# The impact of role distance and role succession on the safety expectations and subsequent behaviours of health and safety managers

Dissertation submitted in partial fulfilment of

the requirements for the Degree of

**Master of Science in Applied Psychology**

at the University of Canterbury

**Catherine Boyle**

**Supervised by Christopher Burt**

University of Canterbury

Department of Psychology

2019

# Table of Contents

# Acknowledgements

First and foremost, I would like to thank my primary supervisor Chris Burt. Your expertise in my chosen research area and the guidance you provided me throughout the course of my study helped to keep me on track and get me to the finish line. For this, I am very grateful. I would also like to thank my secondary supervisor Katharina Naswall, who assisted me on specific aspects of my research that pertained to her expertise. Thank you for your help and availability.

Secondly, I would like to thank my family; my parents Justin and Genevieve, and my siblings Jack, Lucy, and Matt. Thank you all for supporting me (and putting up with me) while I trudged through the journey that is Masters. I thank my parents for getting me through the entire course of my education and for believing in me that I could get to this point in my education. Without your emotional, mental, and financial support, I couldn't be where I am today.

Next I would like to thank my closest girl friends for the social distractions you all provided in amongst and right throughout the whirlwind that was my Masters journey. The fun, laughter and good times were much needed, especially in times of stress. I would also like to thank my APSY classmates for the support provided in these times of stress as we faced them all together.

I would next like to specifically thank my fellow classmate, flat mate and one of my closest friends, Kathryn. Not only did we experience this Masters journey together, but you saw my worst and most stressed sides at home and you never failed to pick me up, even when you were going through the same stress yourself. Knowing exactly what I needed to do, you also helped me with specific dissertation related problems, that I couldn't quite solve on my own, provided suggestions and ideas and were an amazing sound board for all things dissertation related and otherwise. I am ever so grateful and thank you with all my heart.

My friend, study buddy and councilor, Harriet. Thank you for the vents you listened to, the similar problems we shared and resolved together, and the laughs we had over what we thought were our failing research projects. Thank you for being a listening ear, the kindest friend, and a great study distraction. I appreciate so much having shared a similar journey with you and having your support right throughout the way.

And finally, Josh. My partner in all areas of life and my biggest supporter in all that I do. Your support and encouragement did not waver once across the course of my Masters. Whenever I felt like giving up you gave me the push I needed to keep going. Not only did you provide endless emotional support, but your technological skills were also put to good use in areas that I struggled with, and your engineering mind was utilized in assisting idea-making and problem-solving. You got me through the hardest times, as you always do, and I couldn't have done this without you. For all this and so much more, I will be eternally grateful.

**Abstract**

With the increasing demand to improve health and safety in today's working world, the need to identify the behaviours that drive injury, illness and accident prevention, and improve safety performance becomes apparent. The current study did this by exploring the safety expectations of health and safety managers as drivers of their safety behaviours, classifying managers into two core groups to identify differences in their safety expectations and subsequent safety behaviours. Safety behaviours were classified as safety compliance behaviours (e.g. following mandatory rules and regulations) or participation behaviours (voluntary safety activities to improve safety performance). The groups were based on a classification of career trajectory: near group managers were defined as participants who began work in the operational area of their organisation and moved into health and safety management, and far group managers were defined as participants who became educated into their health and safety management role. Near group managers were predicted to have lower (and therefore realistic) safety expectations due to their direct industry experience, and subsequently engage in more participatory safety behaviours than far group managers. A series of within and between group analyses were conducted to compare the near and far groups on their safety expectations and safety behaviours. Few significant between group differences were found across safety expectations and behaviours, however the direction of the differences in safety expectations indicated that near group managers overall possessed lower (realistic) expectations of employee safety and engaged in participatory safety behaviours slightly more than far group managers. Both groups overall engaged more in compliance behaviours, suggesting that participatory behaviour based interventions may be required for more engagement with these types of behaviours.

**Introduction**

The increased competition across industries and organisations in today's workforce promotes not only endless opportunities, but also challenges for employers when assembling productive and successful organisations in their given area. What employers prioritise when looking for managers and employees who will be most effective in their given industry and organisation, can vary widely. But is there a right or wrong employee for every given job? What is it that employers should be looking for when finding that perfect candidate? Early research on this phenomenon argues that the employer's preferences are dependent on the specifics of their selection process, which can be problematic when they are difficult to differentiate (Lewis & Sappington, 1993). Human resources practitioners and agencies are often faced with the difficulty of choosing new hires with experience or recent graduates out of high school or university with limited or no field training relative to their specific organisational needs (Dougherty & Van Gelder, 2015). Traditionally, high levels of education are preferable for workers with idiosyncratic skills, while low levels of education is argued to be preferable for more versatile workers with transferrable skills (Lewis & Sappington, 1993). While a common view is that training and education alone cannot exclusively replace experience, there is little research demonstrating the advantages of hiring experienced individuals (Dougherty & Van Gelder, 2015). Experience and education can only be taken within the context that they must be utilised in. Specific on-the-job problems, intuitively, are best solved by those with direct experience, while those without direct experience tend to focus on the more factual or narrow aspects of a problem (Dougherty & Van Gelder, 2015). How one chooses to gain their specific experience or education is driven by a number of idiosyncratic characteristics. In the current study, these characteristics are examined in the context of health and safety managers. Mangers working in high risk industries are responsible for the health, safety and wellbeing of employees working right throughout the all

organisational levels, whether that be out in a construction site, or inside an office. Therefore, they must have a wide awareness of all levels of safety within the organisational hierarchy.

Safety performance by individual employees plays a significant role in how organisations as a whole perform safety and is largely attributed to organisational culture, surrounding environments, leadership, and individual attitudes. In the marketplace today, safety performance is becoming more of an important differentiator in many industry sectors, and therefore organisations' expectations of employee safety performance are driven by ethical obligations as well as the pressures to remain competitive in the marketplace (Ivensky, 2016). To achieve top safety performance, it is important that organisations' safety expectations are clearly communicated to employees, so that they have realistic expectations and perform accordingly. The ultimate safety expectation philosophy is zero harm, which suggests zero occupational injuries and illnesses for all organisational members. However, this philosophy has not been achieved consistently in any organisation and is therefore an unrealistic expectation. While having this goal is important for the philosophy that no one should get harmed at work, its unrealistic nature can lead to the misallocation of resources that would be better suited in other areas of safety (Ivensky, 2016).

Safety performance is exhibited in the specific safety behaviours that employees and managers engage in. Safety behaviours are driven by safety attitudes, culture and climate, and safety leadership (O'Dea & Flin, 2001), however studies that have explored these relationships tend to focus on one specific industry or organization. While studies have looked at the safety behaviours of both employees and managers, this small area of research is largely centred on supervisory level managers. The current study however explores safety expectation and behaviour constructs from a multiple-industry perspective and in the context of executive level managers. Expectations about safety driven by the experience held by managers working in health and safety, whether that be through climbing the organisational

hierarchy, or through an educational path, were examined. In the context of this study, each of these transitions respectively dictate the role distance between the health and safety manager and the area that they manage. An experienced based background may influence how a manager identifies and oversees safety from a direct industry perspective, indicating a shorter role distance between their work and that of the area that they manage. An education-based background on the other hand may drive the management of safety from an academic perspective.

The introduction covers several literatures, beginning with an outline of how role succession, role distance and role transitions are defined in the context of the current study. While there is little research surrounding role distance and role trajectories for safety professionals, the current study explored these in general research terms and applied them to a safety context. The current study identifies two core managerial groups classified based on their role trajectory and role distance; these groups are explained and rationalised in this section also. The introduction continues with a discussion surrounding safety expectations and experience and how these may be drivers of behaviour; the first core part to this study. Safety expectations have been broken into a variety of areas which have been previously explored in other research. Safety expectations in relation to supervision, socialisation/induction processes, employee voice, safety participation and compliance, safety motivation, safety knowledge and rule bending are discussed.

The second core aspect of this study looks closely at the safety behaviours of health and safety professionals, both on their own, and in relation to safety expectations. Health and safety managers' behaviours and their role in safety are firstly discussed broadly. Behaviours are further broken into two core types of behaviour: safety compliance and safety participation. One of the core aims of the current study was to look at the differences between managers who do and do not actively engage in these types of behaviours. It also aimed to

find differences in the safety expectations of the two managerial groups and look at the direct links between these safety expectations and subsequent safety behaviours.

**Role Succession, Role Distance and Role Transitions**

The current study defines experience by the succession of roles or education path that managers have taken to achieve a position in health and safety management (i.e. the transition of roles taken to get to their current positions). Thus, the experiential distance from their current position to the area they oversee is defined by the specific type of role transition taken to reach their current role. There are a few types of role transitions explored in the literature. Three types that are discussed are defined as organizational newcomers, internal job changers, and organizational insiders (Dunford, Shipp, Angermeier, & Boss, 2012). Organisational newcomers are recently hired employees in the process of becoming socialized into their work roles, groups and the organization (Wanous, 1991). Employees who make lateral changes or are promoted within their organisation are referred to as internal job changers. These employees need to re-socialize into their new role with all its new tasks, skills and surrounding people (Feldman, 1989). In contrast, employees who have been in their jobs so long that they have no significant changes at work and therefore no longer need to undertake socialisation processes, are referred to as organisational insiders (Wanous, 1991). Individuals in each of these role transition stages experience different stages of the socialisation process. For example, joining a new organisation and making an internal job change (e.g. a promotion or transfer) requires extensive socialisation processes, which in some cases can involve a resocialization process to the new roles and tasks (Dunford et al., 2012). In the current study, role transitions were used to classify the two groups. These were defined based on how much experience a safety manager has had and what role transitions they have taken to get to their role in safety management. The first group was labelled *near group managers*, defined as individuals that have started out working in the area that they

currently manage (i.e. production/operations) and have transitioned through the organisational hierarchy into the role of health and safety manager. *Near group managers* are therefore metaphorically near (close) to the area that they are managing due to their first-hand experience working in it (e.g. started their working life as a forestry harvester and are now a health and safety manager for a forestry company). The second group, labelled *far group managers,* are defined as those who have been educated into their role either through acquiring an education qualification, transitioning into a health and safety manager role from a general manager role, or have always worked in the area of health and safety. *Far group managers* therefore are metaphorically further (far) away from the area they are managing due to their lack of direct first-hand experience working in the area they now manage. Near group managers are more likely to be internal job changers, as this is a lateral transition. Far group managers in contrast could be classed as organisational newcomers if they have come from another organisation or industry, and have moved into a new role in a different organisation and/or industry, where they must be socialized into their new safety work roles, safety groups, and the organization.

Other perspectives on role transitions in the literature attend to internal and external promotion into roles, with regard to job mobility and hiring. Both internal mobility and external hiring have been found to affect subsequent outcomes such as performance, pay and mobility (Greve & Fujiwara-Greve, 2003). A study by Bidwell (2011) found that workers promoted into jobs have better performance for the first two years than workers hired into similar jobs and tend not to leave from these jobs voluntarily or involuntarily and that external hires tended to have higher levels of experience and education (Bidwell, 2011). Role transitions from the acquisition of an education qualification were not explored as an alternative transition in this study and has not been evident in other literature explored. The current research therefore looked more closely at role transitions by comparing an

experience-based transition to a qualification-based transition. Far group managers by definition will be more likely to have more safety-related education credentials, and less first-hand experience than the near group managers. To the author's knowledge, the literature has not explored role succession in the context of health and safety.

While role distance, role succession and role transitions are used to define the two managerial groups in the current study, the core areas of safety that these groups will be compared across are firstly, their safety expectations, and secondly, their safety behaviours. Both of these components of safety are explored separately and in relation to one another.

**Expectations, Experience and Expectation Driven Behaviour**

Expectations, in a general sense, have been argued to be driven and formulated by previous experience (Burt, 2015). In the context of safety, research has found that expectations about safety can be unrealistic, particularly by new employees. Often new recruits will enter a workplace with unrealistically high safety expectations that do not match the reality of how safety is managed in the workspace (Burt, Williams, & Wallis, 2012). New employees have the tendency to assume they will get more help with familiarizing themselves with work factors upon commencement on the job, such as the job's equipment, the work environment, and operations and procedures, however, this may not always occur unless someone is formally assigned to carry this out (Burt, 2015). When new employees assume that this is occurring, they may engage in riskier behaviours on the job due to their expectation that others around them will compensate for their lack of experience (Burt, 2015). When expectations are high like this, employees can be exposed to more risk, and consequently, an increased chance of accidents (Burt, 2015). Expectations and perceptions of worker safety have been predominately examined in the context of, and in relation to industrial accidents, in that understanding how safety is perceived and how expectations of

safety are formulated then helps understand the industrial accident process (Guastello & Guastello, 1988; see also Hayes, Perander, Smecko, Trask, 1998; Murphey, Sturdivant, & Gershon, 1993). A study by Hayes, Perander, Smecko and Trask (1998), for example, tested a scale examining job safety, co-worker safety, supervisor safety, management safety practices, and satisfaction with the safety program and found correlations with these factors and accident rates, physical, psychological, and sleep complaints (Hayes, Perander, Smecko & Trask, 1998). While the current study explored similar constructs, it isolated these variables in the context of safety expectations in relation to safety behaviour outcomes, rather than accident and incident outcomes as it argues that safety behaviours are the indirect link to accidents. While the disparity between the safety expectations of both new employees and managers have been compared in recent literature (Burt et al., 2012), the current study also aimed to isolate managers' safety expectations on their own. The assumption in the current study was that far group managers would be more likely to have unrealistic expectations as they have not experienced the realities of safety at a lower level than they are currently working. In contrast, near group managers who have transitioned from an employee-level role, would likely have more realistic expectations due to their direct industry experience.

The current study not only aims to decipher the differences between the groups of managers that hold realistic or unrealistic expectations but also looks at safety expectations as a reflection of safety behaviours. The relationship between these two variables can be explained by role theory. Role theory explains how individuals accumulate characteristic behaviour patterns or roles and how they develop into expectations (Biddle, 1986). It posits that individuals' membership in in social groups guide their behaviours and that the roles that they play in these groups communicate expectations for behaviour (Biddle, 1986). What the current study draws from this theory is that health and safety managers will have accumulated their characteristic behaviour patterns and expectations based on their previous job roles and

their membership in previous and current organisations will shape the way they operate and their attitude towards safety. Near group managers expectations therefore will have been shaped from experience gained at a more operational level, acquired alongside members of a social group also working at this level. Whereas far group managers' expectations will have been shaped from the safety knowledge they have acquired or the role that they transitioned from, or alternatively, from their previous safety role. Managers' attitudes towards, and expectations of safety can often be largely influenced by the safety expectations previously communicated to them. For example, an organisation that does not clearly communicate their expectations of safety performance through management practices will be less likely to influence the attitudes and behaviours of individual employees (Kehoe & Wright, 2013). Employees working under managers like this may then acquire the same unclear safety performance expectations and may not engage in the appropriate safety behaviours. Conversely, those whose expectations have been shaped by clear communication of safety performance expectations will be likely to engage in the appropriate safety behaviours themselves, and these behaviours and attitudes can then be passed on.

There is other research that has looked at the relationship between attitudes, behaviours and expectations across managers and employees more closely. For example, O'Dea and Flin (2001) tested the idea that experienced managers are more open to the participation of subordinates in occupational safety. They explored the relationship between site managers' level of experience and style of leadership with their safety attitudes and behaviours, as well as their perceptions of best practice in safety leadership and beliefs about safety issues, in the oil and gas industry. Their results did not support their predictions: experience was not found to be a core determiner of leadership style or attitudes to safety (O'Dea & Flin, 2001). More recent research on expectation driven behaviour by Newaz, Davis, Jefferies and Pillay (2018) supports that if management provides workers with

plentiful information on safety issues, then they can expect a better outcome of safety obligation, which eventually leads to the safety behaviour of workers. This research also found that manager and supervisor behaviour impacts workers' behaviour through the mediating role of the psychological contract of safety (Newaz, Davis, Jefferies, & Pillay, 2018). The psychological contract of safety established between managers and employees is reflected in the exchange of safety expectations, knowledge and behaviour. Managers' expectations of the safety behaviours of employees are influenced by the way that the managers' themselves engage with safety, which then influences how employees engage with it in turn (Newaz et al., 2018).

The current research addressed some points of difference from these studies. Where experience in O'Dea and Flin's study was based on number of years in the job, the current study used the sequence of mangers' role transitions to measure experience; a broader categorisation process. The current study also looked at individuals working in a health and safety managerial capacity, exclusively, rather than site managers working at an operational level. It also targeted these managers from a range of industries and organisations, rather than just from one industry exclusively. Research by Newaz et al. (2018) demonstrates a pre-existing relationship between safety expectations and behaviours, in that employee expectations are driven by the safety behaviours of managers, however, the current study argues that managers' behaviours are dictated by their safety expectations.

**Safety Expectation Areas**

As previously discussed, the core aims of this research were to look at differences in safety expectations across the two managerial groups, but also in relation to, and as a reflection of, their safety behaviours. There are a number of areas of safety that managers

hold expectations for. The current study looked at expectations surrounding safety supervision, voice, induction and socialisation (familiarisation), knowledge, motivation, and rule-bending. Based on the classifications of near and far group managers of health and safety, a number of specific hypotheses were formed. The following sections discuss each variable and provide justification for each specific hypothesis.

*Supervision*

The manner in which safety is supervised is particularly important for employees' performance of safety. A lack of appropriate safety supervision has been found to lead to accidents in a number of industries (Lenne, Salmon, Liu, & Trotter, 2012). Supervision is particularly necessary for employees in junior roles, and for those who are new to an organisation. Supervisory guidance for new employees needs to be attentive, monitored at an accessible and close distance, and continuous (Morrongiello, et al., 2008). The proximity of the supervisor to the new employee is important so that they are able to intercept potential risky behaviour. Managers therefore need to ensure that there is someone within the team who is assigned to this role for a specified period of time (Burt, 2015).

In order for employees to engage with safety, supervisors need to demonstrate that they too are engaged with it. However, there are a number of factors that hinder supervisors' engagement in safety, including role overload, production demands, formal procedures, and workforce characteristics (Conchie, Moon, & Duncan, 2013). Nahrgang, Morgeson and Hofmann (2001) found that job demands can negatively impact safety behaviours, in that both psychological and energy demands associated with dealing with and avoiding perceived danger from risks and hazards cause burnout and therefore prevent engagement with safety (Nahrganag, Morgeson, & Hofmann, 2011). However, perceived autonomy and social support at both the organisational and employee level, have been found to be factors that

promote supervisor engagement with safety and lead employees to engage in safe behaviours (Conchie et al., 2013). When supervisors are granted a level of autonomy in their role, they are not only more likely to engage with safety, but they will gain the ability to construct appropriate behaviours in times of uncertainty. Having more control over their roles helps them to meet demands while being perceptive to when things are going wrong (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). When supervisors are provided with adequate job resources to deal with safety, they are able to fully engage with it, and their safety behaviours are positively impacted (Nahrganag et al., 2011). Social support is also important for engagement with safety, whether that be by the organisation, supervisors or co-workers. Turner, Hershcovis and Walls (2010) found that support from co-workers proved important in ensuring safety when job demands increased (Turner, Hershcovis, & Walls, 2010). Managers need to be aware of supervisory constraints and responsibilities so that they can ensure that adequate supervision is accessible, especially to new employees. Thus, the current study predicted that health and safety managers' ability to both acknowledge and act on supervisory constraints is determined by their previous experience and how metaphorically close (near or far) they are to the area they oversee. Due to their direct industry experience, near group managers were predicted to have the relevant experience to understand supervisory needs and constraints, whereas far group managers were predicted to have less industry experience and would therefore base their supervisory awareness on knowledge. The following hypothesis therefore was proposed:

***Hypothesis 1.*** *Near group managers of health and safety will score lower on dimensions of expectations about supervision in a safety context, when compared to far group managers of safety.*

*Socialization/Induction Processes*

The induction process has been described as series of arrangements that are created to familiarise a new employee with an organisation which includes its safety rules and guidelines for general employment (Lashley & Best, 2002). Socialisation on the other hand refers to the acquisition of knowledge about the personalities, interests, attitudes and behaviours of new work groups and colleagues (Ardts & van der Velde, 2001) through the interaction between the social system and the new employee who is entering it (Antonacopoulou & Guttel, 2010). Where induction entails a procedural process to ensure that standards are met and legislation is followed, socialisation has a stronger focus on personal aspects of the process such as getting to know the people in the organisation, the organisational culture and any unwritten rules that may be salient (Lewis, Thomas, & Bradley, 2012). As the induction into an organisation is the first process that occurs upon an employee's commencement on a new job, it is also where the employee's first impressions of the organisation are formed, and where the organisation's standards are set and presented to the employee. It is important therefore that the induction processes are used to harness the employee's immediate engagement with not only the role itself, but with the elements of safety that the role entails (Lewis et al., 2012). Induction and socialization processes help set realistic expectations for employees so they have a realistic preview of the scope of their role (Burt, 2015), both generally and with regards to safety. It is important that the induction processes imbed safety awareness by assessing and aligning safety expectations with how safety is conducted in the given workplace. Safety expectations and safety realities can be aligned in on-boarding strategies. On-boarding strategies are designed to facilitate socialisation of new employees (Lewis et al., 2012), reduce uncertainty in their new role, help them make sense of their new environment, and provide them with the necessary resources to be adequately set up to perform their role to the appropriate standard (Klein, Polin, & Sutton,

2015). On-boarding strategies can be exhibited through either communication (e.g. a welcome letter), resources (e.g. company intranet) and/or training (e.g. orientation training). Given that these processes are conducted adequately and in accordance with the organizational environment, risks that are associated with new employee safety can be reduced upon their commencement in the role (Burt, 2015).

The extent to which a health and safety manager is aware of the value that embedding safety practices into these early stages of employment will be reflected in the safety expectations that they hold surrounding induction and socialisation. Due to near group managers having started out at an employee level in their area, the assumption in the current study was that they will have previously incurred these when they were an employee. This direct experience will have shaped their expectations about these familiarisation processes and how they operate. Therefore they will be likely to hold more realistic expectations surrounding the realities of these processes. Far group managers in contrast may not have incurred the induction and socialisation processes upon their commencement into the role as their career trajectory may be such that they came into their current role through another managerial position or an educational qualification. Due to this lack of direct experience with these processes, they may not be aware of what occurs during them and therefore may possess more unrealistic expectations about socialisation and induction processes. From these conclusions, the following hypothesis is proposed:

*Hypothesis 2. Near group managers of health and safety will score lower on dimensions of expectations about socialization and induction processes in the workplace, compared to far group managers of safety.*

*Voice*

The literature on employee voicing stems back to the 1970s. Hirschman (1970) defines voice "as any attempt at all to change, rather than to escape from, an objectionable state of affairs (Hirschman, 1970)." In the context of workplace safety, voice refers to any effort made to reduce the potential for injury (Tucker and Turner, 2011) and making attempts to create a safer workplace. Hirschman (1970) argues that voicing can draw managers' attention to problems and how to address them and employees' attention to any potential decline in the safety conditions at work (Hirschman, 1970).

Often situations arise in a workplace that pronounce how safe a workplace is; for example, a workplace injury, changes in safety at work, or an increase in how hazardous working conditions are. How these situations are perceived by the organisation can be reflected in their behaviours and how they respond to safety, either through their adherence to safety, or their direct experience of it (Tucker & Turner, 2014). For example, Robinson (1988) argues that experiences of safety impact peoples' willingness to be part of a collective voice (Robinson, 1988). Barling, Kelloway and Iverson (2003) found that experience of a workplace injury can be a predictor of voice by actively identifying the source from which the injury was caused. Tucker and Turner (2014) found that when faced with injuries, there is a higher likelihood of employees speaking up than when being presented with information about hazardous work conditions (Tucker & Turner, 2014), suggesting that decline in the organisation must be present for employees to take action. This also supports findings by Hirschman (1970) and Breslin, Polzer, MacEachen, Morrongiello and Shannon (2007).

It is important that employees feel they are able to voice their safety concerns in their workplace, knowing that these concerns will be listened to and addressed (Burt, Cottle, Naswall & Williams, 2013; Cree & Kelloway, 1997). Many organisations fail to create a culture that encourages the voicing of any safety concerns and often people choose to leave the organization as a result (Burt, 2015). When employees do not voice safety concerns, they

are more susceptible to workplace accidents. If an organization promotes a safety voicing culture, however, not only will employees feel safe to voice their safety concerns, but they will be kept safe in the workplace (Burt, 2015).

Employees' ability to raise safety issues with management has significant advantages for organisations, especially if these issues are raised before they escalate into an accident. This is important because it reduces the social and economic costs associated with injuries, poor employee morale and lost productivity (Mullen, 2005). Therefore, it is important that safety issues are not only made aware to employees in organisations, but that they are able and willing to raise these issues, should they notice them in the workplace. To feel safe in doing this, employees must perceive management as being receptive of their contributions and react well to employee concerns. A study by Mullen (2004) found that uncertainty about managers' reactions were a large contributing factor to not voicing their concerns (Mullen, 2004). Managers need to be made aware of safety issues or the negative outcomes that result from a lack of communication about issues so they can then develop and integrate interventions to address them (Mullen, 2005). Although addressing organisational issues and finding solutions is often a managerial activity, identifying issues is relevant for employees at all levels of an organisation as individuals who actually perform the work are better able to identify safety issues because they are fully part of it.

The current study bases its assumptions surrounding safety voicing on these empirically derived findings: it assumes that employees performing the operational work in organisations have a greater understanding of the safety issues that can arise within it. Therefore, managers who began their career in this line of work, will take their understanding gained through this role into their managerial role and their safety expectations should reflect this accordingly. Managers in this position may consequently understand that employees do not always feel safe to voice their safety concerns and will compensate for this by engaging

in behaviours that promote employee safety voicing. It is assumed that near group managers will know the realities of safety voicing due to their direct experience working in that workspace and will be more realistic about their expectations. Far group managers however may assume that employees will be likely to voice their safety concerns when they arise, which can be an unrealistic expectation. Based on these conclusions, the following hypothesis was proposed:

*Hypothesis 3.* *Near group managers of health and safety will score lower on expectations about employee voice in a safety context compared to far group managers of safety.*

### Safety Participation and Compliance

Safety performance can be conducted in the form of safety compliance and/or safety participation. Safety compliance refers to activities that are necessary to carry out in order to maintain workplace safety such as wearing personal protective equipment (Neal & Griffin, 2006), complying with organisational safety rules and regulations, and following safety procedures (Griffin & Neal, 2000). These are behaviours that all employees are expected to carry out. Safety participation on the other hand is more voluntary and entails behaviours beyond a workers' formal role, for example, communicating safety concerns to co-workers, participation in safety meetings, and promoting safety programmes in the organisation (Griffin & Hu, 2013). Safety compliance refers to in-role behaviour, whereas safety participation refers to extra-role behaviour (Clarke & Ward, 2006). These behaviours contribute to the overall organisation-wide improvement of safety and its safety program (Mullen, 2005) although they are not always insistently pushed on employees to the same extent as safety compliance behaviours. However, both safety compliance and participation

are necessary for developing a safety-supportive environment (Griffin & Neal, 2000) and therefore were both behaviours of interest in the current study.

The current study predicted differences in the near and far groups' expectations about employee safety compliance and participation behaviours. The assumption was that near group managers are aware of the extent to which employee behaviours are compliant and participatory in the workplace due to their direct past experience working in that area and having engaged in these behaviours themselves. Far group managers may assume that employees consistently engage in these types of behaviours when in fact employees often need reminding of when and where to do so. They may therefore possess unrealistic expectations of employee safety compliance and participation. The following hypothesis was proposed:

**Hypothesis 4.** *Near group managers of health and safety will score lower on expectations about safety participation and compliance compared to near group managers of safety.*

### *Safety Motivation*

Safety motivation has been argued to be essential in enhancing safety behaviours among employees (Hedlund, Gummesson, Rydell & Andersson, 2016). Despite efforts to improve the implementation of safety regulations in workplaces, there are still a number of factors that prevent safety regulations from being properly followed. Many organisations lack the motivation to implement health and safety measures (Kwon & Kim, 2013). Lack of safety motivation is reflected through the level of safety behaviours, thus, the stronger the safety motivation amongst employees, the more willing they are to engage in safe behaviours (Chen & Chen, 2014). Research has found relationships between motivation with factors such as goals, leadership tactics, safety climate, participation and compliance (Hedlund, Ateg,

Andersson, & Rosen, 2010). Leadership tactics, for example, refers to the important role that leaders play in promoting safety at work. Safety motivation has been argued to be strongly determined by leadership and the safety standards of the leader, therefore they can improve safety participation and employee safety performance using their empowering attitudes (Martinez-Corcoles, Gracia, Tomas, Peiro, & Schobel, 2013). Leadership can also influence employee motivation through setting realistic expectations, communicating goals, creating an open relationship between management and employees, and using reward systems (Hedlund et al., 2010). These types of leader behaviours also help gain support for safety policies and decisions, and motivate employees to engage with them. Influential tactics such as these help with engaging employees in voluntary safety activities, such as safety participation. They are also more likely to perceive safety as a job responsibility (Hedlund et al., 2010). Hofmann and Morgeson (1999) found that if employees perceive themselves to have a good relationship with their manager, they were more likely to express safety concerns and were generally more committed to safety at their workplace, which also resulted in fewer occupational incidents (Hofman & Morgeson, 1999). This reflects not only a motivation to engage with safety but also ties in with the literature on safety voicing driven by safety motivation.

The assumption in the current study is that near group managers are likely to have both seen and experienced varying levels of safety motivation in the operating workspace and therefore know the realities of it, which are not always consistent. Whereas far group managers are at risk of assuming that employees are always motivated to engage in safety behaviours due to their lack of awareness and experience of the varying levels of motivation in an operational context. They may therefore have unrealistic expectations of employee safety motivation. From these assumptions, the following hypothesis was proposed:

***Hypothesis 5.*** *Near group managers of health and safety will score lower on expectations about safety motivation compared to near group managers of safety.*

### *Safety Knowledge*

Safety knowledge is often discussed in conjunction with safety skill and safety motivation. These three constructs have been portrayed as determinants of safety performance across a wide range of contexts as safety behaviour is argued to be determined by safety knowledge and the associated skills, given that they have the motivation to do so (Neal, Griffin, & Hart, 2000). In order to comply with safety procedures, individuals must understand how to perform work safely and have the skills to do this. It is argued that safety knowledge is more relevant for safety compliance rather than safety participation, due to the fact that these activities require more generic knowledge. Motivation is often associated with safety participation, due to the voluntary element they entail, whereas compliance is generally instructed. Neal and Griffin (1997) found that individual safety knowledge mediates a portion of the relationship between safety climate and safety performance (Neal & Griffin, 1997). Safety compliance can have independent effects on knowledge and motivation, and therefore is an important determinant of safety behaviour. Incorporating assessments of knowledge, motivation, compliance, and participation in safety monitoring systems will allow the effective measurement of safety operations. These findings have been argued to be beneficial for guiding the management of safety and associated practices due to their direct practical application (Neal et al., 2000).

Both safety motivation and safety knowledge are at the heart of Christian, Bradley, Wallace, and Burke's (2009) Integrative model of Workplace Safety. This model is built upon Neal and Griffin's (2004) model of workplace safety and grounded in Campbell,

McCloy, Oppler and Sager's (1993) theory of performance which identifies three proximal determinants of individual's performance; knowledge, skills and motivation to perform. Neal and Griffin (2004) posit that antecedents such as safety climate or personality have a direct influence on safety motivation and knowledge with then in turn influences safety performance behaviours which are linked to safety outcomes, such as accidents and injuries (Neal & Griffin, 2004). Within Christian et al.'s (2009) integrative model of workplace safety, motivation and knowledge have been identified as proximal personal-related factors that are influenced by distal situation-related factors and distal person-related factors, and lead to safety performance behaviours such as safety compliance and safety participation (Christian et al., 2009). Safety knowledge has been argued to be a proximal person-related factor within the conceptual model because knowing how to perform safely permits an ability to engage in safe behaviours. Safety motivation is also argued to be a proximal person-related factor because it reflects a willingness to exert the effort required to engage in safety behaviours as they understand the valence associated with doing so (Christian et al., 2009).

The current study argues that near group managers may have a greater awareness of the variations in employees' safety knowledge, whereas far group managers may be at risk of assuming that all employees have an adequate level of knowledge and may not be aware of how often employee knowledge needs to be replenished. They may therefore have unrealistic expectations of employee safety knowledge. The following hypothesis was proposed:

*Hypothesis 6. Near group managers of health and safety will score lower on expectations about safety knowledge compared to far group managers of safety.*

### Reactions to New Employees

Managers have varying approaches to handling the introduction of a new employee in their organisation. For many, the time taken to induct, socialise, train and evaluate a new employee into their new role can be seen as a chore and not always perceived as a priority due to time constraints or production pressures (Ivensky, 2016). In these cases, the familiarization processes of the new employee can be pushed aside in place of other priorities. Sometimes managers will delegate these processes to other employees. However when they do this, they can become out of touch with the new-hire's progress and the training program (Ryan, 1989). It is important that managers lead by example and engage in the induction and socialisation processes themselves so that employees know to engage in these processes when a new employee joins. Time and effort invested in the early stage of employment will result in long-term value to the employer with regard to the quality of performance from the new employee and the trust they can then have in them to perform well (Ryan, 1989).

How employees react to new employees is also a reflection of the organisation's socialization and induction processes and how they on-board new employees. When organisations prioritize and engage in multiple induction and on-boarding strategies to familiarise new employees, the socialisation into their new role helps them to perform better and integrate into the organisation more successfully (Klein, Polin, & Sutton, 2015). However, in many companies, there is a discrepancy between what organisations report they do to socialise new employees and the new employees' actual experience of these processes (Klein et al., 2015). It is important that this gap is reduced, and that new employee expectations and organisational processes are aligned. Reports from newcomers state that they find on-boarding practices to be more helpful when they are required, rather than just encouraged (Klein et al., 2015). The current study aims to differentiate whether health and safety managers' differing career backgrounds influence their expectations about how

employees in their organisations react to new employees. The following hypothesis therefore was proposed:

**Hypothesis 7.** *Near group managers will score lower on expectation about reactions to new employees than far group managers*

### Rule Bending

Rule bending occurs when individuals make deliberate short cuts between two points, which over time, can become a routine violation. Violations are deliberate deviations from the written rules (Lawton, 1998), generally conducted out of a desire to get the job done. Chmiel, Laurent and Hansez (2017) argue that violations can be either routine or situational. Routine violations are those that are related to an individual's available effort, whereas situational violations are those triggered by the organisation (Reason, 1990). Christian et al.'s (2009) general model of safety performance identifies distal and proximal factors that have an influence on engagement with safety violations, such as the working situations of employees, their safety motivation, knowledge and skills (Christian et al., 2009). Just as these factors can influence the extent to which an individual will engage in violation behaviours, so too can these factors influence how likely they are to engage in participation behaviours (Chmiel et al., 2017). It is important therefore that organisations discourage rule bending behaviours and instead promote the importance of safety participation behaviours so that employees can make informed decisions about the appropriate types of safety behaviours to engage in.

Rule-breaking behaviours become consolidated when making short cuts does not lead to any negative consequences, at which point they become benign and they go unpunished. Often people believe that if they are skilled in their area, they are able to avoid the

consequences associated with a short cut to fulfil their tasks in that area (McKenna, 1993). These rule-bending behaviours can then become automatic and unconscious and consequently are normalised within any given work group (Lawton, 1998). However rule-breaking can be minimised by providing employees with the adequate knowledge of the rules and by fostering safety motivation (Lawton, 1998). Managers' awareness of employee rule breaking is important so that they can take appropriate action to ensure employees do not engage in it. This is where the current research steps in: managers who are aware of employees who cut corners to meet job demands will address this and take the appropriate action. Whereas managers who are not aware of these behaviours will not know to take the appropriate action. The current study looked at the differences across near and far group managers in their ability to detect these behaviours through the extent to which their expectations about rule-breaking in their organisation are realistic or not.

The assumption in the current study was that far group managers are more likely to abide by compliance over participatory behaviours, so they too may then assume that employees are also compliant and therefore do not bend the rules. Whereas near group managers, having had direct experience witnessing and perhaps even engaging in rule bending behaviours may have more realistic expectations about how often and to what extent rule bending occurs in the work space.

***Hypothesis 8.*** *In contrast to the other dimensions of safety expectations, near group managers of health and safety will score higher on expectations about rule breaking compared to far group managers.*

**Safety Behaviours**

The second core component of the current study looks at the safety behaviours of managers of health and safety. The current study argues that health and safety managers' safety expectations will be reflected in the types of safety behaviours that they engage in. The two main expressions of safety behaviours explored in the current study are safety compliance behaviours, and safety participatory behaviours. The following section outlines the differences in these two types of behaviours, the health and safety managers' role in these safety behaviours, and the associated hypotheses of engagement in these behaviours across the near and far group managers.

*Safety Compliance versus Safety Participation*

As previously discussed in the expectation section, safety performance can be exhibited under two main forms; safety compliance and safety participation. Safety compliance and participation in the current study were explored as both an expectation variable, and a dichotomous behavioural variable. In the behavioural component of this study, compliance behaviours are argued to be fundamental to maintaining organisational safety standards. However, due to the voluntary nature of participation safety behaviours and the fact that they are engaged in less frequently, they were of particular interest in the current study. There are a number of benefits to integrating and encouraging participatory safety behaviours. However, they require initiative and an ability to identify when they are necessary to engage in, for example, communicating safety concerns to co-workers when they see them (Griffin & Hu, 2013). When health and safety processes and behaviours are integrated into an organisation successfully, both economic and performance standards are able to be improved (Tappura, Sievanen, Heikkila, Jussila, & Neononen, 2014).

The current study explores safety compliance and participation as two distinct constructs. However current research on these constructs have identified relationships between the two. For example Neal and Griffin (2006) found that employees who stated that they engaged in discretionary safety activities (safety participation) were then more likely to comply with mandatory safety rules and regulations (Neal & Griffin, 2006). Hofmann, Morgeson and Gerras (2003) argue that when people consider safety participation behaviours as part of their job, they are more likely to carry them out (Hofmann et al., 2003). Therefore how people perceive safety participation behaviours in relation to their job can influence their compliance with mandatory rules and regulations (Chmiel et al., 2017). The current study aimed to identify differences in the factors associated with engagement with safety compliance and participation behaviours across near and far group managers based on the empirically established relationships in the literature: the relationships found between safety knowledge and safety compliance supports that education in the subject leads to engagement with rules and protocol (Neal & Griffin, 2006; Hofmann et al., 2003; Chmiel et al., 2017). Far group managers are argued to have the safety knowledge which will lead them to engage more in safety compliance behaviours. The relationships found between safety motivation and safety participation behaviours supports that motivation leads to a greater likelihood of engaging in voluntary behaviours. (Neal & Griffin, 2006; Hofmann et al., 2003; Chmiel et al., 2017). Near group managers are argued to have more motivation towards engaging with safety due to their direct industry experience and therefore will engage more in participation behaviours.

***Managers' Safety Behaviour and their Role in Safety***

Safety leadership has been explored in a number of safety contexts. It has been proven in multiple instances to be an important factor in shaping a positive safety culture and climate when carried out by a receptive leader. For example, a study by Cooper (1998) found that communication surrounding company policy between management and the 'shop floor' is best facilitated by occupational health and safety professionals (Cooper, 1998). This suggests that safety policy may be better presented with the assistance of someone who is qualified in safety, rather than coming directly from general managers who are more removed. A more recent study by Wu, Lin and Sen-Yu (2010) looked at factors of safety culture including safety informing by operations managers, safety caring by employers, and safety coordination and regulation by safety professionals. They found that safety informing by operations managers was the most significant predictor of safety culture (Wu et al., 2010). This suggests that employees are more perceptive to instruction by fellow operational managers, rather than from a manager who may be removed from the operational area. The conclusion of these two studies is that safety, promoted at an operational level, best emulates safety performance and effectiveness and that this is best facilitated by occupational health and safety professionals (Wu et al., 2010). While both studies acknowledge that different grades of managers play different roles in safety, they focus only on the lower managerial levels, such as supervisors (Wu et al., 2010). In general, research surrounding the role of senior or mid-level managers within the occupational health and safety context is limited (O'dea & Flin, 2003). This is an area of research that the current study addresses in that it looks at the metaphorical distance between senior level managers and employees rather than between supervisors and employees.

The current study notes the importance in acknowledging the variations in how organisations manage safety. Variations in safety management may be due to industry, leadership, organizational structure and many other factors (Lin & Li, 2004). Therefore, how

safety is emulated in one organization may not have a carry-over effect or be a similarly effective in another organization (Burt, 2015). Studies previously conducted in the construction and manufacturing industries argue there is a need to support managers' organisational health and safety roles and competencies in order to genuinely improve organisational health and safety (Tappura et al., 2014). However methods to make these improvements may not be able to be generalised across different industries as they will often have different health and safety priorities. The current study therefore controlled for a number of variables that could influence the interpretation of behaviours and expectations, such as country of work, number of employees in the organisation, the number of years they have worked in their current role, the industry they are in, and the safety risk profile of jobs. These are discussed in the method section.

Due to the assumption that near group managers are aware of the realities of the safety space due to their experience in it, they were predicted to engage more in participatory behaviours and tasks that address and compensate for their realistic safety expectations. Far group managers in contrast were assumed to rely more on compliance behaviours solely and may not see the need to engage in participatory safety behaviours as they may assume that employees engage in these behaviours on their own. Based on what research has found and the subsequent assumptions made, the following hypothesis is proposed.

***Hypothesis 9.*** Test predicted between group differences between health and safety managers' engagement with compliance behaviours in comparison to participation safety behaviours and how much value they place on each of these behaviours:

*It is hypothesised that near group managers of health and safety will spend a larger portion of time engaging in participation behaviours and place greater importance on these behaviours compared to far group managers of health and safety, and conversely, far group*

*managers will engage in compliance behaviours more than near group managers, and place greater importance on these behaviours.*

### Relationship between Expectations and Behaviours

As previously discussed, the aim of the current study was to explore safety expectations and behaviours both separately and in relation to each other. Research by Newaz et al. (2018) has eluded to a pre-existing relationship. They identified that how psychological contract is perceived by employees helps employees attach meaning of safety perceptions to mutual obligations, which in turn affects their safety behaviour (Newaz et al., 2018). Employees experience this relationship differently, depending on the type of health and safety management they are under, which in turn influences the psychological contract of safety between them and their manager, and shapes their own expectations of safety. For example, an employee working for, or alongside, a manager who used to work in their position may be more likely to follow the safety behaviours of that manager, given their direct experience working in at their level. Conversely, an employee working under a manager who is an organisational newcomer may not be as inclined to follow their safety behaviours due to their unfamiliarity with the position. Under the pretences of the current study, it is assumed that the group differences will be reflected in this relationship, in that managers that are committed to safety will engage more in safety participation behaviours, because they want to go above what is expected of them by following compliance standards. Their behaviours in this case may be driven by their expectations of safety in their organisation. It is assumed that near group managers will have lower expectations of safety and that this will be reflected in engagement with safety participation behaviours.

Based on these relationships, the final hypothesis was proposed:

***Hypothesis 10.*** *Near group managers will have lower (more realistic) safety expectations which will be related to engagement with more safety participatory behaviours than far group managers. Far group managers will have higher safety expectations which will be related to fewer participatory behaviours than near group managers (and more compliance behaviours).*

## Method

### Design

A quasi-experimental design was employed as the research was interested in a variable that could not be randomly assigned. Participants were assigned to groups based on their career trajectory. Participants' safety expectations and safety behaviours were measured using a survey. Groups were predicted to differ on safety expectations and their safety behaviour.

### Participants and Sampling

The sample was obtained from a population of health and safety professionals from industries and organisations across New Zealand and Australia. Due to the broad advertising of the research participation opportunity it is not possible to calculate a response rate. The current study used a haphazard sampling method with a voluntary response component. Only participants who spoke English as their first language were eligible to participate as the survey was in English.

Initially participants were recruited from LinkedIn. A link to the research survey and a brief description of the research were posted to a number of health and safety groups on LinkedIn, including: Occupational health and safety Network, The Safety and Risk Engineer, Occupational Health and Safety, OSHA Discussion & Support/Occupational safety/EH & S/HSE, Work health safety Leadership [Australia & International], Construction Environmental health and safety, EHSQ Elite (No. 1 in safety) Environmental health and safety Sustainability, Mining Industry Professionals, Behavioural safety, Global health and safety Jobs, Focuss Service Group – Construction safety Specialist, safety Institute of Australia Ltd., health and safety Consultants – UK, Health and Safety Professionals UK, British safety Council, safety Group. The response from these groups was low and therefore the recruitment process was expanded to include health and safety Facebook groups, universities, health and safety sites, organisations with a health and safety department, and health and safety organisations. This created a broader participant pool from a wide variety of health and safety platforms. Institutions and organisations that were approached included Worksafe, the New Zealand Institute of Safety Management, Human Resources Institute of New Zealand, the Chamber of Commerce, Health and Safety Association of New Zealand, and Advanced Safety. Worksafe promoted the research survey through their data and research platform. The Human Resources Institute of New Zealand and the Chamber of Commerce selected candidates who were eligible to take the survey and circulated it to these members. The B&W Safety – Health and Safety New Zealand Facebook group advertised the survey on their Facebook page. The New Zealand Institute of Safety Management promoted the survey through their newsletter.

As a means to recruit participants through the Health and Safety Association New Zealand (HASANZ), the researcher attended the HASANZ Conference held in Wellington, New Zealand, at Te Papa, from the 5th until the 7th of September 2018. It was assumed that

the attendees of the conference would fit the criteria from which the sample was to be selected. The link to the survey and supplementary explanation was posted on the conference app to appeal to attendees to the conference. Conference participants self-selected themselves to complete the survey based on the surveys' advertisement through the conference information platform.

The researcher was also in attendance at the Health and Safety Professionals New Zealand (HSPNZ) Conference hosted by Advanced Safety held in Christchurch, New Zealand, at the Chateau on the Park Hotel on the 16th of October 2018. Attendees at this conference were of a similar bracket to that of the HASANZ Conference, and therefore participants were also recruited from this platform. The link to the survey was also posted on the conference app for participants to self-select themselves to complete the survey. Other participants were approached directly at the conference.

In total 181 participants clicked on the link to the survey, however not all participants completed the survey. Respondents that left all fields blank were removed from the data set. The data of participants who only completed the demographic information section were also removed. Those who only completed the first quarter of the safety expectation items were deleted from the data set, as it was thought that mean substitution for 75% of the expectation items was not acceptable. Mean substitution was used for the data of two participants who completed 75% of the expectation items. Participants who specified other role titles that did not specifically pertain to a safety role, e.g. "human resources manager," "managing director," etc. were also removed from the analyses as the purpose of this study was to examine the behaviour of health and safety professionals exclusively.

As an online survey, it was unavoidably available to international populations. The nine participants from outside the New Zealand and Australia region (i.e. from Saudi Arabia,

Scotland, United Arab Emirates, Mauritius, Israel) were removed as it was thought that these country's health and safety standards would vary considerably, and having so little of this type of data could impact results. Responses from participants who work in Australia were kept as it is believed that there are similar safety standards across Australia and New Zealand. The resulting number of viable participants for analysis was 112.

Out of the total 112 participants, 99 completed the behavioural section of the survey. The first section of questions assessed participants' demographic information, the control variable information, and the group criteria questions. The second section consisted of all the safety expectation items. The third section was the behavioural response component of the survey where participants were asked to list up to five safety behaviours that they engage in or delegate. Of all participants that completed the survey, thirteen completed the first two sections of the survey, but stopped responding at the behavioural section. However, these participants' data were kept as their expectation item responses were able to be used for the hypotheses testing.

The final sample entailed 56 males, 55 females and one gender diverse. Participants ranged in age from 25 to 65 (a range of 40) with a mean age of 48.56 years (SD = 10.49). 94 participants specified that they worked predominately in New Zealand and 17 specified that they worked predominately in Australia. One participant specified that they work in both New Zealand and Australia as well as the Pacific Islands. Participants came from a range of industries. Of the options provided to them, 28 were from construction, two from dairy, 16 from manufacturing, seven from transportation, 13 from the health sector, two from telecommunications, two from gas, two from electrical and 40 were from other industries that participants specified themselves. Of the 112 participants, 50 were health and safety managers, four were health and safety directors, eight were health and safety officers, six were health and safety representatives, four were health and safety specialists, one was an

industrial and health safety engineer, one was a product safety engineer and 38 listed other safety related role titles. For ease of reading, the entire sample are referred to as "managers."

**Research Survey**

*Group Classification*

To classify managers into near and far groups, and the thus form the independent variable for the research, the participants' career trajectories were measured through a series of questions. These questions were constructed by the researcher and assessed participants' current job title, number of years and months in their role, the industry they are working in, the extent of health and safety work in their role, their work career trajectory and their previous education and training experience. Items constructed to assess each participant's role trajectory were as follows: *"what is your current job title?"* [Although the core participant sample was aimed at gathering health and safety managers, respondents were asked to specify their specific role title due to the potential of overlap in job descriptions across health and safety professionals at a managerial level.] *"Within in your job, is the management of employment health and safety your primary role or just part of your wider responsibilities?" "Which of the following best describes your work career?" "What industry do you work in?" "Do you have any educational qualifications in health and safety?" "Do you have any industry provided qualification related to health and safety?"* The core question that defined which group participants fell into asked: *"Which of the following best describes your work career?"* If participants selected the option that they *"began work as an employee and moved into health and safety management"* they were classified as a near group manager, however if they selected that they *"have always worked in the area of health and safety"* or that they *"began work as a general manager and moved into health and safety*

*management"* then they were classified as a far group manager. If they selected the *"other"* option, their description was analysed and these participants were placed into the group that best reflected/was closest to the answer they provided. Each of these questions were answered by participants using a multi-choice format. The resulting group samples ended with 78 near group participants and 34 far group participants. Appendix B depicts these questions as they appeared in the full version of the survey with each listed response option.

### Control Variables

Prior to constructing the survey, the researcher identified a selection of variables that could impact the interpretation of results. These variables were measured in the survey to determine whether they needed to be controlled for in analysis. Participants were asked about the length of time they have been working overall and the length of time working in their current job. This is because time on the job may contribute to the extent to which health and safety managers engage in safety behaviour. For example, if a manger is new to their health and safety role, they may still be acquiring knowledge to engage in the appropriate safety behaviours and therefore may not engage in these behaviours until they are confident with them. Participants were also asked what industry they worked in. This was considered due to the potential variation in safety standards and risks across industries. Participants were also asked about the spatial proximity of employees relative to themselves. This was considered due to its potential to impact delegation of tasks to others. The number of employees in the participants' respective organisations total and number that directly report to the manager was assessed for the same reason as that aforementioned. The size of an organisation may also impact the manageability of health and safety as a whole. The degree of safety risk in employees' jobs was also measured, as job risk may vary across the employees that report to

or work with the current sample and could therefore impact the frequency of safety behaviours that managers choose to engage in. Items constructed by the researcher were as follows: *In total, how many years and months have you been working for? How long have you worked in your current role for? Which industry do you work in? Thinking about your organisation, over what area are employees located? How many employees work in your organisation? How many employees do you have directly reporting to you? Thinking about operations within your organisation, please indicate what you think the degree of safety risk that employees are exposed to, by placing a mark on this 100 point scale."* Appendix B depicts the questions as they appear with each listed response option.

### The Dependent Variables: Safety Expectations

Participants completed a series of scales adapted by the researcher to measure managers' safety expectations of employees. That is, the manager was asked what they thought employees would do in a given situation or their attitudes towards various aspects of safety. Participants responded to each scale using a Likert scale ranging from 1-7, where 1 is strongly disagree and 7 is strongly agree. The following section describes the chosen items from each safety expectation variable.

**Supervision.** To assess managers' expectations about the level of safety supervision, participants completed one item from Burt's (2015) six-item *Expected Supervision* scale. This scale is based on supervisor behaviour required to ensure new employee safety. The selected item reads: *Supervisors pay more attention to safety when a new employee joins.* A high score on this item indicated a high expectation that supervisors engage in this behaviour. Question 28 in Appendix B presents the supervision item.

*Induction and socialization.* To assess managers' expectations about induction and socialization processes in their organisations, they completed one item from Burt's (2015) four-item *Expected Familiarization by Co-workers Scale*. Given that the current study was only interested in managers' expectations, the job incumbent items solely were chosen for use. The selected item read: *Members of my workplace familiarize new employees with the specific operational procedures within which they work.* A high score on this item indicated a strong expectation that employees engage in this behaviour. This item appears as question 27 in Appendix B.

*Voice.* Items from Tucker et al.'s (2008) *Safety Voicing Scale* were included in the survey to measure managers' expectations about the extent to which employees in their organisation voice or speak up about their safety concerns. Tucker et al.'s (2008) *Safety Voicing Scale* uses five main items with an additional three item co-worker voicing measure and a three item company response to voicing measure. Six of the eight items from this scale were included. Items were reframed so that they were applicable from a managers' perspective. For example, *I make suggestions about how safety could be improved* was reframed to *Employees make suggestions about how safety could be improved.* A high score on expectations of employee voice items indicated a high expectation that these voicing behaviours are occurring by employees in their organisation. Questions 19 to 24 in Appendix B reflect the safety voicing questions.

*Safety Participation and Compliance.* To measure expectations of employee safety participation and compliance, participants completed three items from Neal and Griffin's (2006) *Safety Participation and Compliance Scale*. Items were reframed to suit expectations of managers about employee safety compliance and participation. For example, *I use all the necessary equipment to do my job* was re-worded to read: *Employees in my organisation use all the necessary equipment to do their job.* A high score on expectations of safety

compliance and participation items indicated that managers strongly believed employees' behaviour was compliant and participatory. Questions 16-18 in Appendix B reflect the safety compliance and participation questions.

*Safety Motivation.* Three items from Neal et al.'s (2000) four-item *Safety Motivation Scale* were included to assess managers' expectations about employees' individual motivation to perform safety related activities and procedures. Items were re-framed to suit the managers' expectations of employee safety motivation. For example *I believe that workplace health and safety is an important issue,* was reframed to *Employees in my organisation believe that workplace health and safety is an important issue.* A high score on expectations of safety motivation items indicated a strong expectation that these employees are motivated to maintain and improve safety in their organisation. Questions 29-31 in Appendix B present these items.

*Safety Knowledge.* Participants completed three items from Neal, Griffin and Hart's (2000) 4-item *Safety Knowledge scale* to measure their expectations of employee safety knowledge. Items were reframed to suit manager's expectations about employee safety knowledge. For example, *I know how to use safety equipment and standard work procedures,* was re-framed to *Employees in my organisation know how to use safety equipment and standard work procedures.* A high score on expectations of safety knowledge items indicated that managers strongly believed that employees have adequate safety knowledge. Questions 32-34 reflect these items in Appendix B.

*Reactions to New Employees.* Participants also completed two items from Burt's (2015) four-item *Expected Co-workers Reactions to New Employees Scale* to measure their expectations about reactions to the safety of new employees. Again, the items from the 'job incumbent' phrasing was selected for use. Items that use "co-workers" were be re-termed to

"employees." For example, *Co-workers pay more attention to safety when a new employee joins,* was changed to *Employees in my organisation pay more attention to safety when a new employee joins.* A high score on expectations of reactions to new employees' items indicated a high expectation that these reactions to new employees are occurring by employees in their organisation. Questions 25-26 in Appendix B show the safety reactions to new employee items.

**Rule-bending.** Participants completed two items from Chmiel's (2005) four-item *Bending the Rules Scale* to assess their expectations of the propensity of workers to breach safety rules and procedures. Items were reframed. For example *I sometimes cut corners if it makes the task easier* was reframed to *Employees in my organisation sometimes cut corners if it makes the task easier.* Scoring highly on this scale indicated that managers believe that employees are less likely to comply with safety rules and procedures and therefore more likely to cut corners. Questions 35-36 reflect these items in Appendix B.

### The Dependent Variables: Safety Behaviours

The behavioural hypotheses were tested by asking participants to report the safety tasks/behaviours that they engage in or delegate to others. Behaviours were measured using an open response format. Participants were asked to list the five (or up to five, but they had to list a minimum of two) most important tasks or activities that they either engage in themselves or delegate to others in order to manage health and safety in their organization. For each task or activity, they were asked to indicate whether they do it themselves, delegate it to others, or both, and to rate each activity's importance using a 10 point scale; where 1 is important and 10 is critically important. This allowed participants to provide specific details about the safety activities and tasks that they engage in or delegate without being primed by

suggestions. It also was an attempt at eliminating potential social desirability effects that could be elicited from a box-ticking exercise.

Upon the collection of all the survey data, the behavioural data was analysed by coding each behavioural statement. The statements that participants provided were coded based on the extent they reflected a safety compliance behaviour or a safety participation behaviour. The researcher assigned a code of 1 if it was considered a compliance behaviour, or a 2, if it was considered a participation behaviour. A coding system was constructed for the purposes of ensuring consistency when coding. Compliance behaviour criteria was established using items from the Health and Safety at Work Act (2015), the Health and Safety at Work (General Risk and Workplace Management) Regulations (2016), and the Health/Safety/Environment Compliance Standards Manual. Items were chosen to best encapsulate all areas of compliance without having to list all items outlined in the Act. Participation behaviour criteria was defined using the expectation items and recreating them so they reflected a behavioural statement, for example, the item "Employees in my organisation will tell colleagues who are doing something unsafe to stop" was reframed to reflect the participatory behaviour: "Putting up signs to encourage employees to tell colleagues when they are doing something unsafe to stop." They were also framed so that they would address or correct the safety expectations of managers (e.g. a manager may be aware that their employees are not very good at remembering to wear their safety equipment so they compensate for this by hosting regular safety equipment trainings).

To ensure consistency and reliability of the developed coding system, an independent coder was approached. They were provided with an explanation of the study, the context under which the coding was occurring, and for what purposes. They were then presented with the developed coding system and provided with the opportunity to ask questions. 20% of the participant data that contained behavioural responses was randomly chosen for a coding

reliability check. The independent coder used the same codes (1 and 2 for compliance and participation behaviours) as the researcher. Initially 85% inter-coder agreement was found. However, this was thought to be inadequate reliability due to there still being 15% discrepancy. The researcher and the independent coder met again to discuss the items that there was not in 100% agreement on. Upon re-examining the coding system, the items that were not in agreement were re-evaluated and amended based on the code assignment that made the most sense. The entire data set was then re-coded and the independent coder re-coded another 20% of the data set. The rating across both raters then resulted in 100% inter-rater agreement. Appendix D outlines the coding system developed for this purpose.

**Procedure**

Participants were given access to the survey via a link which directed them straight to the first page of the survey. The link provided a brief explanation of the dissertation topic. This was a compressed version of the information and consent outline (Appendix A) that participants were presented on the first page of the survey (see Appendix C). Upon reading the brief and determining whether they fit the inclusion criteria, participants clicked onto the link, and were taken to the survey through Qualtrics. Before commencing the survey, they read the information and consent explanation. The continuation of the survey indicated their consent to participate. At the close of the survey, participants were provided with the opportunity to specify if they wished to receive a copy of the results. Those who did, provided their email address at the closing of the survey. They were directed to click on a link that took them to a separate page to ensure that their email address and personal data were not linked.

**Results**

**Frequency Analyses**

In order to look more closely at the characteristics of the groups, frequency analyses were conducted on participants' job titles and their education and industry qualifications. Frequencies for job titles, education and industry qualifications for each group are shown in Tables 1 and 2.

Table 1 shows that for both near and far group managers, the most common job title was health and safety manager, which is appropriate given the sample the current study aimed to isolate. In both groups however, it can be seen that many participants listed other job titles. Some examples included health, safety and environment manager, health and safety investigator, risk manager, operations and HSEQ manager, project HSE advisor, all of which were found to possess job descriptions similar to the health and safety manager as specified by Onet (Onet Online, 2018).

Table 1

*Job title frequencies for near and far group health and safety managers*

| Job Title | Near Group Percent | Far Group Percent |
|---|---|---|
| Health and Safety Manager | 41.0 | 52.9 |
| Health and Safety Director | 1.3 | 8.8 |
| Health and Safety Officer | 9.0 | 2.9 |
| Health and Safety Representative | 6.4 | 2.9 |
| Health and Safety Specialist | 2.6 | 5.9 |
| Industrial Health and Safety Engineer | 1.3 | 0 |
| Product Safety Engineer | 1.3 | 0 |
| Other Health and Safety Job Title | 37.2 | 26.5 |

Inspection of Table 2 indicates that the far group managers had more IOSH Qualifications, Diplomas and Masters level education qualifications than near group managers. In the industry acquired qualifications, far group managers possessed higher National Examination Board in Occupational Safety and Health (NEBOSH) qualifications, Hazard Identification, Personal Protective Equipment Training and other industry-related qualifications than near group managers. Overall therefore, the group distribution of qualifications match the group classification.

Table 2

*Percentages of education types and industry qualification types held by near and far group health and safety managers*

|  | Near group Percent | Far group Percent |
| --- | --- | --- |
| **Education Qualifications** |  |  |
| IOSH Qualification | 10.3 | 14.7 |
| Certificate of Proficiency | 23.1 | 2.9 |
| Diploma | 42.3 | 50 |
| Bachelors | 14.1 | 5.9 |
| Masters | 10.3 | 17.6 |
| Other Education | 23.1 | 11.8 |
| **Industry Qualifications** |  |  |
| First Aid | 66.7 | 64.7 |
| NEBOSH | 16.7 | 20.6 |
| Hazard Identification | 42.3 | 52.9 |
| PPE Training | 33.3 | 38.2 |
| Other Industry Qualification | 28.2 | 38.2 |

**Expectation Variable Reliability Analysis**

To check the reliability of each expectation scale, Cronbach's alpha was calculated. The 'reliability if item deleted' option was included in the analysis to determine whether the reliability of the scale improved upon the deletion of any of the items. The three items chosen from the safety compliance and participation scale were proven to be reliable ($\alpha = 0.85$). All items proved to be worthy of retention. The six items chosen from the safety voicing scale also proved to be reliable ($\alpha = 0.89$). All items proved worthy of retention. The two items chosen from the reactions to new employees scale were found to be within the acceptable range for reliability ($\alpha = 0.78$). The three items chosen from the safety motivation scale proved to be reliable ($\alpha = 0.86$), with all items proving to be worthy of retention. The three items chosen from the safety knowledge scale were found to be reliable ($\alpha = 0.88$), with all items proving worthy of retention. The two items chosen from the rule bending scale, were proven to be reliable ($\alpha = 0.84$), and again, all items proved worthy of retention. Due to the selection of only one supervision item and one socialisation and induction item, a reliability analysis on these single items was not conducted.

After the reliability analysis proved all scales to be reliable, mean score variables were created for each scale (safety compliance and participation, voice, reactions to new employees, motivation, knowledge and rule bending) by summing the ratings to each item in the scale and dividing the sum by the number of items. These scale scores were used for all analyses that examined the expectation data.

**Characteristics of Near and Far Groups: Control Variables**

A series of independent sample t-tests were used to compare the near and far groups on age, total months working, total months in current job, number of employees in their

organisations, number of employees that directly report to them, and the safety risk profile of jobs in their organization. No significant between group differences were found. Inspection of Table 3 shows that the two groups are very similar in many respects. As the groups were found not to vary significantly on the variables, it was decided that it was not necessary to control for these variables when testing the safety expectation and behaviour hypotheses.

Table 3

*Results of t-tests of independent samples and descriptive statistics for 'months total working, months total current job, age, employee location,*

*number of employees in organisation, number of employees that report to them, and safety risk profile of jobs' by the near and far groups*

| Outcome | Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Near | | | Far | | | | | | |
| | M | SD | N | M | SD | n | 95% CI for Mean Difference | t | df | p |
| Months total working | 364.49 | 132.14 | 77 | 342.75 | 158.29 | 34 | -40.48, 83.99 | .486 | 54.21 | .48 |
| Months total current job | 69.81 | 86.47 | 78 | 55.35 | 53.71 | 34 | -12.22, 41.14 | 1.076 | 96.77 | .29 |
| Age | 48.61 | 10.02 | 70 | 48.45 | 11.66 | 31 | -4.351, 4.676 | .072 | 99 | .94 |
| No. of employees in organisation | 2203.99 | 8212.37 | 76 | 2510.65 | 7783.45 | 34 | -3612.665, 2999.344 | -.184 | 108 | .85 |
| No. of employees that report to them | 9.94 | 27.29 | 78 | 12.26 | 39.48 | 34 | -15.294, 10.636 | -.356 | 110 | .72 |
| Safety Risk Profile of jobs | 7.04 | 1.89 | 78 | 6.76 | 1.74 | 34 | -.478, 1.026 | .721 | 110 | .27 |

Note: Satterthwiate approximation employed for months total working and months total current job due to unequal group variances

* $p < .05$.

The physical location of employees relative to each other was also assessed in the survey. There was little variation found in the percentages of each location specified by near and far group participants, as seen in Table 4. Similarly to the other variables, it was decided that controlling for this variable was unnecessary.

Table 4.

*Near and far group employee location frequencies*

| Employee Location | Near Group | Far Group |
|---|---|---|
| | Percentages | |
| Same building | 12.8 | 2.9 |
| Different buildings but same site | 11.5 | 17.6 |
| Different locations, within 10kms | 9.0 | 14.7 |
| Different locations, over 10kms away | 66.7 | 64.7 |

**Expectation Hypotheses**

A series of T-tests for independent samples were conducted to test the hypotheses that far group participants will have more unrealistic and optimistic safety expectations than near group participants and therefore will score lower on safety expectations of safety compliance and participation, safety voice, reactions to new employees, supervision, socialisation and induction, safety motivation and safety knowledge, and higher on expectations about rule bending, than far group managers. To include a variable that represented all the expectation variables, a composite variable was also included in the analyses. This was formed by computing the sum of all the expectation variables. T-tests looking at the effects of the expectation variables revealed $p$ values approaching significance across near and far groups

for safety compliance and participation, voice, reactions to new employees and motivation. Therefore, the expectations composite was computed using these variables.

Table 5 reflects the mean differences between each of the safety expectation variables across the near and far groups. An Independent Samples T-test revealed a significant difference in expectations about safety motivation between the near and far groups. The mean safety motivation expectations of near group managers was found to be significantly lower than the safety motivation expectations of far group managers, in line with the expected direction proposed in the hypothesis. This result in the context of the current study suggests that the near group have more pessimistic expectations, and far group, more optimistic expectations, about the motivation of employees in their organisations. The T-test also yielded a significant difference in the expectation composite variable between the near and far groups. This suggests that near group managers' safety expectations regarding safety compliance and participation, voicing, reactions to new employees and safety motivation in conjunction with each other, are significantly lower than far group managers. This finding is in line with the overall expectation hypothesis: that near group managers have more pessimistic expectations of employee safety. While the differences between each of the other expectation scale scores between the groups were not statistically significant, the means are all in the expected direction. Near group participants scored lower overall than far group participants on safety expectations of supervision, socialisation and induction, voice, safety compliance and participation, knowledge, and reactions to new employees, which is consistent with each corresponding safety expectation hypotheses. Near group participants scored higher than far group managers on expectations about rule bending, also in line with the proposed hypothesis for this variable. In summary, while the results did not support all the hypotheses, there is evidence that the groups hold diverge safety expectations.

Table 5

*Results of t-test for independent samples and descriptive statistics of supervision, socialisation and induction, voice, safety compliance and participation, motivation, knowledge, reactions to new employees, rule bending, and the expectation composite, by near and far group managers of health and safety*

| Outcome | Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Near | | | Far | | | | | | |
| | M | SD | n | M | SD | n | 95% CI for Mean Difference | t | df | p |
| Supervision | 4.91 | 1.26 | 78 | 4.94 | 1.14 | 34 | -.56, .50 | .-.12 | 110 | .91 |
| Socialisation and Induction | 5.54 | 1.14 | 78 | 5.65 | .92 | 34 | -.55, .33 | -.49 | 110 | .62 |
| Voice | 5.32 | .98 | 78 | 5.66 | .82 | 34 | -.72, .04 | -1.76 | 110 | .08 |
| Safety Compliance and Participation | 5.29 | 1.06 | 78 | 5.62 | .88 | 34 | -.74, .09 | -1.57 | 110 | .12 |
| Motivation | 5.61 | .99 | 78 | 6.00 | .69 | 34 | -.76, -.02 | -2.10* | 110 | .04 |
| Knowledge | 5.41 | 1.03 | 78 | 5.59 | .86 | 34 | -.58, .22 | -.90 | 110 | .37 |
| Reactions to new employees | 4.90 | 1.26 | 78 | 5.29 | .91 | 34 | -87, .09 | -1.63 | 110 | .07 |
| Rule Bending | 4.80 | 1.45 | 78 | 4.59 | 1.45 | 34 | -.37, .81 | .73 | 110 | .47 |
| Expectation Composite | 21.12 | 3.83 | 78 | 22.57 | 2.77 | 34 | -2.59, -2.73 | -1.99* | 110 | .05 |

*p<.05

**Behavioural Hypotheses**

As previously noted, 16 participants did not complete the behavioural section of the survey, therefore the sample *N* dropped from 112 to 96 for these analyses. Participants were asked to list up to five of their most important safety tasks/behaviours that they undertake on a regular basis in their role. 75 participants' listed five behaviours, the remaining 24 listed less than five.

After each behaviour was assigned a safety compliance or safety participation code, the total number of safety compliance and safety participation behaviours per participant were summed. The average importance ratings of compliance and participation behaviours were also computed by summing the ratings and dividing by the number of behaviours. This created four new variables – "number of compliance behaviours," "number of participation behaviours," "average compliance behaviour importance ratings," and "average participation behaviour importance ratings."

*Behavioural Frequencies*

In total, across both groups, 466 behaviours were listed. Of these, 297 were coded as compliance behaviours and 169 were coded as participation behaviours. The frequencies reflecting how often each manager engages, delegates or both directly engages in and delegates to others, was first examined. 66.2% of the near group indicated they directly engage in a proportion of their listed safety tasks/behaviours, 27.5% delegate a proportion of their safety behaviours/tasks, and the remainder engaged in a mixture of both across all their listed behaviours. A similar result was found for the far group: 54.8% reported that they directly engage in a selection of their reported safety behaviours, 38.7% indicated that they delegated a selection of their reported safety behaviours, and the remainder engaged in a

mixture of both. These numbers suggest that both near and far groups predominately engage directly in their safety behaviours.

To define participants based on their behavioural attributes, a variable was created which classified participants as either compliance dominant, or participation dominant. Compliance dominant participants were those who specified more compliance behaviours than participation behaviours across the total number of behaviours they listed. Participation dominant participants were those who listed more participation behaviours than compliance out of the total number of behaviours listed. If, for example, a participant listed 3 safety compliance behaviours and 2 safety participation behaviours, they were classified as compliance dominant.

Frequency statistics for the proportion of compliance and participation dominant participants within the sample were computed using the behaviours listed. 73 participants (76% of the total participants) were compliance dominant and 24 participants were participation dominant (24% of the total participants).

To analyse the population proportions within the context of the groups and make comparisons, the frequencies of participation and compliance dominant participants within the near and far manager groups were also computed, and are presented in Table 6.

Table 6

*Percentages of Compliance and Participation Dominant participants within the near and far groups*

|  | Near group Percent | Far group Percent |
| --- | --- | --- |
| Compliance Dominant | 73.8 | 80.6 |
| Participation Dominant | 26.2 | 19.4 |

In relation to their relative sample sizes, there were more participation dominant near group managers than participation dominant far group managers, in line with the current study's hypothesis. It was also predicted that the majority of near group managers would be participation dominant, rather than compliance dominant within their own group. However this was not found. In line with the percentage statistics of the whole sample, both groups separately listed more compliance behaviours than participation behaviours. Based on the assumptions of the current study, this then infers that they engage more in compliance behaviours over participation behaviours.

**Binomial Test of Proportional Difference**

To look more closely into the proportions of safety compliance and participation behaviours across the two groups relative to their respective group sizes, a binomial test of proportionate difference was chosen for analysis. It was predicted that near group participants would engage more in safety participation behaviours and would therefore be reflected in more participation dominant participants. The binomial test was used to analyse the proportions of compliance and participation dominant participants within each group to reflect the differences in the behaviours reported by the near and far groups. The frequencies of the compliance dominant and participation dominant participants within the near and far groups are presented in Table 7.

Table 7.

*Compliance and participation dominance frequencies for near and far groups*

|  | Near group | Far group |
|---|---|---|
| Compliance Dominant | 48 | 25 |
| Participation Dominant | 17 | 6 |
| Total | 65 | 31 |

Assuming a level of significance α = .05, the one sided region is Z ≥ 1.64. The

observed Z value of .76 is less than critical Z value, and thus the null hypothesis is not

rejected at α = .05. Therefore there is no significant difference between the compliance

dominant and participation dominant participants within the near and far groups. To refine

the sample further and isolate further any group proportion differences, participants who

provided all five behaviours were isolated, and therefore the data of participants who listed

up to, but not including five behaviours, were removed for further analysis. This eliminated

nine participants. A binomial test of proportional difference was also computed using these

participants only. Table 8 shows the new proportions of compliance dominant and

participation dominant participants across near and far group managers within this new

sample.

Table 8.

*Compliance and Participation Dominance frequencies for near and far groups – new*

*population*

|  | Near group mangers | Far group managers |
|---|---|---|
| Compliance Dominant | 43 | 23 |
| Participation Dominant | 15 | 6 |
| Total | 58 | 29 |

The next set of analyses used these proportions across the near and far groups, and

compliance dominant and participation dominant groups. The observed Z value of .51 was

less than Z = 1.64, and again, the null hypothesis is not rejected at α = .05. Therefore, there is

no significant difference between the proportion of compliance dominance and participation

dominance participants across the near and far groups.

*Importance Ratings: Group differences in the near and far groups and compliance dominant and participation dominant groups*

The importance ratings that participants gave for each reported behaviour was next examined. The "average compliance importance ratings" and "average participation importance ratings" were used for analyses of the differences in compliance and participation behavioural importance ratings between and within compliance dominant and participation dominant groups as well as near and far groups.

To test differences in the near group, within group differences were examined using the compliance or participation dominant grouping variable as the basis for comparison. Analysis of the compliance and participation importance ratings across compliance dominant and participation dominant participants within the near group exclusively, were conducted using a T-test. The results of the T-test for independent samples shown in Table 9 analysing the differences in importance ratings between compliance dominant and participation dominant participants, revealed a non-significant result. As Levene's test for equality of variances revealed a significant result, the equal variances not assumed output was reported. However, had Levene's test been non-significant, the differences would have been significant ($t_{63} = 2.67$, $p = .01$). Despite this, the reported result is approaching significance and the direction of the means suggests that in the near group, compliance dominant participants gave compliance behaviours higher importance ratings than participation dominant participants, in line with the prediction of the current study.

The T-test examining the differences in participation behaviour importance ratings between compliance dominant and participation dominant participants within the near group, also outlined in Table 9, revealed a significant result. These results show that, within the near group, participation dominant participants gave significantly larger importance ratings for

participation behaviours than compliance dominant participants, again in alignment with the prediction of the current study.

The same analyses were conducted for within group differences in the far group. Table 10 outlines the T-tests analysing the differences in compliance dominant and participation dominant participants' compliance and participation importance ratings within the far group exclusively, which were very similar in direction to that of the near group, however none were found to be statistically significant.

Table 9.

*Results of t-test for independent samples and descriptive statistics of compliance behaviour importance ratings and participation behaviour importance ratings across compliance dominant and participation dominant groups within the near group population*

| Outcome | Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Compliance Dominant | | | Participation Dominant | | | | | | |
| | M | SD | N | M | SD | n | 95% CI for Mean Difference | t | df | p |
| Compliance Importance Ratings | 8.71 | 1.81 | 48 | 6.65 | 4.47 | 17 | -.28, 4.41 | 1.85 | 17.89 | .08 |
| Participation Importance Ratings | 6.70 | 4.31 | 48 | 8.67 | 2.23 | 17 | -3.63, -.32 | 2.39* | 54.04 | .02 |

*Note*: Satterthwaite approximation employed due to unequal group variances for both compliance and participation importance ratings

* $p < .05$.

Table 10.

*Results of t-test for independent samples and descriptive statistics of compliance behaviour importance ratings and participation behaviour importance ratings across compliance dominant and participation dominant groups within the far group population*

| Outcome | Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Compliance Dominant | | | Participation Dominant | | | | | | |
| | M | SD | n | M | SD | n | 95% CI for Mean Difference | t | df | p |
| Compliance Importance Ratings | 8.56 | 2.16 | 25 | 4.64 | 4.40 | 7 | -.17, 8.00 | 2.28 | 6.83 | .06 |
| Participation Importance Ratings | 7.52 | 3.50 | 25 | 7.68 | 1.85 | 7 | -2.99, 2.67 | -.12 | 30 | .91 |

*Note*: Satterthwaite approximation employed due to unequal group variances for compliance importance ratings

* $p < .05$.

As mean differences in importance ratings across compliance dominant and participation dominant participations within each of the near and far groups were found to be in the predicted direction, and some of the T-test results were approaching significance, it was decided to conduct a T-test looking at the differences in the importance ratings of compliance dominant and participation dominant participants within the whole sample. This takes the near and far group comparisons out of the equation, as these group differences were not found to be significantly different, and because the results thus far were more telling using the compliance dominant and participation dominant groups.

A T-test for independent samples performed on all participants classified as either compliance dominant or participation dominant irrespective of their near or far group membership, testing the difference in compliance behaviour importance ratings between compliance dominant (M=8.66, SD=1.92) and participation dominant (M=6.33, SD=4.36) participants revealed a significant difference ($t_{94} = 2.49$, $p < .05$). Levene's test for equality of variances proved significant, and therefore this result was taken from the equal variances not assumed output. Consistent with the results found in the within group analyses, this result suggests that compliance dominant participants gave significantly larger importance ratings for compliance behaviours than participation dominant participants.

The T-test for independent samples testing the difference in participation behaviour importance ratings between compliance dominant (M=6.98, SD=4.05) and participation dominant (M=8.45, SD=2.16) participants also yielded a significant result ($t_{94} = -2.25$, $p < .05$). Again, Levene's test for equality of variances was significant, and therefore the equal variances not assumed output was examined for this result. Consistent with the results found in the within group analyses, this result suggests that participation dominant participants gave significantly larger importance ratings to participation behaviours than compliance dominant participants.

**Interactions and Relationships between Safety Expectations and Behaviours**

To test the hypothesis that safety expectations influence safety behaviours, the expectation composite variable (the variable created for the earlier analyses on safety expectations) was used to divide participants into two groups: those with low safety expectations overall (equal to or below the 25th percentile [19.87] on the expectation composite), and those with high safety expectations overall (equal to or above 75th percentile [24] on the expectation composite). Those that fell in the middle range on expectation composite were not included in this part of the analysis. Breaking the expectation composite variable into these two new groups (high and low expectations) therefore created two expectation variable groups. This allowed for a comparison between the proportions of safety compliance behaviours relative to safety participation behaviours that participants in the low and high safety expectation groups indicated, and to identify any potential interactions.

Table 11 outlines the proportions of compliance and participation behaviours across the two expectation groups: those with extremely low expectations and those with extremely high expectations. The current study hypothesised that participants with low (pessimistic) expectations of employee safety would indicate more participation behaviours, and those with high (optimistic) expectations of employee safety would indicate more compliance behaviours. Table 11 shows the proportions of safety compliance and participation behaviours across the high and low safety expectation groups. It can be seen that both groups each predominately specified compliance behaviours over participation behaviours. It was predicted that participants with low safety expectations would have listed more participation behaviours than those with high expectations and more so than compliance behaviours, however the percentages are not vastly different across the high and low expectation groups, therefore demonstrating that high and low expectations are not creating an interaction effect with the two types of behaviour.

Table 11.

*Percentages of compliance and participation proportions across low and high safety*

*expectation groups*

|  | Compliance Behaviour Proportions | Participation Behaviour Proportions |
| --- | --- | --- |
| Low Safety Expectations | 70% | 30% |
| High Safety Expectations | 61% | 39% |

### Behaviour Importance Ratings: Interactions with Safety Expectations

To look more closely into the relationship dynamic between safety expectations and behaviours, the importance ratings that participants assigned to each behaviour they listed were examined in relation to the high and low safety expectation groups. The high and low expectation group variable was again used to examine within group differences across compliance behaviour importance ratings and participation behaviour importance ratings. It was predicted that those with low safety expectations would give participation safety behaviours higher importance ratings, and those with high expectations would place higher importance ratings on compliance behaviours. The importance rating means for the low and high expectation groups on compliance and participation behaviours were first examined. The T-tests of each of the compliance and participation importance ratings across the low and high expectation groups within the compliance dominant group, the participation dominant group, and across the whole sample, are reflected in Tables 12, 13, and 14 respectively, to identify whether these mean differences were significant across groups. The T-tests examining the differences in compliance and participation behaviour importance ratings within and between both compliance dominant and participation dominant groups in relation to high and low safety expectations, were not significant in any of the analyses. The

prediction was that those with low safety expectations would place greater importance on safety participation behaviours, however in all of the analyses, the mean score for low safety expectations and safety participation importance ratings were smaller than the means for high expectations with safety participation importance ratings. The lack of significance across these differences indicates that there is no relationship between safety expectations and behaviours and that the relationship is not in the predicted direction outlined in the hypothesis. Both compliance and participation importance ratings were found to have non-significant differences regardless of whether they had high or low safety expectations, within the each respective sample (compliance dominant participants, participation dominant participants, and the whole sample).

Table 12.

*T-test of compliance and participation behaviour importance ratings across low and high safety expectation groups within compliance dominant participants*

| Outcome | Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Safety Expectations | | | High Safety Expectations | | | | | | |
| | M | SD | N | M | SD | n | 95% CI for Mean Difference | t | df | p |
| Compliance Importance Ratings | 8.13 | 2.12 | 19 | 9.16 | 1.15 | 18 | -2.17, .12 | -1.81 | 35 | .79 |
| Participation Importance Ratings | 5.87 | 4.54 | 19 | 7.39 | 4.12 | 18 | -4.42, 4.37 | -1.07 | 35 | .29 |

* $p < .05$.

Table 13.

*T-test of compliance and participation behaviour importance ratings across low and high safety expectation groups within participation dominant participants*

| Outcome | Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Safety Expectations | | | High Safety Expectations | | | | | | |
| | M | SD | n | M | SD | n | 95% CI for Mean Difference | t | df | p |
| Compliance Importance Ratings | 7.00 | 4.02 | 5 | 5.43 | 5.09 | 7 | -4.55, 7.69 | .57 | 10 | .58 |
| Participation Importance Ratings | 7.35 | 2.14 | 5 | 7.39 | 4.12 | 7 | -4.13, 3.08 | -.32 | 10 | .75 |

* p < .05.

Table 14.

*T-test of compliance and participation behaviour importance ratings across low and high safety expectation groups over both compliance and*

*participation dominant groups*

| Outcome | Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Safety Expectations | | | High Safety Expectations | | | | | | |
| | M | SD | n | M | SD | n | 95% CI for Mean Difference | t | df | p |
| Compliance Importance Ratings | 7.90 | 2.56 | 24 | 8.11 | 3.22 | 25 | -1.89, 1.46 | -2.6 | 47 | .80 |
| Participation Importance Ratings | 6.18 | 4.16 | 24 | 7.52 | 3.80 | 25 | -3.64, .94 | -1.19 | 47 | .24 |

* p < .05.

**Discussion**

The aim of the present research was to determine whether there are differences in health and safety manager's safety expectations and safety behaviours based on their chosen career trajectory, and subsequently to what extent expectations influence the safety behaviours they perform as part of their job. The study split participants into two groups based on two different career trajectories: those that started out working in the area they now manage (near group managers), and those that were educated into their current role (far group managers). It was hypothesized that near group managers would have lower expectations about the safety behaviour of employees due to their direct industry experience working up the career train, and would subsequently engage more, and place greater value on, voluntary safety participation behaviours to compensate for the realities of the safety space. Conversely, it was also hypothesised that far group managers would have higher expectations about safety in their organisation due to their lack of direct industry experience, and would subsequently prioritise and place greater value on mandatory compliance behaviours. The present study drew on two core areas of safety: safety expectations and safety behaviours, and explored the relationship between the two within a safety context, using an exclusive population: managers of health and safety. While some research has touched on the components of the present study as separate constructs and under different pretences, the combination of the chosen constructs and population is unique to the literature.

*Expectation Variables*

Analyses of the expectation variables across near and far group managers indicated few significant differences in safety expectations. However, safety motivation expectations across near and far group managers yielded a significant result which indicated that near group managers possessed significantly lower expectations about the safety motivation of

employees in their organisation compared to far group managers. In alignment with the current study's proposed hypothesis, this indicated that the near group had more pessimistic, and in the context of the current study, more realistic expectations about employee safety. The items that were selected to assess expectations of safety motivation were surrounding employees' beliefs around the importance of health and safety, how they value the reduction of risk of accidents and incidents, and how important they believe it is to maintain safety in the workspace. It could be argued then that near group managers, who have both seen and experienced employee safety motivation in the operating space, realise that employees do not always place value on maintaining safety and following safety protocol, as they are often more focused on the procedural elements of their jobs and getting the job done. A significant result was also yielded from analysis of the expectation composite variable (constructed using the combination of safety motivation, reactions to new employees, safety compliance and participation, and safety voicing variables), which was again in the predicted direction proposed in the hypothesis. Near group managers rated significantly lower safety expectations about safety motivation, reactions to new employees, safety compliance and participation, and voice (in conjunction with each other), and therefore possessed more pessimistic and realistic expectations, than far group managers on this combined variable.

While the other expectation analyses yielded non-significant results, it should be again noted that the differences between the group means were all in the expected direction in alignment with the proposed hypotheses: near group managers had lower expectations than far group managers on all expectation variables, bar rule-bending, in which they had higher expectations (due to the framing of these items).

*Behaviour Variables: Safety Compliance and Participation*

The second component of the analyses examined the proportions of safety compliance and safety participation behaviours applied by the near and far groups and the relative importance they place on these behaviours in relation to their safety expectations. Overall, both groups listed more safety compliance behaviours than safety participation behaviours. Relative to their respective sample sizes, there were more near group managers who were classified as participation dominant than far group managers, however in both groups separately, there were more compliance dominant participants than participation dominant participants. Analyses of the relative proportions of safety compliance and participation yielded non-significant differences across groups. Analysis looking at differences in importance ratings across safety compliance and participation behaviours within the near and far group populations respectively, also yielded non-significant results. However, analysis of within group differences using compliance dominant and participation dominant groups demonstrated significant results, where compliance dominant participants gave larger importance ratings to compliance behaviours than participation dominant participants, and participation dominant participants gave larger importance ratings to participation behaviours than compliance dominant participants. It was predicted that people with low expectations would engage more with safety participation behaviours (and place more importance on these), and those with high expectations would engage more in safety compliance behaviours (and place more importance on these), however there was also no relationship found between safety expectations with safety compliance and participation behaviours.

**Theoretical Implications**

Due to the novel nature of the current research and the combination of its chosen constructs, there are few findings in the literature to make direct comparisons to. However,

the findings that affirmed the study's hypotheses will be able to be added to the field of

literature. The results found in the expectation section of the research, while not all

significant, provide a framework for future research to leverage off, and the behavioural

findings have the opportunity to be better refined and further explored in future research.

Based on pre-existing relationships found in literature of a similar nature to that of the current

study's, reasons for both the significant and non-significant results have been speculated.

   ***Role/career Trajectory.*** While the ratio of near to far group managers was not

desirable for the purposes of data analysis in the current study, the samples were still of an

adequate size to detect group differences and there was enough power to detect effect sizes

(Neal & Griffin, 2006), despite there not being any significant ones found. It could be argued

that the larger number of near group managers compared to far group managers is a finding in

itself. Attendance at both the Health and Safety Association New Zealand (HASANZ) and

Health and Safety Professionals New Zealand (HSPNZ) conferences affirmed this finding.

Attendees stated in a number of instances that they "fell into" the role of health and safety

manager or that health and safety became a component of their role as they moved up the

career path due to the length of time on the job, or experience acquired through the job, rather

than through the acquisition of an educational qualification, a transition from another

managerial role, or through another safety role. Therefore, it could be that the status of health

and safety professionals in New Zealand predominately is such that experience outweighs

qualifications. Alternatively, it may be that safety professionals do not seek out qualifications

to upskill themselves. Perhaps if these qualifications were more accessible or affordable then

more people would use these as a means to improve their knowledge in health and safety. It

was noted at the HASANZ conference that the combination of both experience gained from

working in operations, in conjunction with a safety qualification would create the ideal health

and safety professional. They addressed this preference, and the need to produce health and

safety professionals that have both industry experience and specific qualifications, by announcing a new scholarship programme for post graduate studies in health and safety. This was to encourage employees already working in industry to develop their skill base gained from experience with a complementary qualification.

Findings from the 2017 HASANZ survey suggested that the qualities that organisations are now looking for when recruiting health and safety professionals are having the right experience and knowledge to be an effective and credible adviser (Health and Safety Association New Zealand, 2017). They argued that qualifications are important, but that academic or theoretical concepts must be translated to real business situations. Conversely, attributes of health and safety professionals that are less valued by organisations are the "meaningless, paper-based qualifications" that are solely academic in nature as they are not able to be translated into the business environment (Health and Safety Association New Zealand, 2017). These findings were affirmed in the current study in that there were more near group managers than far group managers, and that education and industry qualifications were more prevalent in the far group managers than the near group managers.

***Expectations in relation to the group variable and behaviours.*** As previously stated, the safety motivation expectations differed significantly across the near and far groups. As the items in this scale were reframed to suit the context of the present study, findings from research that also uses this scale are difficult to compare against the findings in the current study. Neal, Griffin and Hart (2000) identified relationships between safety motivation with safety knowledge and skills, in that in order to have safety motivation, one must have the safety knowledge and skills to perform safety adequately (Neal et al., 2000). In other research, safety motivation is offered in association with safety participation, as these behaviours are voluntary and therefore require idiosyncratic motivation that has not been instructed by anyone (Neal & Griffin, 1997). It was predicted therefore that these

relationships would be somewhat represented in the findings associated with expectations dictating behaviours (e.g. low safety expectations about motivation would lead managers to be more inclined to invest more in managing the safety motivation of employees, through safety participation behaviours). However, unlike Neal and Griffin (1997), the current study did not isolate climate and culture as mediating factors in relation to safety motivation and did not explore the mediating effects of these factors. Safety motivation has also been established in relationships with leadership tactics, which refers to the role leaders play in promoting safety (Martinez et. al., 2013). In the current study, leadership tactics were demonstrated through the behaviours that managers indicated. While there were no direct links made between safety motivating behaviours and safety motivation expectations explicitly, it was implied that lower safety expectations of safety would be associated with more safety motivating behaviours. While low safety expectations were not associated with more safety participation behaviours, the near group managers were the group that tended towards lower safety expectations regarding the safety motivation of employees, which aligns with the proposed hypothesis.

An interaction between low expectations and high safety participation behaviours may not have been found due to an inaccurate assumption. It may have been that those with high expectations of the safety motivation of employees were not necessarily more realistic, but rather, they may have had higher expectations of safety motivation because of their direct efforts in instilling safety motivation in their employees (Martinez et al., 2013). Managers who actively set realistic safety expectations for their employees may have been more inclined to rate their safety expectations of employee safety behaviour highly, due to their direct involvement in it. This leadership tactic has also been found to influence employee motivation (Hedlund et al., 2010).

Where safety motivation has been identified in relationships with safety participation behaviours, safety knowledge on the other hand has been found to correlate highly with safety compliance behaviours (Christian et al., 2009). For example, when employees possess knowledge about various aspects of safety in their organisation, then they are much more likely to comply with the set safety standards as they understand why they are put in place. Based on these findings, the current study predicted that far group managers would possess more knowledge through the acquisition of education and industry qualifications, which would in turn shape their expectations about safety within an academic context, leading to them to prioritise and engage more with compliance behaviours. Near group managers on the other hand were hypothesised to have their safety expectations shaped by their direct industry experience, which was predicted to result in more motivation to engage in safety participation behaviours. However, both near and far groups were found to engage more in safety compliance behaviours overall than safety participation behaviours. Research from Neal and Griffin (2006) supports why the current study may not have been able to establish a clear relationship between expectations and behaviours in that they found that employees that engaged in discretionary safety activities (safety participation) were more likely to comply with mandatory safety rules and regulations (Neal & Griffin, 2006). Therefore, it may not have been the group characteristics, nor the safety expectations that dictated the choice of safety behaviours, but rather that engaging in one type of behaviour leads to engaging in the other. While participants were predominately classified as either a near or far group manager, they were also classified as compliance dominant or participation dominant. However, participants' listed behaviours were not necessarily all compliance or all participation behaviours exclusively. Therefore dominance did not imply exclusivity, but rather prevalence. Many participants who were classified as compliance dominant also listed safety participation behaviours. Therefore, these participants may be examples of this type of

behavioural pattern; those that listed a combination of both safety compliance and safety participation behaviours engage in both, because engagement in one, implies engagement in the other.

*Safety Behaviours.* As both near and far group managers engaged more in compliance behaviours overall than participation behaviours, it could be that near group managers do not have the same level of education as far group managers because they may have transitioned straight into working without gaining qualifications. Therefore, while they may have had the practical skills to enter the job, they may not have adequate knowledge in their acquired safety role to understand why health and safety must be conducted in the context of their organisation. The finding by Neal et al. (2000) that in order to have safety motivation, one must have the safety knowledge and skills to perform safety adequately, could explain this relationship. It could suggest that without the adequate knowledge and understanding of safety, the near group managers may not all have had the motivation to engage in participatory safety behaviours that are appropriate to their specific organisational environment (Neal et al., 2000).

. As previously discussed, safety behaviours in the literature are often discussed in the context of culture and climate in that the safety culture and climate of an organisation can influence the types of safety behaviours that employees engage in (Hedlund et al., 2010; Neal & Griffin, 1997; O'Dea & Flin, 2001; Wu et al., 2010). If an employee is part of an organisation that has a positive safety culture and promotes safety participation behaviours, they will be far more inclined to engage in these behaviours than employees who are part of a culture that does not promote a positive safety culture, or does not embed safety into their overall organisational strategy. Due to the influence that culture and climate play in influencing employee behaviour, it also influences fluctuations in safety motivation and safety knowledge. Neal et al. (2000) found that safety climate affects safety behaviours in a

significant manner. They argued that the safety climate of an organisation describes the individual perceptions of the value of safety at work and in the work environment (Neal et al., 2000). This infers that how safety is perceived (safety expectations) and how they respond to safety (safety behaviours) are at the hands of the climate and culture from which they are promoted. It was predicted in the current study that cultural and climactic differences would be reflected in the distribution of safety compliance and participation behaviours across the near and far groups, however these differences were not found. It may have been therefore that the cultures from which the managers came from did not affect their group classification. As previously discussed, the current study argued that organisational newcomers were more likely to be far group managers, who have transitioned into their role from an education qualification or another general manager role, or perhaps from another organisation. Whereas near group managers were more likely to be internal job changes or organisational insiders, as they had presumably come from similar or the same organisation into their health and safety role, after progressing up the organisational hierarchy (Duford, Shipp, Angermeier, & Boss, 2012). It was predicted that the different career trajectories and transitions associated with the near and far groups would present group differences in engagement with safety behaviours, however this was not found. While different career transitions into a new role or organisation influence at what point the culture of an organisation is fully embedded into an employee's role (O'Dea and Flin, 2001), it may have been that the initially proposed differences in the career transitions of the near and far groups were inaccurately assigned or that culture at each role transition did not vastly differ across groups.

**Limitations**

*Bias.* One of the main limitations that goes alongside the use of surveys for data collection is the biases associated with self-reports. In the current study, the behavioural section of the survey used self-reports in that participants reported the safety behaviours that they engage in. Self-report measures rely on participants providing honest and accurate answers, however social desirability bias may have influenced employees in providing behavioural statements that appear to abide by prescribed safety rules and regulations (Walker, 2013). Social desirability bias may have contributed to the finding that both the near and far groups listed more safety compliance behaviours than safety participation behaviours. Participants may have felt that they had an obligation to prioritise safety compliance behaviours that align with the Health and Safety at Work Act (2015) so that they appeared compliant with legislation. However, the current study made attempts to reduce the likelihood of social desirability in the behavioural section, by requiring that participants made up the safety behaviours that they engage in, rather than ticking a list of suggested behaviours. Attribution bias may also have been at play when managers listed the behaviours that they engage in. Attribution bias refers to the systematic errors that people make when they try to evaluate or find reasons for their own and others' behaviours. Participants in the current study may have been susceptible to this bias and unintentionally distorted their perceptions of their own behaviour by either inflating or underestimating the extent to which, and the types of, behaviours that they engage in, resulting in listing behaviours that may not have been congruent with the safety expectations that they listed of employees in their organisation (Walker, 2010).

Respondents may also have been susceptible to bias in the expectation section of the survey. In the safety expectation section, managers reported their safety expectations of employees within their organisation. Just as there are biases associated with self-reports, there are many biases that can arise when making reports of others. For example, the halo and horn

effects. The halo effect is the tendency for a single rating to cause raters to inflate all other ratings. If a manager perceived one employee to be motivated by safety, then they might assume that all employees are too. Alternatively if they believed that all employees are motivated by safety, then they too might assume that they also are more likely to voice safety concerns, look out for new employees, and identify hazards when they see them. They may have also been equally as likely to have fallen into the horns effect, conversely, where a single negative attribute can cause raters to rate everything on the low end of the scale.

Other biases that can distort accuracy when rating others are the leniency bias and the strictness bias. Leniency bias involves an element of rating that goes "too easy" on ratees. In some instances, the health and safety managers may have been too easy on the employees of whom they were rating, and may therefore not have provided realistic or accurate expectation ratings. The strictness bias is the opposite of leniency bias, where the rater is "too hard" on the person they are rating (in this case, the employees), which can create an unfair representation of the person/people being rated. However, the quasi-experimental design adopted by the current study, implies that these biases are equally apparent in both groups, not just one or the other, which makes these biases less of a concern. Hence these biases were not likely to have had a disproportional effect on respondents in a particular group and therefore the lack of significant group differences is likely due to another source. Allowing respondents to remain anonymous through the Qualtrics platform also kept biases in general to a minimum (Newaz, Davis, Jefferies, & Pillay, 2018).

**Considerations for Future Research**

As there were no significant group differences in the types of safety behaviours, it could be argued that the idiosyncratic influences shaped by ones career trajectory was not the

sole contributor to the type or frequency of the behaviours listed, and that these behaviours should have also been taken in the context of the organisational safety climate and culture (Wu, et al., 2010), as well as within the context of their safety expectations. Due to the value that is placed on safety climate in the context of safety behaviours, future research could use the behavioural constructs used in the current study while also accounting for measures of safety climate across the near and far groups. For example, the inclusion of managers' safety expectations about culture and climate may have been telling when making sense of the listed behaviours. For example, a measure that would allow participants to indicate whether they were part of a poor safety culture may have been reflected in, and explained by, fewer safety participation behaviours. This measure could perhaps have been analysed as either an expectation variable, as in, measuring managers' safety expectations about the safety culture and climate and how this affects their behaviour, or in isolation to the other expectations as a control variable. It may have been that near and far group managers differed on their expectations about safety culture or that their different cultures may have affected how they behave.

*Group Classification.* The group classification made on the basis of career trajectory is a novel concept in the safety literature. As there were no major group differences found, future research may need to look more into the group classification process. It may have been that the characteristics of the two groups were more complex than just on the basis of career trajectory and there could have been other defining characteristics of the two groups that were not accounted for. Alternatively, it may not have been a fair assumption to classify far group managers as organisational newcomers exclusively, and near group managers as organisational insiders and internal job changes (Duford et al., 2012). Perhaps there was more of an even spread of each type of role transition across the two groups which may have contributed to the lack of differences across groups. These speculations would suggest that

the representativeness of the sample and the two groups within it may not have been accurate, and rather could have been better defined using other characteristics specific to each of the groups (Neal & Griffin, 2006), to better represent what the study was attempting to capture. Due to the specific criteria under which the near and far groups were classified, it would have perhaps been beneficial to account for more variances in the groups by identifying other characteristics within them, as well as pulling out further the career trajectory variable to account for more detail in managers given career paths. For example, how many roles they had been in prior to their current role, how many organisations they have worked for, how many of their previous roles were safety roles etc.

The current study has left room for the group classification to become more exploratory. It examined the characteristics of the groups in the context of their safety expectations and behaviours and used a quantitative approach to identify relationships. While not all the hypothesised relationships were found, it became evident that the group classification did provide some telling quantitative results with regard to safety expectations and the prevalence of each type of manager in industry. Future research could take a more explorative approach to the already identified relationships found in the current study, for example, by pulling apart the characteristics of the near and far groups and why they may differ on safety expectations.

*Behaviours.* The coding system utilised in the behavioural component of the research utilised qualitative measures and made them quantitative by classifying behaviours as either compliance or participation. This provided a clear platform from which to make behavioural comparisons and could be used again in the context of future research exploring these behavioural constructs. Alternatively, future research could analyse safety behaviours using a thematic approach by identifying behavioural themes that arise across each of the near and far groups.

Future research could also account for the safety behaviours of not only managers, but the safety behaviours of employees and those around them. Parker, William and Turner (2006) assert that focusing on managers' behaviours alone is insufficient for developing a more proactive workforce. They argue that it is important to also consider the behaviours of the employees relative to the organisational circumstances and environment (Parker et al., 2006). For example, in the context of safety voicing, Tucker et. al. (2008) found that employees felt safer to voice when they perceived that their organisation supported safety, which was also mediated by the extent to which co-workers supported workplace safety (Tucker et al., 2008). This demonstrates that it is not just management support of safety, but the general workforce, that permits people to feel safe to voice and to engage in any voluntary or proactive safety behaviours (Parker et al., 2006). Newaz et al. (2018) also found relationships between management safety commitment, supervisor safety behaviour and co-worker safety behaviour with mutual obligations, through the psychological contract of safety which directly impact worker's behaviour (2018). Therefore it may have been more beneficial to have collected data from not only the health and safety managers, but also the employees that report to them to get a better idea of the safety support and safety attitude promoted by managers and co-workers through the psychological contract, and to isolate how employees respond to this behaviourally.

**Contributions to Practice**

While the relationships between the constructs of interest in the current study did not all align with the proposed hypotheses, some of the findings from each construct individually can be taken into practice. Firstly, the group classification findings. The status of health and safety professionals is one area of interest that is already pertinent in health and safety

practice. Employers are interested in knowing what type of individuals are getting into health and safety, and are attempting to isolate what makes a successful health and safety professional. While the current study classified health and safety professionals into two main groups based on their career trajectory, there are many ways that professionals transition into their health and safety role. The finding from the HASANZ 2017 survey, that organisations predominately prioritise industry experience when recruiting health and safety professionals, was somewhat supported by the current study, in that there were more near group managers (who have more industry experience over qualifications) than far group managers in the sample of health and safety professionals. However, safety professionals at a consultancy level are stressing the importance of having educated professionals advising and guiding their employees (Health and Safety Association New Zealand, 2017). As the number of qualified professionals increases, it would be interesting to identify differences in not only the characteristics of professionals and their safety performance over time, but also the extent to which their expectations and behaviours change over time.

As there were fewer safety participation behaviours listed by health and safety professionals than was expected, considerations to take into practice in this regard could include specific training of safety professionals to introduce and encourage more safety participation behaviours, in a more natural and innate manner. While compliance behaviours are necessary to keep up to code, safety participation behaviours go above ticking boxes and preventing accidents by ensuring that employees are safe, protected and healthy in the workspace. Promoting these behaviours at an organisational culture level and leading by example may not be sufficient for instilling these behaviours. Instead, specific and guided training on how to explicitly engage in these behaviours should be provided on a regular basis, so that managers know how these behaviours are conducted as well as why they are important, just as they do with compliance behaviours.

To get a better idea of safety expectations across the broader organisation, rather than just across managers, it could be beneficial to introduce an annual staff safety survey to calibrate expectations which would then give managers and upper management personnel a better idea of where safety is at its most compromised and subsequently enable them to re-direct resources to high priority areas. The same could be applied in analyses of organisational accidents. This type of survey data would provide upper management with a greater awareness of, and better ability to isolate where in the organisation accidents are occurring and why, and allow them to better allocate their resources to areas that need accident prevention more prominently.

## Conclusion

The current study examined the safety expectations and behaviours of health and safety managers within two core groups on the basis of their career trajectory. It found that the near group managers had lower expectations of employees' safety behaviours compared to far group managers, particularly in expectations of safety motivation. It also found that both the near and far groups engage predominately in compliance behaviours, more than participation behaviours. Compliance dominant participants were found to place more importance on compliance behaviours than participation dominant participants, and participation dominant place more importance on participation behaviours. The direction of the near and far groups' safety expectations suggest that the group characteristics may have an influence on safety expectations such that near group mangers have lower safety expectations, and far group, higher safety expectations. While there were no group differences found in safety behaviours, the strong compliance-focused nature of safety behaviours engaged in by safety professionals provides the opportunity for interventions to be

introduced to organisations to promote engagement with safety participation behaviours in order to create safer organisations.

**References**

Antonacopoulou, E. P., & Guttel, W. H. (2010). Staff induction practices and organisational socialisation: A review and extention of the debate. *Society and Business Review*, *5*(1), 22-47.

Ardts, J., & van der Velde, P. (2001). The breaking in of new employees: effectiveness of socialisation tactics and personnel instruments. *Journal of Management Development*, *20*(2), 159-167.

Barling, J., Kelloway, E. K., & Iverson, R. D. (2003). Accident outcomes: attitdual consequences of workplace injuries. *Journal of Occupational Health Psychology, 8*(1), 74-85.

Biddle, B. J. (1986). Recent developments in role theory. *Annual Review Sociology*, *12*(1), 67-92

Bidwell, M. (2011). Paying more to get less: The effects of external hiring versus internal mobility. *Administrative Science Quarterly*, *56*(3), 369-407.

Bluff, L. (2003). *Systematic management of occupational health and safety.* Working Paper 20, National Centre for OHS Regulation: Australian National University.

Breslin, C. F., Polzer, J., MacEachen, E., Morrongiello, B., & Shannon, H. (2007). Workplace injury or "part of the job"?: Towards a gendered understanding of injuries and compliants among young workers . *Social Science and Medicine*, *64*(4), 782-793.

Burt , C., Cottle, C., Naswall, K., & Williams, S. (2013). Capturing safety knowledge: Using a safety-specific exit survey. *Paper presented at 14th European Conference on Knowledge Management*, Kaunas, Lithuania .

Burt, C. (2015). *New Employee Safety: Risk Factors and Management Strategies.* Christchurch: Springer International Publishing Switzerland.

Burt, C. D. B., Chmiel, N & Hayes, P. (2009). Implications of turnover and trust for safety attitudes and behaviour in work teams. *Safety Science, 47(7), 1002-1006.*

Burt, C., Williams, S., & Wallis, D. (2012). New recruit safety expectations: Relationships with trust and perceived job risk . *Safety Science*, *50*(4), 1079-1084.

Campbell, J. P., McCloy, R., Oppler, S. H., & Sager, C. E. (1993). A theory of performance. In N. Schmitt & W.C Borman (Eds.). *Personnel selection in organisations*, 35-70.

Chen , C. F., & Chen , S. C. (2014). Measuring the effects of safety management system practices, morality leadership and self-efficacy on pilots' safety behaviours: safety motivation as a mediator. *Safety Science, 62,* 376-385.

Chmiel, N. (2005). Promoting health work: Self-reported minor injuries, work characteristics, and safety behaviour. In C. Krunka, P. Hoffmann, & A Bussing (Eds.), Change and quality in human service work, 277-288. Mering: Rainer Hampp Verlag.

Chmiel, N., Laurent, J., & Hansez, I. (2017). Employee perspectives on safety citizenship behaviours and safety violations. *Safety Science*, *93,* 96-107.

Christian , M. S., Bradley , J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace Safety: A Meta-Analysis of the Roles of Person and Situation Factors. *Journal of Applied Psychology, 94*(5), 1103-1127

Clarke , S., & Ward, K. (2006). The role of leader influence tactics and safety climate in engaging employees' safety participation. *Risk Analysis, 26*(5), 1175-1185.

Conchie, S. M., Moon, S., & Duncan, M. (2013). Supervisor's engagement in safety leadership: Factors that help and hinder. *Safety Science, 51*(1), 109-117.

Cooper, D. (1998). *Improving safety culture: A practical guide.* England : John Wiley & Sons
.

Cox, T., & Griffiths, A. (2005). The nature and measurement of work-related stress. *Evaluation of Human Work: A Practical Ergonomics Methodology,* 553-573.

Cree, T., & Kelloway, E. K. (1997). Responses to occupational hazards: Exit and participation . *Journal of Occupational Health Psychology, 2*(4), 304-311.

Dougherty, G. W., & Van Gelder, M. (2015). Public Agency Hiring, Minimum Qualifications and Experience. *Review of Public Personnel Administration*, *35*(2), 169-192.

Dunford, B. B., Shipp, A. J., Angermeier, I., & Boss, R. W. (2012). Is burnout static or dynamic? Career transition perspective of employee burnout trajectories. *Journal of Applied Psychology, 97*(3), 637-650.

Feldman , D. C. (1989). Careers in organisations: Recent trends and future directions . *Journal of Management, 15*(2), 135-156.

Frick, K. (2013). Work environment dialogue in a Swedish municipality-Stengths and limits of the Nordic work environment model. *Nordic Journal of Working Life Studies, 3(1), 69-93.*

Greve, H. R., & Fujiwara-Greve, T. (2003). Job search with organisational size as a signal. *Social Forces*, *82*(2), 643-669

Griffin , M., & Hu, X. (2013). How leaders differentially motivate safety compliance and safety participation: the role of monitoring, inspiring, and learning. *Safety Science*, *60,* 196-202.

Griffin, M., & Neal, A. (2000). Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, *5*(3), 347-358.

Hayes, B. E., Perander, J., Smecko, T. and Trask, J. (1998) Measuring perceptions of workplace safety: Development and validation of the work safety scale, *Journal of Safety Research, 29*(3), 145-161.

Health and Safety Association New Zealand (2017). HASANZ Health and Safety Professionals Survey. New Zealand.

Health and Safety at Work Act 2015 (HSWA)

Health and Safety at Work (Adventure Activities) Regulations, 2016.

Health/Safety/Environment Compliance Standards Manual, 2018.

Hedlund, A., Gummesson, K., Rydell, A., & Andersson, I.-M. (2016). Safety Motivation at work: Evaluation of changes from six interventions. *Safety Science, 82*, 155-163.

Hedlund, A., Ateg, M., Andersson, I., & Rosen, G. (2010). Assessing motivation for work environment improvements: internal consistency, reliability and factorial structure. *Journal of Safety Research*, *41*(2), 145-151.

Hirschman, A. O. (1970). *Exit, Voice, and Loyalty: Responses to decline in firms, Organizations, and States.* Cambridge, MA: Havard University Press.

Hofman, D. A., & Morgeson, F. P. (1999). Safety-related behaviour as a social exchange: the role of perceived organisational support and leader-member exchange. *Journal of Applied Psychology*, 286-296.

Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a a moderator of the relationship between leader-member exchange and content specific citizenship: safety climate as an exemplar. *Journal of Applied Psychology, 88(1), 170-178.*

Ivensky, V. (2016). Safety Expectations: Finding a Common Denominator. *Professional Safety*, *61*(7), 38-43.

Kehoe , R. R., & Wright , P. M. (2013). The impact of high-performance human resource practices on employees' attitudes and behaviours. *Journal of Management, 39*(2), 366-391.

Klein, H. J., Polin, B., & Sutton, K. L. (2015). *Specific Onboarding Practices for the Socialization of New Employees.* Retrieved from Wiley Online Library: https://doi-org.ezproxy.canterbury.ac.nz/10.1111/ijsa.12113

Kwon, O. J., & Kim, Y. S. (2013). An analysis of safeness of work environment in Korean manufacturing: the "safety climate" perspective. *Safety Science, 53,* 233-239.

Lashley, C., & Best, W. (2002). Employee induction in licensed retail organisations. *International Journal of Contemporary Hospitality Management, 14*(1), 6-13.

Lawton, R. (1998). Not working to rule: Understanding procedural violations at work. *Safety Science*, *28*(2), 77-95.

Lenne, M., Salmon, P., Liu, C., & Trotter, M. (2012). A systems approach to accident causation in mining: An application of the HRACS method. *Accident Analysis and Prevention, 48,* 111-117.

Lewis, A., Thomas, B., & Bradley, O. (2012). Employee socialisation: A platform for employee engagement? *International Journal of Employment Studies, 20*(1), 25-59.

Lewis, T. R., & Sappington, D. E. (1993). Choosing workers' qualifications: No experience necessary? *International Economic Review*, *34*(3), 479-502.

Lin, Z., & Li, D. (2004). The Performance Consequences of Top Management Successions: The Roles of Organsiational and Environmental Contexts . *Group and Organisation Management*, *29*(1), 32-66

Martinez-Corcoles, M., Gracia, F. J., Tomas, I., Peiro, J. M., & Schobel, M. (2013). Empowering team leadership and safety performance in nuclear power plants: a multi-level approach. *Safety Science*, *51*(1), 293-301

McKenna, F. P. (1993). It won't happen to me: Unrealistic optimism or illusion of control? *British Journal of Psychology, 84*(1), 39-50.

Mearns, K., & Yule, S. (2009). The role of national culture in determining safety performance: Challenges for the global oil and gas industry. *Safety Science*, *47*(6), 777-785.

Morrongiello, B., Pickett, W., Berg, R., Linneman, J., Brison, R., & Marlenga, B. (2008). Adult supervision and pediatric injuries in the argricultural worksite. *Accident Analysis and Prevention*, *40*(3), 1149-1156.

Mullen, J. E. (2004). Factors influencing safety behaviour at work. *Journal of Safety Research*, *35*(3), 278-285.

Mullen, J. (2005). Testing a model of employee willingness to raise safety issues. *Canadian Journal of Behavioural Science*, *37*(4), 273-282.

Nahrganag, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: a meta-analytic investigation of the link between job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 71-94.

Neal, A., & Griffin, M. (2006). A study of the lagged relationships among saftey climate, safety motivation, safety behaviour, and accidents at the individual and group levels. *Journal of Applied Psychology, 91*(4), 946-953.

Neal, A., & Griffin, M. A. (1997). Perceptions of Safety at Work: Developing a Model to Link Organizational Safety Climate and Individual Behaviour. *Paper presented to the 12th Annual Conference of the Society for Industrial and Organizaional Psychology*, St. Louis, MO.

Neal, A., & Griffin, M. A. (2004). Safety climate and safety at work. In J. Barling & M. R. Frone (Eds.). *The pschology of workplace safety*, 15-34.

Neal, A., Griffin, M. A., & Hart, P. M. (2000). The impact of organizational climate on safety climate and individual behaviour. *Safety Science, 34*(1), 99-109

Newaz, M. T., Davis, P., Jefferies, M., & Pillay, M. (2018). The psychological contract: A missing link between safety climate and safety behaviour on construction sites. *Safety Science*, *112,* 9-17.

O'Dea, A., & Flin, R. (2001). Site managers and safety leadership in the offshore oil and gas industry. *Safety Science, 37(1), 39-57.*

O'Dea, A., & Flin, R. (2003). The role of managerial leadership in determining workplace. *Suffolk: HSE Books*.

Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive work behaviour at work. *Journal of Applied Psychology, 91*(3), 636-652.

Reason, J. T. (1990). *Human Error.* Cambridge: Cambridge University Press.

Robinson, J. C. (1988). Workplaxe hazards and workers' desires for union representation. *Journal of Labor Research, 9*(3), 237-249.

Ryan, T. J. (1989). The new safety employee. *Professional Safety, 34*(8), 13.

Tappura, S., Sievanen, M., Heikkila, J., Jussila, A., & Neononen, N. (2014). A management accounting perspective on safety. *Safety Science (in press)*.

Tappura, S., Syvanen, S., & Saarela, K. L. (2014). Challenges and Needs for Support in Managing Occupational Health and Safety from Manager's Viewpoints. *Nordic Journal of Working Life Studies*, *4*(4), 31.

Tucker, S., Chmiel, N., Turner, N., Hershcovis, S., & Stride, C. B. (2008). Perceived organizational support for safety and employee safety voice: The mediating role of co-worker support for safety. *Journal of Occupational Health Psychology, 13*(4), 319-330.

Tucker, S., & Turner, N. (2014). Safety voice among young workers facing dangerous work: A policy-capturing approach. *Safety Science*, *62,* 530-537.

Tulonen, T. (2010). *Electrical accident risks in electrical work.* Helsinki: Tukes-Publication 2/2010. Tukes (The Finnish Safety and Chemicals Agency).

Turner, N., & Tucker , S. (2011). Young worker safety behaviours: Development and validation of measures. *Accident Analysis and Prevention, 3*(1), 465-175.

Turner, N., Hershcovis, M. S., & Walls, M. (2010). Life on the line: job demands, perceived co-worker support for safety and hazardous work events. *Journal of Occupational Health Psychology, 15*(4), 482-493.

Walker, A. (2010). The development and validation of a psychologcial contract of safety scale. *Journal of Safety Research*, *41*(4), 315-321.

Walker, A. (2013). Outcomes associated with breach and fulfillment of the psychological contract of safety. *Journal of Safety Research*, *47,* 31-37.

Wanous, J. P. (1991). *Organisational entry: Recruitment, selection, orientation, and socilaization of newcomers.* New York: Addison-Wesley.

Wogalter, M. S., Allison, S. T., & McKenna, N. A. (1989). The effects of cost and social influence on warning compliance. *Human Factors*, *31*(2), 133-140.

Wogalter, M. S., Kalsher, M. J., & Racicot, B. M. (1993). Behavioural compliance with warnings: effects of voice, context and location. *Safety Science*, *16*(5), 637-654.

Wu, T.-C., Lin, C.-H., & Sen-Yu, S. (2010). Predicting safety culture: The roles of employer, operations manager and safety professional. *Journal of Safety Research*, *41*(5), 423-431.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of resources in job demands-resources model. *International Journal of Stress Management*, *14*(2), 121-141.

Young, S. L., & Wogalter, M. S. (1990). Comprehension and memory of instruction manual warnings: Conspicuous print and pictoral icons. *Human Factors, 32*(6), 637-649.

**Appendix A: Information Sheet and Consent**

Information Sheet
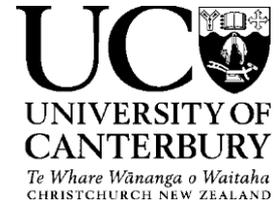
Department: Science (Psychology)
Email: Catherine.boyle@pg.canterbury.ac.nz

# The impact of role distance and role succession on the safety expectations and subsequent behaviours of health and safety managers

## Information for Participants and Consent

The aim of the research you are invited to participate in, is to identify the specific safety behaviours that managers working in health and safety engage in or delegate to others.

Involvement in this study requires you to be a health and safety professional working in a managerial capacity. If you choose to take part in this study, you will be required to carry out a brief survey which will ask you a series of questions about safety and safety behaviours. Your answers will be recorded electronically. The estimated time that the survey should take you to complete is up to twenty minutes. **Participation is voluntary, confidential and anonymous.**

The project is being carried out as a requirement for a Masters in Applied Psychology by Catherine Boyle, under the supervision of Associate Professor Christopher Burt, who can be contacted at Christopher.burt@canterbury.ac.nz.

The results of this research may be published in academic journals and will be available through the University of Canterbury Library. All data collected for this study will be kept on a password-protected computer at the University of Canterbury. **By submitting the questionnaire, you consent to participate in the project, and to the publication of the results with the understanding that anonymity will be preserved.**

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

**Appendix B: Survey Content**

*The following questions ask about you, your current and past job roles, and the industry you are working in. Please read each question carefully and select or specify the answers that are most applicable to you.*

**1. Please specify your age in years:** _____

**2. What is your gender?**
- ❑ Male
- ❑ Female
- ❑ Gender Diverse

**3. What country are you currently working in? (If you work in more than one, please specify the one you predominately work in)**

**4. In total, how many years and/or months have you been working for?**
Years: _____          Months: _____

**5. How long have you worked in your current role for?**
Years: _____          Months: _____

**6. Which industry do you work in? (7)**
Drop down box [*select one*]:

Construction, forestry, dairy, manufacturing, transportation, pharmaceuticals, health sector, telecommunications, gas, electrical, plumbing

- ❑ Other
- ❑ If you selected 'other' in the question above, please specify the industry

**7. Where are employees in your organisation physically located?**

- ❑ We all work in the same building
- ❑ We all work in different buildings, but on the same site
- ❑ We all work in different locations, but within 10kms of each other
- ❑ We all work in different locations, and over 10kms from each other

**8. How many employees work in your organisation?**
Enter number here: _____

**9. How many employees do you have directly reporting to you?**
Enter number here: _____

**10. Please place a mark on this 10 point scale reflecting the degree of safety risk that you think employees in your organisation are exposed to**

| **0** | **10** | **20** | **30** | **40** | **50** | **60** | **70** | **80** | **90** | **100** |
|---|---|---|---|---|---|---|---|---|---|---|
| Not at all risky | | | | | | | | | | Extremely Risky |

**11. What is your current job title?**

- ❑ Health and Safety Manager
- ❑ Health and Safety Director
- ❑ Health and Safety Officer
- ❑ Health and Safety Representative
- ❑ Health and Safety Technician
- ❑ Health and Safety Specialist
- ❑ Industrial Safety and Health Engineer
- ❑ Product Safety Engineer
- ❑ Medical and Health Services Manager
- ❑ Other
- ❑ If you selected other in the question above, please specify your job title: _____

**12. Within in your job, is the management of employee health and safety your primary role or just part of your wider responsibilities?**
- ❑ Primary
- ❑ Part of my wider responsibilities

**13. Which of the following best describes your work career?**
- ❑ Began work as an employee and moved into health and safety management
- ❑ Have always worked in the area of health and safety
- ❑ Began work as a general manager and moved into health and safety
- ❑ Other          Please specify: _____

**14. Which of the following educational qualifications do you have in health and safety? Please tick as many as are applicable**
- ❑ IOSH Qualification
- ❑ Certificate of proficiency
- ❑ Diploma
- ❑ Bachelors' Degree

❑ Masters' Degree
❑ PhD
❑ Other               Please specify: _____

**15. Which of the following industry provided qualifications related to health and safety do you have? Please tick as many categories as are applicable**
      ❑ First Aid Certificate
      ❑ NEBOSH International General Certificate Course
      ❑ Hazard Identification and Risk Assessment Training – US 17602
      ❑ Personal Protective Equipment Training
      ❑ Other: _____

*The following statements assess your expectations of the safety behaviours of employees working in operations within your organisation. Please indicate the extent to which you agree or disagree with each statement.*

Items are measured on a 1-7 Likert Scale, where 1 = strongly disagree and 7 is strongly agree.

    1) Strongly disagree
    2) Disagree
    3) Disagree somewhat
    4) Undecided
    5) Agree somewhat
    6) Agree
    7) Strongly agree

16. Employees in my organisation use all the necessary safety equipment to do their job

17. Employees in my organisation use the correct safety procedures for carrying out their job

18. Employees in my organisation voluntarily carry out tasks or activities that help to improve workplace health and safety

19. Employees in my organisation make suggestions about how safety could be improved

20. Employees in my organisation will tell colleagues who are doing something unsafe to stop

21. Employees in my organisation discuss new ways to improve safety with colleagues

22. Employees in my organisation inform the boss when they notice a potential hazard

23. Employees in my organisation are prepared to stop others from working dangerously

24. Employees in my organisation encourage each other to work safely

25. Employees in my organisation pay more attention to safety when a new employee joins

26. Employees in my organisation encourage a new employee to ask about safety procedures

27. Members of my workplace familiarise new employees with the specific operational procedures which they use

28. Supervisors pay more attention to safety when a new employee joins

29. Employees in my organisation believe that workplace health and safety is an important issue

30. Employees in my organisation feel that it is worthwhile to put in effort to maintain or improve safety

31. Employees in my organisation believe that it is important to reduce the risk of accidents and incidents in the workplace

32. Employees in my organisation know how to use standard work procedures

33. Employees in my organisation know how to maintain and improve workplace health and safety

34. Employees in my organisation know how to reduce the risk of accidents and incidents in the workplace

35. Employees in my organisation sometimes cut corners if it makes the task easier

36. Work pressures mean that employees in my organisation sometimes bend the rules

*In this section, please briefly describe the five most important tasks or activities which you either engage in yourself or delegate to others in order to manage health and safety in your organization. For each task or activity, indicate whether you do it yourself, delegate it to others, or both, and rate its importance using the 10 point scale; where 1 is important and 10 is critically important.*

1. **Safety task/activity:**
   _____
   _____

**Do you engage in this task directly, delegate it to others or both?**

❑   Engage in directly

❑ Delegate to others
❑ Both engage in and delegate

**Please rate the importance of the above task/behaviour you described for managing health and safety**

**1      2      3      4      5      6      7      8      9      10**

**Important**                                                      **Critically Important**

    **2.  Safety task/activity:**
_____
_____

**Do you engage in this task directly, delegate it to others or both?**

❑ Engage in directly
❑ Delegate to others
❑ Both engage in and delegate

**Please rate the importance of the above task/behaviour you described for managing health and safety (36)**

**1      2      3      4      5      6      7      8      9      10**

**Important**                                                      **Critically Important**

    **3.  Safety task/activity:**
_____
_____

**Do you engage in this task directly, delegate it to others or both?**

❑ Engage in directly
❑ Delegate to others
❑ Both engage in and delegate

**Please rate the importance of the above task/behaviour you described for managing health and safety (39)**

**1      2      3      4      5      6      7      8      9      10**

**Important**                                                      **Critically Important**

    **4.  Safety task/activity:**
_____
_____

**Do you engage in this task directly, delegate it to others or both?**

- ❑ Engage in directly
- ❑ Delegate to others
- ❑ Both engage in and delegate

**Please rate the importance of the above task/behaviour you described for managing health and safety**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|

**Important**                                            **Critically Important**

5. **Safety task/activity:**

_____
_____

**Do you engage in this task directly, delegate it to others or both?**

- ❑ Engage in directly
- ❑ Delegate to others
- ❑ Both engage in and delegate

**Please rate the importance of the above task/behaviour you described for managing health and safety**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|

**Important**                                            **Critically Important**

**Appendix C: Shortened Information Sheet**

As a health and safety professional working in a managerial capacity, you are invited to participate in a research project. This project aims to identify the health and safety behaviours that you either engage in or delegate to others in your workplace. This research is being conducted as part of a Masters dissertation in Applied Psychology. Your involvement will entail the completion of a brief survey, which should take no more
than fifteen minutes. Participation is voluntary, confidential and anonymous. The results of the project may be published but there will be complete confidentiality of the data gathered. You will also have access to the results of the research should you wish to see them. If you are willing to participate in this research, please click on the link below. Thank you in advance for your participation.

http://canterbury.qualtrics.com/jfe/form/SV_d0EFmjaxLW9afKl

Masters Student, Catherine Boyle, University of Canterbury, New Zealand.

**Appendix D: Behaviour Coding System**

**Safety Compliance**

*Safety compliance refers to activities that are necessary to carry out in order to maintain workplace safety such a wearing personal protective equipment, complying with organisational safety rules and regulations, and following safety procedures.*

| *Safety Compliance Behaviours* |
|---|
| Attending conferences to acquire up-to-date knowledge on work health and safety. |
| Participating in online forums to acquire up-to-date knowledge on work health and safety. |
| Reading publications to acquire up-to-date knowledge on work health and safety. |
| Assessing the job risks to become familiar with hazards in the work environment. |
| Providing employees with an incident reporting system |
| Providing employees with a hazard identification system |
| Providing employees with training on how to identify a hazard |
| Conducting hazard identification tests on employees to keep them hazard-aware. |
| Conducting meetings at regular intervals with other health and safety professionals to assess safety in the workplace |
| Developing and maintaining a procedure for the identification of hazards and effective management of risk for activities and tasks conducted within each employees role |
| Following a system, based on hazard identification and risk assessment, which ensures effective controls are in place to minimise exposure to hazards. |
| Developing and maintaining a formal health, safety and environment operational risk register using a company specific Risk Register template |
| Conducting risk assessments each time a new activity, process, chemical or any other additional exposure occurs. |
| Collating a health, safety and environment Legal Register for each business unit |
| Providing all new employees with an induction appropriate to their needs to ensure an understanding of the site Health/Safety/Environment requirements, the hazards they may be exposed to and mandatory rules including emergency response and expected behaviours. |
| Providing all contractors with an induction appropriate to their needs to ensure an understanding of the site Health/Safety/Environment requirements, the hazards they may be exposed to and mandatory rules including emergency response and expected behaviours. |
| Providing site visitors with an induction so that they understand the rules, hazards and emergency procedures specific to each business unit and area of visitation |
| Maintaining a documented training plan that includes a Training Needs Analysis and a schedule of training to meet the requirements of the Training Needs Analysis |
| Ensuring that operational equipment is and continues to be fit for purpose; and suitable for the nature and duration of the work; and installed, set up, and used correctly. |
| Ensuring that each employee is adequately supervised by a person who has the appropriate knowledge and experience |

| |
|---|
| Providing adequate first aid equipment for the workplace |
| Providing each worker at the workplace access to first aid equipment |
| Providing workers with the facilities for the administration of first aid |

**Safety Participation**

*Safety participation involves a voluntary element of engaging with safety and entails behaviours beyond a workers' formal role, for example, communicating safety concerns to co-workers, participation in safety meetings, and promoting safety programmes in the organisation.*

| *Safety Participation Behaviours* |
|---|
| Undertaking regular checks to ensure employees are using all the necessary safety equipment |
| Ensuring that employees are aware of the safety procedures involved in carrying out their jobs |
| Ensuring that employees are kept up-to-date with the safety procedures involved in carrying out their jobs |
| Ensuring that the safety program is promoted within the organisation with incentives |
| Rewarding employees who put in extra effort to improve the safety of the workplace |
| Regular meetings with employees to allow them to bring up suggestions about how safety can be improved |
| Putting up signs to encourage employees to tell colleagues when they are doing something unsafe to stop |
| Setting times for employees to discuss safety concerns with supervisors |
| Putting up signs to encourage employees to inform supervisors or myself when they notice a potential hazard |
| Keeping a reporting measure for employees to report when other employees have broken any safety rules |
| Instructing supervisors to take account of new employees in team safety meetings so that everyone becomes quickly aware of the safety attitudes of a new employee |
| Provision of adequate training to supervisors to equip them to deal with the safety of a new employee |
| Conducting formal inductions for new employees that inform them of the specific characteristics of the physical environment within which they work. |
| Instructing supervisors and other employees to familiarise new employees with the way they should be doing their job |
| Having meetings with supervisors to ensure that new employees are being monitored |
| Holding feedback sessions for supervisors and new employees to ensure that new employees are adequately familiar with their new job, equipment and work procedures |
| Providing times for safety experts come into the organisation to promote the importance of maintaining and improving safety |

| Maintaining a performance schedule for each employee that encourages them to integrate safety behaviours |
| --- |
| Training employees on how to adequately utilise personal protective equipment |
| Informing employees about why personal protective equipment is important |
| Putting signs in place to educate employees on how to maintain and improve workplace health and safety |
| Providing employees with opportunities to voluntarily conduct tasks or activities that help to improve workplace safety |
| Assigning employees working under risky conditions a co-worker to help out and ensure their safety |

| Safety Compliance Behaviour Key Words | Safety Participation Behaviour Key Words |
| --- | --- |
| Job risk assessment | Regular checks |
| Incident reporting system | Employee awareness |
| Hazard identification system | Up-to-date knowledge |
| Regular meetings for the assessment of safety | Safety culture, safety program |
| Risk assessment/management | Incentives/rewards |
| Operational Risk Register | Voluntary |
| Legal Register | Encourage engagement with safety |
| Induction | Safety concern discussions |
| Site visitors – inductions | New employee familiarization, supervision, inductions |
| Site inspection | Reporting measure |
| Training needs analysis | Supervisor meetings |
| Induction | Feedback sessions |
| First aid | Time with safety experts |
| Operational equipment inspections | Performance schedule – integrating safety |
| Incident/accident investigation | PPE |
| Audits | Signage – encourage voicing, safety maintenance |
| Policy and procedure | Voluntary safety activities |
| | Toolbox meetings |