self-management was addressed through eight different measures. All but the first of these measures have been used in other regulatory contexts and are well-established scales for measuring trust, procedural justice and consultation and motivational postures.

Regulatory presence hypothesis: The first hypothesis in this section concerns the presence of the regulatory authority in the workplace:

Hypothesis 5 is that where workplaces are conscious that they have ready access to a work safety authority and its officers and they to them, commitment to safe practice and risk management at the collective level and to self-management at the individual level will be strengthened.

The purpose of Hypothesis 5 is not so much to assess the impact of what the regulator says and does and how he/she relates to the workplace, but simply to test the importance of presence. The best measure of presence that was available in the survey was a single item that was included in the participative structure scale above. The item was: How often would you say in the workplace that you had “access to the OHS regulator (to make complaints to, to seek advice from, or having inspectors visit the workplace)”. Given that only 58% of respondents replied that this was the case most times or always, this particular item gave a good spread of scores on how consistently the regulator was present through the eyes of the respondent.

The correlation of presence of a work safety authority with having a workplace with safe practice routines was .54 ( $p < .001$ ) and with safety self-management .23 ( $p < .001$ ). These correlations support the relational aspect of Hypothesis 5, that where the regulator is seen to be present safety routines and individual efficacy are strong.

The very strong relationship between the consistent presence of the regulator and the consistent adoption of safe practices has ramifications for how work health and safety agencies engage with the regulated community. The direction of causality is less of a problem in this situation than in others. It makes little sense to argue that because a workplace has established safe work routines, a regulator will be more consistently present. Moreover, the hypothesis that the presence of the regulator improves safe work behaviours is strengthened by respondents' analysis of what motivates them to improve. For 67% of respondents, enforcement action by an inspector is a motivator.

Trust and procedural justice and consultation hypothesis: While regulatory authorities are expected to influence through presence, how they make their presence felt is also of

importance. Those being regulated resist authority when it fails to communicate fairness and reasonableness and respect for those being regulated. In contrast, where that authority is seen to be credible and fair, trust is likely to be high and the authority will be well positioned to educate, persuade and encourage workplaces to move toward best practice in workplace safety.

Hypothesis 6 is that where workplaces regard the authority as trustworthy, procedurally just and deserving of cooperation and deference, commitment to safe practice and risk management at the collective level and to self-management at the individual level will be strengthened.

This section examines the importance of various manifestations of respect for authority through focusing firstly on the scales measuring trust and procedural fairness and consultation. In Table 10, the items comprising these scales are listed, along with the percent of respondents who agreed that the work safety authority (the specific name of the relevant authority was used in the telephone interview) behaved in this way in its interaction with those in the workplace. A majority (72%) agreed that the authority respected their rights as a worker and 62% agreed that the authority treated people and businesses as if they could be trusted to do the right thing. Barely a majority (51%), however, thought that the authority gave equal consideration to the views of all businesses, and less than half believed that the authority was considerate of average businesses (49%) and consulted with them about changes to make compliance easier (47%). A low 34% considered that the authority consulted with the community about changes to the system. On these indicators of procedural justice and consultation, authorities performed best on not intruding on individuals and businesses and worst on being accountable to the public for changes made to the system.

On trust in the authorities, the responses were more positive. Over 70% expressed confidence in authority to look after workers' safety, administer the law fairly and meet its obligations. Lowest support at 60% was found for the transparency measure – the authority is “open and honest in its dealings with workers/businesses”.

When the scales measuring procedural justice and consultation and trust were correlated with having a workplace with safe practice routines and with safety self-management, the correlations were significant and positive. Procedural justice and consultation correlated .22 ( $p < .001$ ) and trust .26 ( $p < .001$ ) with safe practice routines. Procedural justice and consultation correlated .14 ( $p < .001$ ) and trust .24 ( $p < .001$ ) with safety self-management. These correlations support the relational aspect of Hypothesis 6, that where the regulator is seen to be procedurally fair, consultative and trustworthy, safety routines and individual efficacy are strong.

**Table 10 Items in the expression of respect for authority scales with percent endorsing each item, and descriptive statistics (scale means, standard deviations and reliabilities)**

Expressions of respect for authority	% agree or strongly agree
<i>Procedural justice and consultation</i>	
Treats people/businesses as if they can be trusted to do the right thing	62
Respects the individual's rights as a worker	72
Gives equal consideration to the views of all businesses	51
Consults widely about how they might change things to make it easier for businesses to meet their OHS obligations	47
Considers the concerns of average businesses when making decisions	49
Goes to great lengths to consult with the community over changes to their system	34
Scale mean = 3.31, standard deviation = .69, alpha reliability coefficient = .80	
<i>Trust scale</i>	
The OHS inspectorate ...	
Is trusted by me to administer the OHS laws and rules fairly	76
Turns its back on its responsibility to workers	14
Acts in the interests of all workers	74
Meets its obligations to workers	70
Is open and honest in its dealings with workers/businesses	64

Scale mean = 3.70, standard deviation = .73, alpha reliability coefficient = .83

Motivational posturing and social distance hypothesis: The motivational posturing scales comprise the second set of measures used to test Hypothesis 6 focusing on the expression of respect for authority. Motivational postures are measured through five scales. The items comprising these scales appear in Box 1. Motivational postures are signals that are sent to authority to communicate the degree to which those being regulated view the authority and its actions favourably and the degree to which those being regulated are prepared to defer to authority. Two postures signalling that the authority is being viewed favourably are commitment and capitulation. Commitment

means that those being regulated support the mission of the authority – they believe the authority serves an important role and that everyone should take their obligation to contribute to work safety seriously. Capitulation is a posture that reflects less commitment to the cause and more of a desire to stay on the right side of the authority. Capitulation involves trying hard to please the regulator, regardless of what is being asked.

Offsetting these two positive postures are three negative ones. Resistance signals a failure to accept the way in which the authority is doing business. Resistance does not necessarily imply that the authority should not exist or should not be deferred to. Indeed resistance involves awareness of the power of authority and distress over its interference. The message that accompanies resistance is a desire for the regulator to change the way it is doing business, particularly how it responds to grievance.

The remaining negative postures are disengagement and game playing. Both reflect something more than resistance to authority; they reflect a desire to dismantle authority and refrain from showing the authority any deference whatsoever. Disengagement involves ignoring authority and not caring about its attempts to regulate through reining in or redirecting behaviour. It is little wonder, therefore, that regulators seek architectural constraints. Individual regulators may not succeed in changing the behaviour of those who have disengaged, but if new technology can control their behaviour, the regulator has won. Not so. The second posture that signals lack of deference to authority is game playing. Finding a way around rules, technology and systems of control in general makes game playing the posture of competition. The message of game playing is that the contest is on and those being regulated are out to win against authority.

The five postures – commitment, capitulation, resistance, disengagement and game playing can be adopted by any individual. They are scripts or narratives that we share with each other about how to deal with authority across domains. They follow a relatively stable pattern of endorsement. Commitment is generally very high. This is as expected. In a democracy regulatory agencies would fall from grace if their mission did not meet with the approval of the people. Capitulation or acquiescing to authority generally falls around the 70% endorsement mark, with resistance lower, around 50%. Regulatory authorities, because they interfere with people's freedom, generally ruffle feathers in carrying out their duties, so that finding half the population in a state of resistance can be viewed as healthy within a democracy. Disengagement and game-playing which are the most difficult postures for a regulator to manage are generally much lower, hovering around the 10% mark.

### **BOX 1: Items comprising the motivational postures scales**

*Commitment (Mean = 4.29, Standard Deviation = .41, Alpha Reliability = .83)*

You feel a moral obligation to ensure workplace safety

Overall, you ensure the workplace is safe with good will

You accept responsibility for ensuring the workplace is safe

Making the workplace safe is the right thing to do

Making the workplace safe ultimately advantages everyone

Making the workplace safe is a responsibility that should be willingly accepted by all employers and employees

Ensuring you follow the government's health and safety requirements is the right thing to do

*Capitulation (Mean = 3.84, Standard Deviation = .46, Alpha Reliability = .64)*

[The state inspectorate] encourages those who have difficulty meeting their OHS obligations through no fault of their own

[The state inspectorate] is supportive as long as you try to do the right thing with OHS and learn from your mistakes

No matter how cooperative or uncooperative [the state inspectorate] is, the best policy is to always be cooperative with them on OHS

If you cooperate with [the state inspectorate] they are likely to be cooperative with you

The OHS system may not be perfect, but it works well enough for most of us

*Resistance (Mean = 2.99, Standard Deviation = .67, Alpha Reliability = .66)*

[The state inspectorate] is more concerned about making their own job easier than making it easier for businesses

[The state inspectorate] is more interested in catching you for doing the wrong thing with OHS, than helping you do the right thing

[It's impossible to satisfy the OHS requirements completely

It's important not to let them push you around on OHS

If you don't cooperate with them, they will get tough with you

Once they have you branded as non-compliant, they will never change their mind

*Disengagement (Mean = 2.20, Standard Deviation = .67, Alpha Reliability = .77)*

You don't care if you are not doing the right thing by [state inspectorate]

If [state inspectorate] gets tough with you, you will become uncooperative with them

You personally don't think that there is much [state inspectorate] can do to you to make you comply with OHS requirements if you don't want to

You don't really know what [state inspectorate] expects of you and you're not about to ask

If you find out you are not doing what [state inspectorate] wants you are not going to lose any sleep over it

*Game playing (Mean = 2.40, Standard Deviation = .71, Alpha Reliability = .76)*

You do what you are legally required to do to make the workplace safe, but no more

No matter how cooperative or uncooperative [state inspectorate] is on OHS, the best policy is to give them only as much cooperation as the law requires

You will tick the boxes on Occupational Health and Safety checklists and make the paperwork look good but nothing more

You do the minimum that the law requires when it comes to occupational health and safety requirements

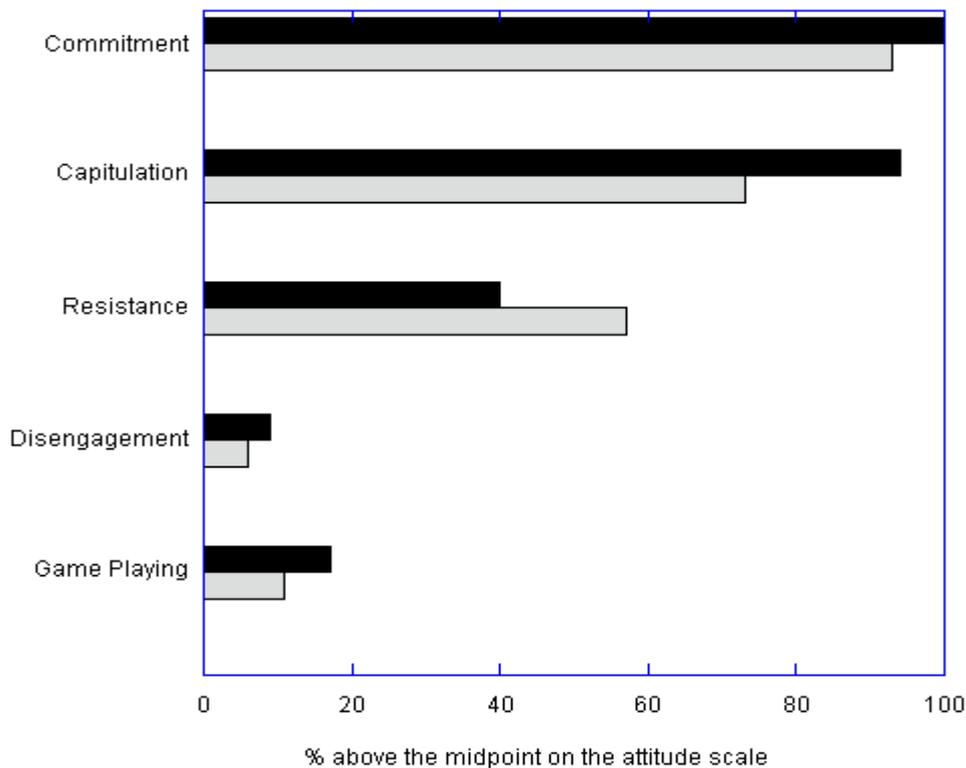
Your attitude to OHS inspectors is to tell them what they want to hear

Note: Dismissive defiance = game playing +disengagement

The strengths of the five motivational postures to work safety authorities are represented in a bar chart in Figure 2. It is important to note that these postures are not mutually exclusive: Individuals may hold one posture at the same time as they hold another so that the percentages in Figure 2 are not expected to sum to 100. For comparative purposes,

the responses of a random sample of the Australian population to the Australian Taxation Office on very similar measures are included in grey.

The graph demonstrates that commitment to work safety in this sample is very strong as is capitulation. On the negative side, game playing is also stronger than might be expected. This finding is particularly interesting. Respondents agree on how important work safety is and defer to authority. Yet a significant minority are prepared to play with the rules and with the regulatory agency that is charged with responsibility for ensuring workplaces are safe. This finding suggests a breakdown between regulators and a segment of the community, not in terms of overall mission, but in terms of the processes and objectives that authorities use to implement their agenda.



**Figure 2 The motivational postures to work safety authorities (dark bars) and for comparative purposes the motivational postures to the Australian Taxation Office (light bars)**

Note: Percentages do not sum to 100% because people can hold multiple postures at the one time, with propensity to allow one posture to dominant in response to the actions of the regulator.

When motivational postures were correlated with the outcome measures of safe practice routines and safety self-management, the pattern of relationships to emerge was supportive of Hypothesis 6 (see Table 11 for these correlations and a summary of previously discussed correlations used to test Hypothesis 6). Postures of commitment and capitulation are significantly and positively associated with safe practice routines and safety self-management. Postures of resistance, disengagement and game playing are significantly and negatively associated with safe practice routines and safety self-management. In other words, as social distance from the regulator increases with resistance, disengagement and game playing, there is likely to be less consistency in a workplace having safe work routines and less individual confidence in being able to manage work health and safety issues. Of note in the set of correlations in Table 11 are the particularly strong correlations emerging between safety self-management and the postures. High individual efficacy is positively linked with commitment and negatively to disengagement and game playing.

**Table 11 Correlations of orientations to authority with safe practice routines and safety self-management**

Orientations to authority	Safe practice routines	Safety self-management
<i>Presence of authority</i>		
Access to OHS regulator	.54***	.23***
Procedural justice and consultation	.22***	.14***
Trust	.26***	.24***
<i>Motivational postures</i>		
Commitment	.20***	.47***
Capitulation	.20***	.27***
Resistance	-.12***	-.12***
Disengagement	-.25***	-.43***
Game playing	-.18***	-.35***

\*\*\*  $p < .001$

The question of causality is particularly problematic when considering how expressions of respect for authority influence safe work outcomes. The purpose of having a regulator is to educate, persuade and sanction if necessary to improve safety standards. It makes sense that a regulator will be more effective if those being regulated respect the authority. At the same time, it also makes sense to argue that where workplaces are serious about safety and are leaders, not laggards, there will be a tendency to look more favourably on the regulator. The direction of causality therefore remains open with these data.

*Does the individual's priority on safety predict safe practice routines and safety self-management?*

Three measures were used to capture the degree to which the individual was personally concerned about safety at work and prioritised it above other issues.

First, a single question was used to ask respondents how personally worried they were about work-related injuries and illnesses. The response categories that they could choose from were "very much worried", "quite a lot worried", "not very much worried", or "not at all worried". Those claiming to be quite a lot or very much worried comprised 46% of the sample. When the response of very much worried was compared for 10 threats to well-being, work injury or illness was ranked equal fourth with violence and personal safety, after road accidents, cancer and drugs.

Two additional scales were constructed to measure personal priority on safety. One was contextualised in the workplace and asked respondents how much they agreed on a five point strongly disagree to strongly agree scale with items describing occasions when the individual forgot about safety consciousness: when under work pressure, or involved in the task, or skylarking. The items are listed in Table 12. The percent saying that such occasions occurred in their workplace was a minority, less than 30%. At the same time, the percentages are large enough to suggest that there is scope for more accidents to occur than is desirable or necessary.

The second personal safety scale comprised two items reflecting the importance of safety. 69% of respondents indicated it was their number one priority when completing a job. Possibly, confidence in one's capacity and work skills meant that safety was not primed for a third of respondents when finishing a job. Another possibility is that pressure to finish the job dominated safety. Or perhaps a third of respondents had jobs where safety had been taken care of routinely and it was not something they had to worry about. These data do not provide evidence to clarify which interpretations are most likely, or what the direction of causality might be.

**Table 12 Items in the disregard for safety scale and the safety importance scale with percent endorsing each item, and descriptive statistics (scale means, standard deviations and reliabilities)**

Individual priority on safety	% agree or strongly agree
<i>Disregard for safety</i>	
Sometimes it is necessary to depart from health and safety requirements	29
Sometimes the pressure of your job means you take shortcuts on safety	27
You get so involved in the work you're doing you sometimes forget about safety	29
You and your colleagues sometimes skylark at work and take risks that jeopardise each other's safety	12
Scale mean = 2.36, standard deviation = .76, alpha reliability coefficient = .70	
<i>Safety importance scale</i>	
Safety is the number one priority in your mind when completing a job	69
Personally you feel that health and safety issues are not the most important aspect of your job (reverse score)	29
Scale mean = 3.59, standard deviation = .94, alpha reliability coefficient = .56	

*A non-causal test of Hypothesis 7*

Hypothesis 7 is that individuals who express low concern for work health and safety issues and are dismissive of work health and safety standards undermine commitment to safe practice and risk management at the collective level and fail to develop self-management at the individual level.

Being worried about work related injuries or illness, disregard for safety at work and personal importance of safety were correlated with the outcome measures. The coefficients are reported in Table 13. Worry about injury or illness was not significantly correlated with safety self-management although it was positively associated with safe practice routines at work. Individuals who placed great importance on safety were more likely to report safe practice routines and higher safety self-management skills. Where disregard for safety was high as reflected in workplace activities, there was less consistency in reports of safe practice routines and lower safety self-management.

**Table 13 Correlations of measures of individual concern for work safety with safe practice routines and safety self-management**

Individual concern for work safety	Safe practice routines	Safety self-management
Worry about work-related injuries and illnesses	.12***	.02
Disregard for safety	-.38***	-.48***
Importance of safety	.22***	.31***

\*\*\*  $p < .001$

It seems highly likely that the degree to which individuals cared about safety and the degree to which workplaces had safe practice routines and promoted safety self-management were mutually reinforcing. That is, safe work practices and personal efficacy promote individual concern about safety, and individual concern about safety promotes safe work practices and personal efficacy.

In this research the focus is on individual concern for safety as a determinant of safe practice routines and safety self-management. The plausibility of this direction of causality was strengthened by respondents attributing injury to workers being careless (40%), just not thinking (36%) and risk taking 25%. This is not to suggest that characteristics of the job are not important. Along with personal characteristics, respondents listed lack of training or education (28%), pressure or stress of job (38%) and dangerous equipment or machinery (26%) as the top six reasons for work-related injury or illness.

The role of individual characteristics in work safety proved even more interesting when respondents were asked what would motivate them to improve their health and safety behaviour at work. Three highly endorsed answers were wanting to do the job more easily and efficiently (87%), concern about being personally responsible for someone being injured or made ill through work (85%) and not taking up too much time or effort (81%). The majority were also keen to avoid time off work (76%) and a workers' compensation claim (71%). These reports suggest that disregard for safety might be circumvented through making it easier and more efficient to do the right thing, and having managers who can communicate the risks and the undesirable consequences of injury for individuals and their work mates.

#### **4. Modelling pathways to safe practice routines and safety self-management**

##### *Approach and statistical procedure*

The above analyses establish links between the hypothesised independent variables (leadership, opportunities to discuss and learn, actions of the regulator and the priority

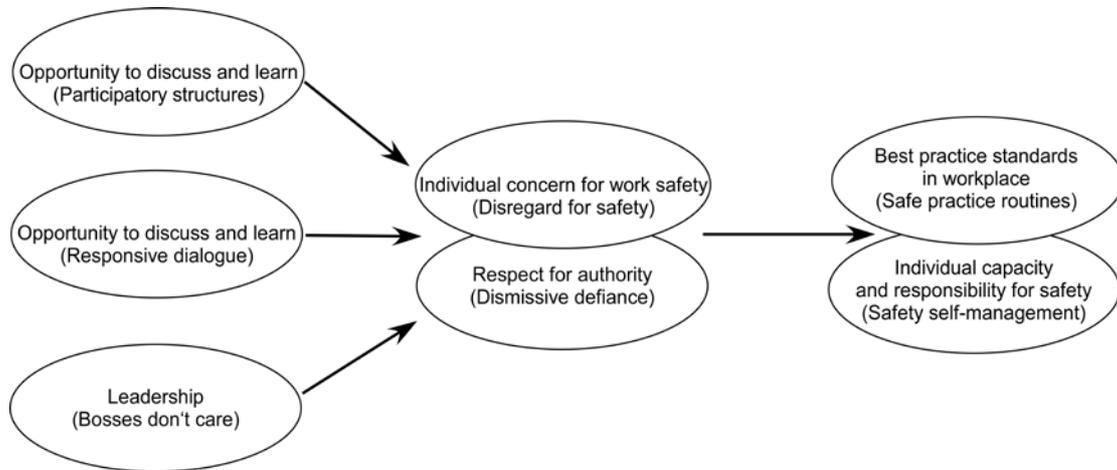
assigned to safety by individuals) and the outcome variables (safe practice routines or safety self-management). We are unable to conclude from these analyses, however, that the hypotheses are supported in that there is no evidence of causality. The cross-sectional nature of the data means that it is impossible to show the independent variables influencing the outcome variables. The problem deepens on recognition that what is being predicted are respondents' perceptions of safe practice routines and their self-management capacity. The independent variables too are respondents' perceptions – of leadership, opportunities to discuss and learn, actions of the regulator and personal priority on safety. Perceptual data collected at one point in time are highly likely to be characterised by influence going in both directions as respondents use the interview to construct 'reality' that is valid in their own mind. Notwithstanding these difficulties and sources of error, it is possible to ask the question of whether it is plausible that the independent variables influence the outcome variables as hypothesised.

In order to further test the importance of leadership, opportunities to discuss and learn, actions of the regulator and the priority assigned to safety by individuals in relation to safety compliance, a structural equation model (SEM) (Arbuckle 2005) was built around two dependent variables in the one model – *safe practice routines* and *safety self-management*.

The independent variables used in the structural equation modelling were a subset of those appearing in the correlational analyses above. Variables were omitted if they were highly correlated with other stronger predictors and if they did not contribute additional explanatory variance in the preliminary regression analyses. This meant that only one or two variables from each of the main clusters in Figure 1 made it through to the final model. The three independent variables that held up most strongly in regression models were *participatory structures*, *responsive dialogue* and *bosses don't care*.

Also identified through the preliminary regression analyses were variables that were related to both independent and outcome variables and that appeared to mediate relationships between the independent and outcome variables. Two were identified – the motivational posture scales of disengagement and game playing that were combined to form *dismissive defiance* and the personal safety priority scale of *disregard for safety* in the work context.

On the basis of the preliminary regression analyses, the initial model was modified as shown in Figure 3:



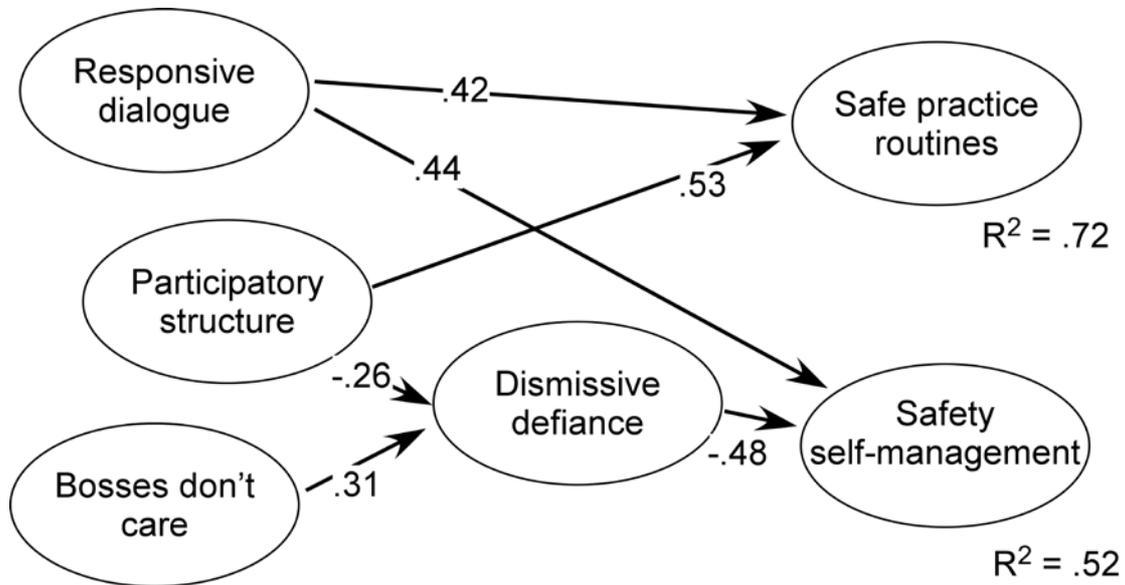
**Figure 3 A revised theoretical model to guide the development of structural equation models**

In summary, the proposed theoretical model in Figure 3 (informed by preliminary regression analyses) suggests that participatory structures and responsive dialogue increase respect for authority and individual concern for work safety, which in turn increases compliance on both outcomes. When bosses don't care, however, respect for authority and individual concern for work safety decrease, which in turn decreases compliance on both outcomes. The measures chosen to represent respect for authority are the negative postures of disengagement and game playing that combine to form dismissive defiance, postures which are particularly hard for regulators to manage. The measure chosen to represent individual concern for safety is the negative manifestation of this concept, disregard for safety, with its focus on what people do in the context of their work.

The structural equation modelling was undertaken using Analysis of Moment Structures (AMOS) version 6.00 with maximum likelihood estimation (Arbuckle 2005). The data did not fit the model in Figure 3 perfectly, but with modifications, it was possible to develop two models that fit the data very well and that retained the central thesis depicted in Figure 3. In the course of developing the models a decision was made to simplify the analyses through not using the intervening or mediating variables, dismissive defiance and disregard for safety, in the same model. Thus, two models were developed, the first showing the role that dismissive defiance played as a mediator between independent and dependent variables; the second showing the role that disregard for safety played as a mediator between independent and dependent variables.

### *Pathways to compliance through dismissive defiance*

The model that provided the best representation of the data under the broad guidelines of the theoretical model outlined in Figure 3 is presented in Figure 4. The statistics for goodness of fit are reported in Table 14 with the variance accounted for in each variable along the pathways in Table 15. All statistics indicate a satisfactory fit.



**Figure 4 A structural equation model representing the prediction of safe practice routines and safety self-management with dismissive defiance as a partial mediator**

From Figure 4, responsive dialogue has direct positive effects on safe practice routines and safety self-management. Where management, supervisors and workers are able to openly discuss safety issues and where there is a shared determination to ensure the workplace is safe, positive outcomes follow. There is consistent observance of safe practices such as wearing protective gear, removing hazards and reporting near misses. And there is confidence among individuals that they will be able to manage safety risks effectively.

Also in Figure 4, participatory structures, involving training courses, elected representatives, unions and access to work health and safety regulators, was an important predictor of safe practice routines, but did not directly predict safety self-management. This finding is important in showing that safe workplace routines do not equate with personal efficacy to manage risk. Safe practice routines describe what is happening in the workplace regardless of whether individuals understand what is going on or feel engaged in what is going on. That sense of personal engagement and individual capacity to deal with risks is the second outcome variable, safety self-management.

Explaining safety self-management requires a more complex story. Responsive dialogue contributes directly in its own right. But having participatory structures does not: Instead it has an indirect effect through dismissive defiance. Where participatory structures are in place, dismissive defiance is lower and as a consequence, safety self-management is higher. This pathway is interpreted as showing why the actions of authorities are so important. Work health and safety officers are present or exert influence through participatory structures. Their presence or influence means that they are less easily dismissed as irrelevant or inconsequential. If the authority cannot be dismissed, the individual takes note and is able to acquire knowledge about safety and develop a sense of efficacy about managing safety problems.

Countering the positive influence of participatory structures in quelling dismissive defiance against authority is the negative influence of bosses not caring which gives dismissive defiance a boost. Where bosses are seen to not put safety first for its own sake, dismissive defiance is higher and safety self-management lower.

Looking at the overall picture in Figure 4, safe practice routines come about through opportunities to participate in meetings and talk to officials as well as having conversations among managers, supervisors and workers about correcting safety problems. Safety self-management, on the other hand, requires relationships with those with safety consciousness. In Figure 4 this means having a respectful relationship with authority and with others in the workplace (managers, supervisors and workers). A positive respectful relationship with authority comes about when participatory structures are working and/or when bosses show that they put safety first.

**Table 14 Indicators of fit for model predicting compliance from scales representing leadership and discussion and education with dismissive defiance as a partial mediator**

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Chi-square = 7.326, $df = 3$ , $p = .062$
Goodness-of-fit index (GFI) = 0.997
Adjusted goodness-of-fit index (AGFI) = 0.978
Root mean-square error of approximation (RMSEA) = 0.044

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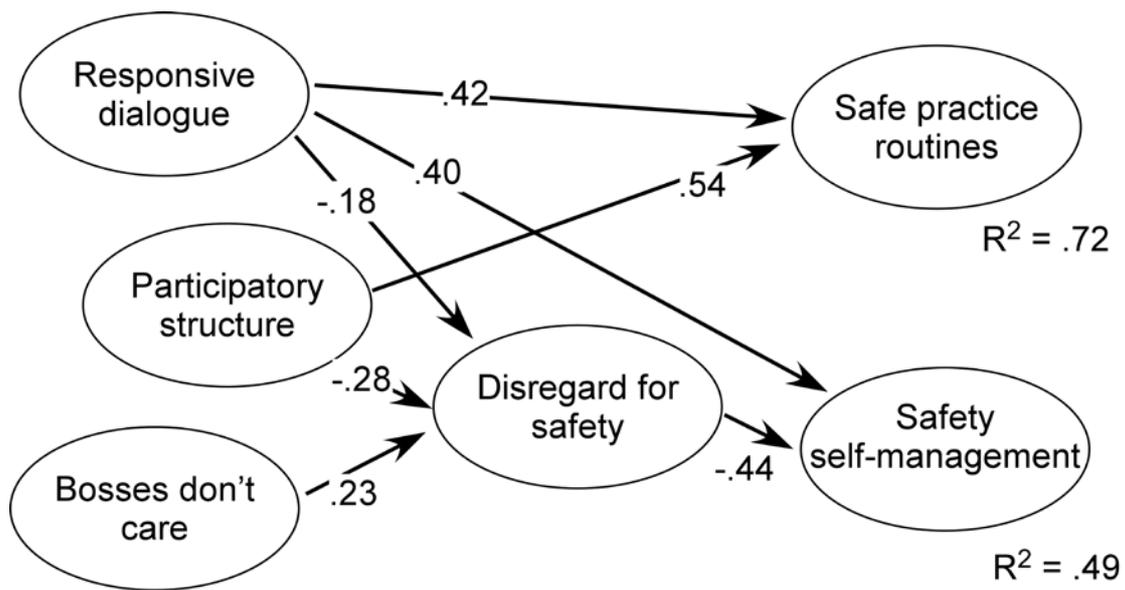
**Table 15 Squared multiple correlations for the latent variables in model predicting compliance from scales representing leadership and discussion and education with dismissive defiance as a partial mediator**

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	Estimate
Dismissive defiance	.22
Safe practice routines	.72
Safety self-management	.52

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*Pathways to compliance through disregard for safety*



**Figure 5 A structural equation model representing the prediction of safe practice routines and safety self-management with disregard for safety as a partial mediator**

The mediating role played by disregard for safety is very similar to that of dismissive defiance. Disregard for safety involves acknowledging that safety is compromised when pushing against deadlines or when involved in what you are doing or skylarking with workmates. As shown in Figure 5, disregard for safety is important in the case of safety self-management. Disregard for safety undermines the sense of having capacity to confidently handle risks in the workplace. Contributing to a higher disregard for safety were three factors – bosses not caring, weak participatory structures and little responsive dialogue. Where workplaces are not supporting a culture that is conscious of safety, individual disregard for safety in the workplace increases. It is worth considering whether this disregard for safety in the context of the workplace is a sign of deeper anxiety and disempowerment on the part of employees.

The other relationships in Figure 5 correspond to those in Figure 4. Participatory structures directly improve the consistent use of safe practice routines, as does responsive dialogue. Responsive dialogue strengthens safety self-management while participatory structures work through a mediating variable, in this case, through dampening disregard for safety.

The indicators of fit for the model in Figure 5 are satisfactory and appear in Table 16. The variance accounted for in variables along the pathways are reported in Table 17.

**Table 16 Indicators of fit for model predicting compliance from scales representing leadership and discussion and education with disregard for safety as a partial mediator**

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Chi-square = 5.618, $df = 2$ , $p = .060$
Goodness-of-fit index (GFI) = 0.998
Adjusted goodness-of-fit index (AGFI) = 0.974
Root mean-square error of approximation (RMSEA) = 0.049

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**Table 17 Squared multiple correlations for the latent variables in model predicting compliance from scales representing leadership and discussion and education with disregard for safety as a partial mediator**

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	Estimate
Disregard for safety	.31
Safe practice routines	.72
Safety self-management	.49

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*Variations across social-demographic groups*

Both the models presented in Figures 4 and 5 should be viewed as hypothesis generating models. They emerged from an iterative process of allowing the data to modify the theoretical model until a good fit was found. Testing the hypotheses more rigorously requires further data collection. In the meantime, Figures 4 and 5 can be tested for their robustness within the present data set by re-running the analyses on subsets of the survey sample. The first test involved those who had reported that they considered their workplace unsafe. The second subset chosen for model testing comprised young people. The sample sizes were much smaller, but substantively the results were the same, suggesting that the models hold up for both these segments of the population.

Apart from examining the resilience of the model, correlation analysis was used to test for marked differences between social-demographic groups on the independent variables. (The outcome variables were examined in Table 5). Table 18 shows each of the independent variables correlated with supervisory role (yes = 1, no = 0), age (grouped in years: 18-24; 25-34; 35-44; 45-54; 55+), size of company (<5; 5-19; 20-199; 200+) and time in industry (<6 months; 6months -1 year; 1-2 years; 2-5 years; >5 years).

The correlations overall were not strong. Most notable was the tendency for younger respondents to be less respectful of work health and safety authority while remaining committed to the mission of safety. Also of note is the better safety profile of larger workplaces, and the more positive relationship respondents from these workplaces had with work health and safety authority. It will be recalled that younger respondents and

respondents from small workplace were least likely to report safe practice routines and safety self-management (see Table 5).

**Table 18 Correlations of the independent variables with supervisory role, age (grouped), size of company (grouped), time in industry (grouped)**

Independent variable	Supervisory role	Age	Size of company	Time in industry
Bosses care	.12***	.01	-.01	.06
Bosses don't care	-.09*	-.05	-.04	-.05
Participatory structures	-.01	.05	.36***	.03
Responsive dialogue	.05	.07	.11***	.08*
Regulatory presence	.00	.03	.28***	.00
Procedural justice and consultation	-.09*	-.16***	.09*	-.05
Trust	.04	-.07*	.08*	.03
Commitment	.03	.08*	.14***	.06
Capitulation	.03	-.01	.05	.02
Resistance	.04	-.03	-.15***	.05
Disengagement	-.07	-.11**	-.14***	-.07*
Game playing	-.06	-.12***	-.17***	-.04
Worry about injury	-.02	.02	.03	.00
Disregard for safety	-.04	-.19***	-.09**	-.06
Importance of safety	-.04	.08*	.10***	.03

$p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## 5. Implications for regulatory practice and policy

### *Summary of main findings*

Analyses of the survey data lead to the following conclusions:

- (a) Commitment to work health and safety as a desirable characteristic of workplaces is strong among those who work in them.
- (b) Individuals in workplaces report that their efficacy, defined as self-assessed awareness and confidence in managing work health and safety risks, is high.
- (c) Commitment to work health and safety and individual efficacy does not translate into consistent adherence to safe work practice: Talk does not match action.
- (d) Talking about work health and safety is essential to impart understanding, but it needs to be accompanied by institutional structures that allow broad participation and that consistently mainstream safe practices.

(e) A key element in talk and action is cooperation among managers, workers, work health and safety authorities, and unions. These actors are interdependent and each is needed to enable the effectiveness of the other. The inverse is also true. Each has capacity to undercut the effectiveness of the other.

(f) Therefore, structures and dialogue not only need to be institutionalised, but also they need to have substance around which cooperation and priority setting can occur. Participatory structures ensure regular conversation takes place in accountable and transparent ways. Responsive dialogue ensures the conversation is about identifying and taking action on safety issues.

(g) Workplaces underperform on safety when management does not put safety first for its own sake (managers don't walk the talk) and when participation and communication about safety are not consistent and institutionalised: In these circumstances individuals 'close down' as active learners and participants of safety.

(h) Individuals who 'close down' as active learners and participants in safety express disregard for safety and dismiss government authorities purporting to raise work health and safety standards in the workplace.

(i) Individuals may lack efficacy and self-management skills, but workplaces may still have institutionalised safe practices. Whether such workplaces can respond to unexpected risks or new risks is questionable. Such workplaces may be doing enough to avoid being laggards, but not enough to be leaders.

(j) Social demographic groups did not differ markedly in this report but two consistent trends were observed. Those who are most dismissive of authority while expressing concern about safety and reporting negatively on the safety of their workplaces comprise a disproportionately large proportion of younger respondents and respondents from smaller workplaces.

### *Implications of findings*

The regulatory space is far more complex than is implied by the traditional regulatory model of a regulator telling those being regulated what they should do and enforcing compliance. Among the important players are those recognised in the survey questions discussed in this report – bosses and unions as well as regulators and workers. Moreover, all parties need to understand safety issues, how they can contribute, and be prepared to act on that contribution. Commitment from each of the parties and preparedness to cooperate with each other to ensure consistency in safe work practices have emerged as essential components of having an effective safe work program.

The SEM diagrams presented in Figures 4 and 5 are important in that they illustrate the interdependence of managers, workers and authorities in doing things to improve safety – what one is seen or not seen to be doing affects what others are doing. The following questions and answers are derived from these SEM diagrams and provide hypotheses for rigorous testing in future research where data can be collected across time to provide insight into causal relationships.

Question: Why don't workplaces consistently follow best practice?

Answer: Because managers, workers, authorities and unions do not cooperate sufficiently to make structures work so that they can internally regulate work practice. Also important is constructive and open dialogue among these groups to identify safety problems and risks and fix them.

Question: Why might workers be careless about safety?

Answer: Because their bosses do not 'walk the talk' on work health and safety and management fails in practice to keep work health and safety at the top of the agenda.

Question: Why might workplaces have people who are dismissive of authority?

Answer: Because they don't see participatory structures operating consistently in their workplace to protect workers nor do they see bosses who are respectful of the authority's work health and safety mission.

Question: Why don't workers feel a sense of efficacy and personal capacity to deal with work health and safety issues?

Because there is too little responsive dialogue, participatory structures are not there to reinforce the dialogue, and work health and safety is put to one side when other pressures arise.

Amidst the complexity and interdependence of actors in the regulatory space, regulators have a pivotal role to play. The public expect them to act in the interests of the community. Authorities that become ineffective through actions of more powerful entities in workplaces (business owners or unions) are failing workers. Authorities set a standard of responsibility that workers will emulate if they have respect for the authority and what it is working to achieve. If authorities can't make progress with workplaces through setting in place participatory structures, and if managers are not respectful of the safe work mission and fail to lead on safe practices, disregard for safety and dismissiveness of authorities sets in. This kind of anomie has been linked in this research to individuals being unable to develop capacity and efficacy to act responsibly on work health and safety.

The need for action, not to replace dialogue but rather to take it to the next level, is apparent in responses to survey questions asking about well-known measures for

improving safety. While 80-90% were worrying and talking about safety importance, only 60-70% were going out of their way to do things that promoted safety. Only 63% always reported accidents or near misses, only 70% always used personal protective equipment provided, only 65% always removed hazards, only 61% always made workplaces safe, and only 60% always identified work health and safety risks. Only 59% used a no-blame approach to work health and safety and only 60% attended work health and safety training courses. These statistics reflect an attitude of observing best practice – except on occasions when it doesn't really suit. A third of respondents talked about not thinking of safety when they were involved in what they were doing or trying to finish a job. Such findings are consistent with almost half of the respondents reporting that bosses main priority is not safety, but rather to make their own jobs easier. Respondents themselves, when asked what would motivate them to improve their work health and safety performance, responded most positively to change that would make the job more easy and efficient (87%). The reality is that while virtually everyone conceded that workplace safety was their ideal and safety consciousness was well within their grasp conceptually, in practice other priorities were known to trump best practice. Arguably, compromising on safety on occasions to get the job is accepted as the way things are.

### *Ways forward?*

It is very clear that safety consciousness for individuals and safety culture for organisations are objectives that a work safety authority should be promoting and striving to achieve. On a day to day basis, however, the hard yards toward turning these ideals into realities – or even helping organisations move some way toward acceptance of these ideals, need to be accomplished through discrete practicable steps. These steps may take the form of a focus on a particular practice for a period of time. The steps may be tailored to industries and to workplaces of certain sizes. The approach would present hard evidence to support the effectiveness of the particular practice, an advisory service to help with implementation, and role models to lead the way and generate the stories about the introduction of the practice and its benefits. While supporting those wanting to do the right thing, monitoring and enforcement action of those not trying to improve would be necessary. Enforcement action by authorities signals to workplaces that real effort for continuous improvement on work health and safety is not optional (Thornton, Gunningham and Kagan 2005).

If responsive dialogue is a core strength of Australian workplaces as respondents in this survey claim, it becomes the base for launching other steps forward that create a safer workplace. Most strikingly, it is difficult to find an excuse for why no-blame approaches and near-miss reporting are not better institutionalised in Australian workplaces. Near-miss incidents should be written up by those involved in them with others joining in to help

analyse what happened and why, and work out how a similar situation could be averted in the future.

Near-miss reporting should be part of an organisation's formal records and hard evidence of its responsive dialogue approach. Importantly, this step of near-miss reporting gives opportunity to demonstrate the practical outcomes that can follow from responsive dialogue. Without responsive dialogue, it is likely that workers would not have the confidence or know-how to engage in analysis of what had happened in a frank way without descending into a blame game and closing down opportunities for both admissions of fault and ideas for the future. Perhaps even more importantly, the context sensitive learning from near-miss reporting and analysis can serve as a shining light for other workplaces where injury is happening but nothing is being done about it.

While near-miss reporting pushes responsive dialogue in the direction of having hard conversations about things that have gone wrong, movement can also occur in the other direction with discussion focusing on things that are going right. The strength of responsive dialogue can be used to incorporate generation of ideas from the shop floor, in particular ideas about practice that makes work safer, easier and more efficient. Change is never popular, but if such change can improve everyone's lives and is inclusive of those from the bottom to the top of the organisation, new ways of doing things become not only desirable, but also very practicable.

Creating a market in the production of safer, easier and more efficient ways of getting work done could be a responsibility taken on by regulatory authorities. Promoting such a campaign and encouraging consultants and design experts to come up with ideas that would help business, particularly small business, implement a safe work program is very much in keeping with government philosophy of steering not rowing. It is also an approach that builds on strengths and creates a market in virtue (J. Braithwaite 2005). The findings in this report and anecdotes from workplaces of all kinds point to the harsh reality that we forget risk or we tolerate risk when ease and efficiency entice us from the safest path. Creating a market in practices that are safe, easy, efficient, even fun creates forward momentum on safe work practices, arguably at a level that surpasses anything a regulator could achieve with the greatest of sanctioning powers.

Time is a precious resource for all businesses and individuals. Building safety messages and know-how into training courses for apprentices, celebrations and collegial events, story-telling over tea breaks and lunches, and through mass media are invaluable ways of spreading the word. Many workplaces represented in this survey seem to have mastered the art of talking about safety. But practicing safety consistently eludes a significant proportion. Practicing safety requires models to show the way, rewards and acknowledgement for safety achievements, and appreciation for those who are concerned

enough about safety to go the extra mile to identify risks and come up with solutions that fit the context. In an important sense, each individual worker has the capacity to be an inventor of safety for self and others. This can only occur, however, if support is forthcoming from management, government, industry associations and unions - powerful actors who, for the most part, not only constrain what workers do but also what they dare hope to achieve. Constraining what workers do is no doubt part of getting the job done and a duty of care. Constraining what they dare hope to achieve is to suffocate commitment, insightfulness, skill and human capital in circumstances where all these qualities are essential to ensure workplace safety.

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