The relationships of experiencing workplace bullying with the mental health, affective commitment, and job satisfaction of Australian Defence Force personnel

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DECLARATION

I declare that this thesis reports my original work, and that no part has been previously accepted for the award of any degree or diploma from any university. To the best of my knowledge, no material previously published or written by any other person is included, except where due acknowledgement is given.

Nicole Steele
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ABSTRACT

Bullying is arguably one of the most pervasive of workplace stressors. The prevalence and duration of workplace bullying, and the wide-reaching consequences add to its debilitating force. This dissertation applied the Job Demands-Control (Karasek, 1979) and Job Demands-Control-Support (Johnson & Hall, 1988) models as theoretical frameworks to test the associations of workplace bullying with psychological distress, affective commitment, and job satisfaction. Two well-known job stressors of role overload and low job control were assessed alongside workplace bullying to determine the relative impact of different job demands on mental health and wellbeing.

Negative associations of workplace bullying with affective commitment and job satisfaction, and a positive association with psychological distress, were demonstrated in two samples (Australian Army and Australian Defence Force), with minimal variation across gender, work status (permanent/reserve), Service, and rank. Even after adjusting for other job demands, workplace bullying explained significant variance in each outcome.

These associations were also supported at the group (unit) level, with very strong correlations of workplace bullying with all three outcomes across units ($r_s = [.7 \text{ to } .9]$). Multilevel modelling showed these significant associations whether working in high-bullying climates, or being the sole target working in low-bullying climates. The climate of workplace bullying explained significant variance in psychological distress, affective commitment, and job satisfaction between units. Consistent findings at the individual and group level provide a more comprehensive explanation of the relationships of bullying with each outcome. There is little doubt that workplace bullying is linked to reduced workforce capability.
Organisation support, supervisor support, and job control all had significant positive associations with affective commitment and job satisfaction, and negative associations with psychological distress. Support for the hypothesised buffering effects from these measures was not found, possibly due to the lack of matching between the potential moderators and workplace bullying.

When workplace bullying occurred, it was likely to occur from more than one source. As the number of sources increased there was poorer mental health and wellbeing. In this study, superiors and coworkers were the most prevalent sources. However, over three times the proportion of employees reported seeking medical and/or mental health care when experiencing bullying from superiors than from coworkers or subordinates.

This thesis provides the ADF with the first empirical research into workplace bullying. The findings demonstrate the importance of addressing occupational stressors in garrison. Workplace bullying can, and should, be treated as a job demand. Workplace design, planning, and strategies need to consider workplace bullying alongside other occupational stressors. The implementation of interpersonal skills training will empower bystanders, equip supervisors, and reduce the escalation of negative interactions. Organisational-level interventions, endorsed by senior management and designed to address high-bullying climates, will be linked with better mental health and wellbeing of employees. Other primary, secondary, and tertiary prevention strategies are offered for the ADF, and more broadly for all organisations.

This thesis discusses a number of directions for future research, including ‘deep dives’ into workplaces that report high or low bullying climates, and exploring other sources and types of this negative behaviour. Workplace interventions successful in preventing or minimising workplace bullying are still scarce, yet present another critical area for future research.
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CHAPTER 1. INTRODUCTION

1.1 Chapter Overview

Workplace bullying is arguably one of the most pervasive stressors to be experienced at work. At its most basic level, workplace bullying is when unreasonable negative acts towards a person or group of people are both persistent and repeated, creating a risk to the health and safety of individuals. The far-reaching consequences of workplace bullying make it one of the most destructive workplace stressors that employees can experience. Individuals exposed to workplace bullying may suffer mental and physical injury, social isolation, disengagement from work, and they often seek to leave their organisation as soon as opportunities arise. Bystanders can be similarly affected. Family and friends who attempt to support the target both financially and emotionally, may struggle to maintain close connections if targeted individuals close themselves off to this support. For organisations, productivity loss and turnover as a result of workplace bullying can limit their competitive edge. Reputational risk of being branded as an organisation with a bullying culture can further impact the recruitment and retention of high-performing staff. Furthermore, there is an economic burden on society, including rehabilitation and mental health compensation costs to aid those employees who become targets of workplace bullying.

The prevalence and duration of workplace bullying add to its debilitating force. Even with conservative prevalence rates, at least one in ten employees within an organisation experiences workplace bullying at any given point in time (Nielsen et al., 2009). Less conservative rates suggest that almost half of the workplace may be experiencing bullying behaviours each week (Lutgen-Sandvik, Tracy, & Alberts, 2007). Workplace bullying often has a long duration. Typically, bullying occurs over one to two years (Einarsen & Nielsen, 2015), with some studies reporting durations of four...
years or more (see Bonde et al., 2016; Einarsen & Nielsen, 2015). Due to its prevalence, duration, and widespread impact, organisations that have not addressed workplace bullying are losing billions of dollars each year (Giga, Hoel, & Duncan., 2008; Hassard et al., 2014; Hollis, 2015; Productivity Commission, 2010).

Research into workplace bullying is a relatively new field, dating back to the early 1990s (Einarsen, Hoel, Zapf, & Cooper, 2011; Leymann, 1990), although the surge in organisational interest and research since that time is apparent (Branch, Ramsay, & Barker, 2013; Gillen, Sinclair, Kernohan, Begley, & Luyben, 2017; Rai & Agarwal, 2016; Samnani & Singh, 2012). Addressing gaps in understanding will assist in developing policies and interventions to prevent, or minimise the consequences of, this negative workplace behaviour.

This chapter sets out to define the research problems addressed through this PhD. The research questions and aims, as well as the theoretical and practical significance of the research, will be outlined. The PhD is conducted within the context of the Australian Defence Force (ADF), and hence a brief summary is provided on this organisation, including the importance of this research to the military. Finally, the PhD chapter structure will be presented.

1.2 Workplace Bullying: The Research Problem

1.2.1 Applying a Theoretical Framework to Explore the Relationships of Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction

After reviewing the literature published on workplace bullying from 1990 to 2016, Rai and Agarwal (2016) concluded that the theoretical development of workplace bullying ‘has been…weak’ (p. 33). Research into workplace bullying has been criticised
for having a shopping-list approach, with various antecedents and consequences being
selected without a framework or theory to underpin the hypotheses (Baillien, De
Cuyper, & De Witte, 2011; Nielsen & Einarsen, 2012). Having a theoretical framework
not only allows for the testing of hypotheses, but also allows for the validation,
replication, and interpretation of findings.

Workplace bullying is one of the most severe sources of stress at work (Hauge,
Skogstad, & Einarsen, 2010; Law, Dollard, Tuckey, & Dormann, 2011; Mayhew et al.,
2004). In this dissertation, it is proposed that bullying is a job demand that individuals
experience in the workplace. Therefore, theories within the occupational stressor-strain
literature will be reviewed to develop the hypotheses for this PhD. In the occupational
stress literature, job stressors such as role overload and low job control have
consistently been associated with an increase in mental strain, and with decreases in job
satisfaction and commitment in employees (Chhabra, 2016; Cooper, Rout, & Faragher,
1989; Dobreva-Martinova, Villeneuve, Strickland, & Matheson, 2002; Lin, Ma, Wang,
& Wang, 2015; Sargent & Terry, 1998; Sonnentag & Frese, 2003; Zhang, Tsingan, &
Zhang, 2013). By applying a theoretical model from this field of research, the
‘traditional’ job stressors of role overload and low job control will be assessed alongside
a social job stressor of workplace bullying to determine the relative associations of each
with the mental health and wellbeing of employees. Testing against other job stressors
also allows for consideration of the broader context of workplace bullying and the
extent to which it occurs with other job stressors/demands. Understanding the
associations of experiencing these job stressors with mental health and wellbeing will
help inform workplace design strategies and address areas of organisational climate to
ensure employees remain engaged, motivated, and satisfied while working in mentally
healthy workplaces.
Applying a theoretical model allows for the development of hypotheses to be tested across subgroups within an organisation. The ADF is similar to other hierarchical, male-dominated organisations, such as law enforcement and emergency service organisations. There are prominent subgroups within the organisation, defined by gender, work status (permanent/reserve), Service, or rank where different traditions and subcultures could impact on the associations that workplace bullying has with various outcomes. Testing these associations across subgroups enables a better understanding as to whether organisations should tailor educational programs and policies, anti-bullying training, and other interventions, or whether a ‘one-size-fits-all’ approach is appropriate.

1.2.2 Understanding the Benefits of Positive Work Climates

Organisations need to identify factors in the working environment that can be fostered to create positive climates at work. These climates will influence the mental health and wellbeing of employees, and will have flow-on effects to building an engaged, productive workforce. Three factors in the occupational stressor-strain literature that can be targeted by organisations are job control, supervisor support, and perceived organisational support. In addition to having positive main effects on the mental health and wellbeing of employees, these factors may also offer some protective ability against the negative effects of workplace bullying.

Research into examining moderators of the workplace bullying-outcome relationship is very limited. There is little understanding of those factors which can attenuate the negative impacts of workplace bullying (Rai & Agarwal, 2016). Factors internal to the individual have shown mixed support in their ability to provide a stress-buffering effect against workplace bullying (Matthiesen & Einarsen, 2004; Moreno-Jimenez, Rodriguez-Munoz, Pastor, Sanz-Vergel, & Garrosa, 2009; Nielsen,
Matthiesen, & Einarsen, 2008; Park & DeFrank, 2010). Regardless, it is more difficult for organisations to address internal factors compared to external factors.

In the occupational stressor-strain literature, the external factor of ‘support’ has been shown to buffer the impact of work stressors (Karasek & Theorell, 1990). Workplace bullying is an extreme social stressor, and hence it is hypothesised that support will also offer some protection from its negative effects. Support from supervisors, and from the organisation, will be introduced into this PhD as possible stress-buffering factors against the negative effects of workplace bullying. Another factor shown to moderate against job demands is job control (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010; Karasek, 1979). Research has shown that having control of work can lessen ambiguity (Parker, Jimmieson, & Amiot, 2013) and can allow individuals to change the nature of the working environment in order to cope with stressors (Daniels & Guppy, 1993). Therefore, this moderator will also be explored to determine if having job control lessens the effects from being bullied in the workplace.

Regardless of any moderating effects, establishing the relationships of support and control with psychological distress, affective commitment, and job satisfaction will determine if these factors can be targeted by organisations to improve the mental health and wellbeing of employees. By doing so, a more positive and supportive work environment may reduce the risk factors associated with the occurrence of workplace bullying.

1.2.3 Understanding Sources of Workplace Bullying

Most studies assessing the effects of unacceptable behaviour do so without offering a frame of reference that identifies the source of workplace bullying (Hershcovis & Reich, 2013). This lack of reference has been noted as “troubling in light of findings from Hershcovis and Barling (2010) meta-analysis” (Neall & Tuckey, 2014,
The meta-analysis referred to by Neall and Tuckey (2014) showed differential effects of workplace aggression from different sources (i.e., supervisors, coworkers, and persons outside of the organisation). These differential effects can influence an organisation’s and target’s response to bullying (Neall & Tuckey, 2014). For example, bullying from a superior would more likely lead to feelings of job insecurity, and hence job seeking behaviour, than bullying from an outsider, such as a patient or customer. Bullying from an outsider may lead to safety concerns. Two very different prevention or intervention strategies would then be required from an organisation (e.g., leadership training versus safety policies).

Research into workplace bullying has been dominated by attempts to explore the predictors and outcomes as though the identities of the target and source were inconsequential. By omitting the source of workplace bullying, researchers could be overlooking outcomes that are specific to a particular source or specific to a group of perpetrators (Hershcovis & Reich, 2013; Neall & Tuckey, 2014). The variance in how individuals react to experiencing bullying may be better explained if the source of bullying is specified (Hershcovis & Reich, 2013).

This PhD will explore the experience of workplace bullying from three sources—superiors, subordinates, and coworkers—and the combination of these sources. The most common sources of workplace bullying in the ADF will be determined, as will the perceived effects from experiencing bullying from each source. The associations of workplace bullying with mental health and wellbeing will be explored across the number and level of sources. The probability of experiencing bullying depending upon certain demographics of the target (i.e., gender, work status, Service, and rank) will be determined. Finally, the most prevalent source or combination of sources depending upon the demographics of the target will be examined. A better understanding of sources of workplace bullying will help
organisations develop policy, interventions, and training, tailoring these approaches where necessary.

1.2.4 Assessing the Workplace Bullying Climate

Workplace bullying has predominantly been conceptualised and investigated as an individual phenomenon (Ramsay, Troth, & Branch, 2011). However, as mentioned at the start of this chapter, the effects of workplace bullying are not confined to the individual experiencing negative acts.

Several researchers have noted the scarcity of research into workplace bullying that includes more than just individual level of analyses (e.g., Branch et al., 2013; Heames & Harvey, 2006; Neall & Tuckey, 2014; Ogunfowora, 2013; Rai & Agarwal, 2016; Ramsay et al., 2011; Skogstad, Torsheim, Einarsen, & Hauge, 2011). That is, there have been very few studies looking at workplace bullying at the individual level as well as at the group/organisation/society level. The lack of multilevel research has limited the ability of organisations to develop strategies to address workplace climates that enable or perpetuate bullying (Hutchinson, Wilkes, Jackson, & Vickers, 2010).

Exploring workplace bullying as a multilevel phenomenon in this PhD allows for the assessment of the individual-level and group-level effects of bullying. It also enables an understanding of the associations of experiencing bullying with psychological distress, affective commitment, and job satisfaction in high- and low-bullying climates.

Theoretically, the findings will significantly advance the research on the multilevel effects of bullying. At a more practical level, organisations will better understand the influence of poor workplace climates, characterised by high levels of bullying. Priority can then be placed on addressing workplace climate to ensure healthy workplaces.
1.3 The Australian Defence Force

The ADF is a hierarchical organisation comprising three Services, the Royal Australian Navy (RAN), the Australian Regular Army (ARA), and the Royal Australian Air Force (RAAF). The Reserve Force component of the ADF is smaller than the Permanent Force. Actual numbers as at the time of data collection in 2012 are reported in Table 1.1 (Department of Defence, 2012a).

Table 1.1. 
Strength of the ADF Permanent and Reserve Forces

<table>
<thead>
<tr>
<th>Service type</th>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent</td>
<td>Navy</td>
<td>14,054</td>
</tr>
<tr>
<td></td>
<td>Army</td>
<td>29,697</td>
</tr>
<tr>
<td></td>
<td>Air Force</td>
<td>14,243</td>
</tr>
<tr>
<td>Total Permanent Force</td>
<td></td>
<td>57,994</td>
</tr>
<tr>
<td>Reserve</td>
<td>Navy</td>
<td>2,001</td>
</tr>
<tr>
<td></td>
<td>Army</td>
<td>17,251</td>
</tr>
<tr>
<td></td>
<td>Air Force</td>
<td>2,820</td>
</tr>
<tr>
<td>Total Reserve Force</td>
<td></td>
<td>22,072</td>
</tr>
</tbody>
</table>

The ADF is male-dominated, with females comprising 13.5% of the force. There are two rank structures within each of the three Services: Officers and Non-Commissioned Officers. Each Service has its own individual ranks within these two structures.

For simplicity, the term ‘unit’ is used throughout this PhD. It is acknowledged that ‘unit’ is a predominantly Army term, with Air Force referring to squadron or wing, and Navy referring to ship or establishment as the ‘unit’ equivalent. However, because
the predominant Service included in this research is Army, the term ‘unit’ is used throughout. Units can range in size from very small (e.g., 15 members) to relatively large (e.g., 600 members). Finally, military units can comprise members of the three Services in what are known as tri-Service establishments, although the majority of units comprise personnel from single Services.

Whilst civilian Department of Defence (DoD) employees \( N = 18,397; \) Department of Defence, 2017a) can work within military units across Australia, they often represent a minority (i.e., less than 10% of the unit’s workforce). If they work within a unit, they are usually located in the base headquarters working in roles conducting administration, finance, and health services. The majority of civilian DoD personnel work in policy, training, and research positions within Canberra, or within civilian Branches across Australia.

1.4 Workplace Bullying Research in the ADF

It is imperative for maintaining Defence capability that ADF personnel remain committed, satisfied in their work, and psychologically fit for duty. Doing so enables a force that can be readily deployed and that functions efficiently as a cohesive unit. The extent to which bullying within the ADF affects this capability is unknown. Despite widespread studies in the civilian literature, very little research has been conducted on workplace bullying within the military. There has been no empirical research on the relationships between workplace bullying and the mental health and wellbeing of ADF personnel. This PhD will provide commanders, policy makers, training providers, and health professionals within the military with a better understanding of the occupational stressors placed upon military personnel within a garrison environment, and the mental health and behavioural outcomes associated with experiencing workplace bullying.
1.5 Research Aims

In summary, there are four main aims of this research:

1. To contribute to the scientific literature by applying a well-validated occupational stress model to the investigation of the relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction. This includes protective factors affecting these relationships.

2. To determine whether the relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction vary according to sources of workplace bullying.

3. To assess and compare the individual- and group-level effects of workplace bullying on psychological distress, affective commitment, and job satisfaction.

4. To understand the associations of experiencing bullying with psychological distress, affective commitment, and job satisfaction in high- and low-bullying climates.

1.6 Research Questions

To achieve the aims of the PhD there are five main research questions (RQ), with several sub-questions:

RQ1. Does workplace bullying have more impact on an employee’s psychological distress, affective commitment, and job satisfaction than role overload and low job control?
RQ1a. What are the nature and strength of relationships linking the experience of workplace bullying to psychological distress, affective commitment, and job satisfaction?

RQ1b. Are the associations of experiencing workplace bullying with psychological distress, affective commitment, and job satisfaction moderated by gender, work status, Service, or rank?

RQ2. Are work support and job control associated with better mental health and wellbeing, and do they act as buffers of any effects of workplace bullying?

RQ2a. What are the associations of perceived organisational support, supervisor support, and job control with psychological distress, affective commitment, and job satisfaction?

RQ2b. Do perceived organisational support, supervisor support, and job control moderate the relationships of exposure to workplace bullying with psychological distress, affective commitment, and job satisfaction?

RQ3. Does the source of workplace bullying, or the number of sources, matter to an employee’s psychological distress, affective commitment, and job satisfaction?

RQ3a. What are the most prevalent sources of workplace bullying in the ADF, as reported by targets?

RQ3b. What are the reported perceived effects from experiencing workplace bullying from each source?

RQ3c. What are the associations of experiencing workplace bullying from each source with psychological distress, affective commitment, and job satisfaction?
RQ3d. Are there relationships between the number of sources of workplace bullying and the target’s psychological distress, affective commitment, and job satisfaction?

RQ3e. Does the probability of experiencing workplace bullying from each source differ depending upon the gender, work status, Service, or rank of the target?

RQ3f. Does the source of workplace bullying differ depending upon the gender, work status, Service, or rank of the target?

RQ4. What are the relationships of group-level workplace bullying with psychological distress, affective commitment, and job satisfaction?

RQ5. What are the associations of experiencing bullying with psychological distress, affective commitment, and job satisfaction in high- and low-bullying climates?

1.7 Two Studies

This research was undertaken utilising data from an organisational climate questionnaire called the Profile of Unit Leadership Satisfaction and Effectiveness (PULSE). This questionnaire evolved throughout this PhD in terms of content and the target population, and because of this, two datasets were compiled for analyses.

1.7.1 Study 1. Army 2009 and 2010

The Study 1 sample comprised Australian Army respondents who were administered the PULSE questionnaire from February 2009 to November 2010. In this version of the PULSE questionnaire, there were four items assessing negative organisational behaviours, one of which referred to the experience of workplace bullying. The presence of this item in the dataset permitted an initial assessment of the
relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction.

1.7.2 Study 2. Tri-Service 2011 and 2012

The Study 2 sample comprised respondents from all three Services, as well as civilian DoD employees, who were administered the PULSE questionnaire from June 2011 to November 2012. Due to the identified limitations with Study 1, the Negative Organisational Behaviours section of the questionnaire was substantially enhanced.

The Study 2 questionnaire data enabled reporting on the perceived effects of experiencing workplace bullying, and also allowed for the examination of the different sources of bullying in the workplace. With a more detailed measure of workplace bullying in the questionnaire, this dataset allowed for a more rigorous exploration of subgroup differences and protective factors. Multilevel effects associated with this behaviour were also explored within Study 2.

1.8 Restrictions/Limitations to the PhD

Each analysis chapter (Chapters 3–7) will discuss limitations specific to the method and analyses reported within. The Conclusion (Chapter 8) will include an outline of the major limitations to this thesis.

It is noted here that a limitation often presented in the field of workplace bullying research is that findings are based on the subjective perceptions of the targets. At the time of data collection, the ADF was under scrutiny for poor record-keeping of unacceptable behaviour cases (Rumble, McKean, & Pearce, 2011) and this source of organisational data was difficult to obtain. However, it is also recognised that targets of workplace bullying may experience stigma and barriers to formally reporting complaints of unacceptable behaviour through their organisation’s internal reporting
systems. Therefore, data recording formal investigations of workplace bullying may underrepresent the occurrence of bullying in the workplace.

This PhD also did not seek to interview or collect information from perpetrators. Due to the sensitive nature of the research, and social desirability, there is often reluctance on the part of perpetrators to identify themselves as such in this type of research (Keashly, 2018; Zapf, Escartin, Einarsen, Hoel, & Vartia, 2011).

It is therefore acknowledged that it is targets’ perceptions of workplace bullying that will be explored in this PhD.

1.9 Ethics

Ethical approval for this PhD was granted by the Australian Defence Human Research Ethics Committee (ADHREC) and by the Human Research Ethics Committee at the Australian National University.

1.10 Chapter Outline

This PhD is divided into 8 chapters. In summary, there is an introductory chapter, followed by a literature review chapter, then five analysis chapters exploring the research questions, and a concluding chapter. This current chapter outlined the research problem, the specific aims, and the research questions to be addressed within this PhD. Further details on the remaining chapters are provided below, and presented in Table 1.2.

The next chapter provides a review of literature on workplace bullying, including its prevalence, risk factors, and consequences for an individual, organisation, and society. There has been very little research into workplace bullying in the military, hence this chapter applies the risk factors from the civilian literature to potential risks within the military environment. Theoretical models from the occupational stressor-
strain literature are presented and critiqued for inclusion as a framework to develop hypotheses and aid future analyses.

Chapter 3 presents the findings of Study 1 that explore the relationships of workplace bullying, role overload, and job control with affective commitment, job satisfaction, and psychological distress in an Australian Army sample. Due to the limited nature of the bullying data, only the first part of Research Question 1 is addressed in this study.

Chapter 4 is the first of four chapters reporting results from Study 2. This chapter commences with a replication of the analyses from Study 1, using a more comprehensive measure of workplace bullying, and respondents from all three Services and the civilian DoD personnel. The associations between the job demands are explored across the different subgroups within the organisation, thereby addressing Research Question 1.

Chapter 5 focuses on identifying factors in the workplace that foster positive work environments and are associated with less psychological distress and more affective commitment and job satisfaction. These factors are explored for their potential as moderators of the relationships between workplace bullying and the outcome measures, thereby addressing Research Question 2.

Chapter 6 explores the associations of workplace bullying from different sources with psychological distress, affective commitment, and job satisfaction. The most prevalent sources of workplace bullying and demographic subgroup differences are reported. This chapter addresses Research Question 3.

Chapter 7 reports the associations of individual-level and group-level workplace bullying with affective commitment, job satisfaction, and psychological distress. Analyses assess individual-level associations in high- and low-bullying climates to
explore potential cross-level moderation of these relationships. This chapter addresses Research Questions 4 and 5.

Chapter 8 summarises and discusses the dissertation’s findings against current research and knowledge. Practical policy and procedural implications for organisations, and for managers, policy makers, training providers, and mental health service professionals, are provided. Areas of future research are presented and discussed.

Table 1.2.
Outline of PhD Chapters and Corresponding Research Questions

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Outline</th>
<th>Research question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction: Outlines the research problem, the specific aims, and the research questions to be addressed within this PhD</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Literature review on workplace bullying prevalence, risk factors, and consequences for an individual, organisation, and society Critique of occupational stressor-strain models</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Study 1: Explores associations of workplace bullying with psychological distress, affective commitment, and job satisfaction in an Australian Army sample</td>
<td>RQ1</td>
</tr>
<tr>
<td>4</td>
<td>Study 2: Replicates Study 1 with an ADF Sample and explores subgroup differences</td>
<td>RQ1 / RQ1a / RQ1b</td>
</tr>
<tr>
<td>5</td>
<td>Study 2: Explores the role of support and control on mental health and wellbeing, as well the ability of these measures to protect against the effects of workplace bullying</td>
<td>RQ2 / RQ2a / RQ2b</td>
</tr>
<tr>
<td>6</td>
<td>Study 2: Analyses the sources of workplace bullying and explores subgroup differences</td>
<td>RQ3 / RQ3a / RQ3b / RQ3c / RQ3d / RQ3e / RQ3f</td>
</tr>
<tr>
<td>7</td>
<td>Study 2: Explores workplace bullying at the individual level and at the group level</td>
<td>RQ4 / RQ5</td>
</tr>
<tr>
<td>8</td>
<td>Conclusion</td>
<td></td>
</tr>
</tbody>
</table>
1.11 **Significance of Research**

Many employees will experience workplace bullying at least once in their career. The duration of this experience can last for several years or more, and the impact is wide reaching. Despite a growing field of research, there is still much to learn. Applying a theoretical framework from the occupational stressor-strain literature will allow for the associations of workplace bullying with psychological distress, affective commitment, and job satisfaction to be tested. The impact of workplace bullying relative to two other well-known job stressors of role overload and low control will provide a more complete picture of occupational stressors experienced at work.

A better understanding of the protective factors, source, and subgroup differences will help organisations develop, and if required tailor, workplace policies, interventions, and training programs.

Finally, exploring workplace bullying at the group level significantly adds to the body of research that is often conducted at the individual level. Focusing the research to explore both the individual level and the group (unit) level will help organisations better understand and address the climate of workplace bullying.
CHAPTER 2. LITERATURE REVIEW: WORKPLACE BULLYING PREVALENCE,
ANTECEDENTS, AND CONSEQUENCES, AND SELECTION OF A MODEL

2.1 Chapter Overview

Research into workplace bullying is a less-developed field than research into childhood bullying, with perhaps the most advanced work to be found in Scandinavian countries such as Norway and Sweden (e.g., Bonde et al., 2016; Einarsen & Nielsen, 2015; Leymann, 1990; Nielsen & Einarsen, 2012; Zapf et al., 2011; Zapf & Leymann, 1996). Due to the various definitions and terms used, as well as the different methodologies employed to establish prevalence, workplace bullying presents a disparate field of study. There is still much to learn about the field.

This chapter will commence by defining workplace bullying and discussing the extent of the problem both internationally and in Australia. It will discuss risk factors, along with the costs and consequences of experiencing bullying for an individual, organisation, and society.

The context for this research is a military garrison environment. Therefore, this chapter will outline the occupational stressors experienced by military personnel in garrison. The risk and protective factors, consequences, and prevalence of workplace bullying within the military will then be detailed.

Much of the research into establishing the antecedents and consequences of workplace bullying has been done without the application of theoretical frameworks and models. Therefore, several models within the occupational stress literature will be examined to provide a theoretical framework upon which to address the study’s research questions. Applying a theoretical framework will aid in describing the relationships between exposure to workplace bullying and psychological distress, affective commitment, and job satisfaction.
2.2 Workplace Bullying

2.2.1 Definition

There are differences of opinion in the literature as to the definition of workplace bullying (Hershcovis, 2011; Rayner, Sheehan, & Barker, 1999). Definitions have varied depending on the research perspective or professional interest (Rayner & Cooper, 2006). One of the most common definitions used in research was proposed by Einarsen and colleagues (2011; 2003):

Bullying at work means harassing, offending, socially excluding or negatively affecting someone’s work tasks. In order for the label bullying to be applied to a particular activity, interaction or process it has to occur repeatedly and regularly (e.g., weekly) and over a period of time (e.g., about six months). Bullying is an escalating process in the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts. A conflict cannot be called bullying if the incident is an isolated event or if two parties of approximately equal “strength” are in conflict (Einarsen et al., 2011, p. 22).

Individual jurisdictions within Australia have also developed their own definitions of workplace bullying and, as a result, there is no single nationally-accepted statutory definition (Productivity Commission, 2010). Australia’s Guide for Preventing and Responding to Workplace Bullying (Safe Work Australia, 2016), which was first drafted as a code under the Work Health and Safety Act 2011, attempted to harmonise current State and Federal legislations, Occupational Health and Safety Acts, and codes of practice by offering a single definition of workplace bullying:
Workplace bullying is repeated and unreasonable behaviour directed towards a worker or a group of workers that creates a risk to health and safety (Safe Work Australia, 2016, p. 5).

These two definitions, one predominantly applied in a research setting, the other embedded in legislation, have a number of commonalities: workplace bullying is unreasonable, inappropriate behaviour; it is intentionally directed to one or more people; and it causes severe social, psychological, and psychosomatic problems. Bullying behaviours also occur repeatedly over a period of time. In fact, it is the persistent nature of the negative behaviours that gives workplace bullying its destructive force (Caponecchia & Wyatt, 2009; Einarsen, 2000a).

The issue of power over another, or the idea that bullying cannot occur if two people are of “approximately equal strength” (Einarsen et al., 2011, p. 22) is not addressed in the definition provided by SWA. Caponecchia and Wyatt (2011) offer two reasons for ‘power’ being omitted in some definitions of workplace bullying. First, power is implicit in any bullying situation and therefore its inclusion within a definition does not add further meaning. Second, it could be erroneously inferred that acts of workplace bullying are only perpetrated by superiors towards their subordinates. While power can come from having a superior positional status within an organisation, it can also come from a subordinate or colleague who may, for example, hold information required for another to conduct his or her job (Hoel & Cooper, 2000; Rayner & Keashly, 2005).

Defining all the behaviours that align with the definition of workplace bullying is also difficult, hence the development of a definitive list of these behaviours has been abandoned by researchers in the field (Bentley et al., 2009). Bullying behaviours are often covert and nonverbal, and can be person-related, work-related, or involve acts and
threats of physical violence (Einarsen, Hoel, & Notelaers, 2009; Rai & Agarwal, 2016). Examples of person-related bullying include deliberate exclusion from social gatherings, humiliation and ridicule, and malicious rumours or gossip. Work-related bullying includes the deliberate withholding of equipment or resources required to conduct a task, the repeated assignment of meaningless tasks, or deliberate allocation of work with unachievable deadlines to set a person up to fail. Evidence suggests that the person-related bullying behaviours, referred to by some researchers as emotional abuse (Keashly, 2001; Keashly & Harvey, 2005), are seen as the most severe and cause the most harm to the target (Escartín, Rodríguez-Carballeira, Zapf, Porrúa, & Martín-Peña, 2009).

An equally important aspect of defining workplace bullying is specifying the behaviours that are not considered as bullying. False-positive reporting is costly and can unnecessarily stigmatise individuals who are accused of bullying (Caponecchia & Wyatt, 2009). According to Safe Work Australia (2016), workplace bullying is not reasonable management action, such as informing a worker about unsatisfactory performance, or not selecting a worker for promotion where a fair and transparent process has been followed. Workplace bullying is also not one-off differences or disagreements in the workplace. For it to escalate into bullying, these conflicts would need to be repeated, or have the potential to be repeated, and to create a risk to health and safety.
2.2.2 Prevalence of Workplace Bullying

2.2.2.1 Methodological Problems

In addition to the different definitions used in workplace bullying research, there are also different terminologies that describe the behaviour. These differences create issues when attempting to compare findings, such as prevalence, across studies. For example, the term ‘mobbing’ tends to be used in Scandinavian and German-speaking nations to refer to the act of ‘bullying’ as defined by English-speaking countries.

A further difficulty is that the different methodologies employed to measure workplace bullying result in different prevalence rates (Gillen et al., 2017). One of the major approaches to measuring the experience of workplace bullying is the behavioural-experience method. This method utilises a list of bullying behaviours and respondents rate the frequency of exposure to each one, usually within a given timeframe. Another major approach, referred to as the self-labelling method, asks respondents to label themselves as bullied or otherwise. A definition of workplace bullying may or may not be provided (Nielsen et al., 2009). The self-labelling method often leads to a lower prevalence rate than the behavioural-experience method (Cakirpaloglu, Cehc, & Kvintova, 2017; Nielsen, Matthiesen, & Einarsen, 2010). There are two main reasons for this lower prevalence. First, the person may consider himself or herself weak to be labelled a victim, and this threat to self-esteem may make the individual reluctant to report having experienced bullying. Second, the person may have experienced repeated, negative behaviours, but if not provided with a definition then he/she may not identify these behaviours as bullying. This misidentification could be heavily influenced by the culture of the organisation, where such behaviours may be tolerated and accepted (Nielsen et al., 2010).
Finally, the sampling method influences estimates of prevalence. A meta-analysis by Nielson et al. (2010) reported that non-random samples provide higher rates of workplace bullying, by 8.7 percentage points, when compared to random sampling. In their meta-analysis, ‘random sampling’ referred to using large nation-wide or organisation-wide studies, including stratified sampling from each. Non-random samples were often convenience samples.

The higher prevalence rate in non-random samples may be due to bias in selection of the samples and/or bias in reporting. Higher prevalence could be gained if using a convenience sample drawn from an organisation’s monitoring system, set up to record incidences of perceived workplace bullying (Nielsen et al., 2010). Participants who have experienced bullying may also believe that they have something to contribute to the research and therefore more actively participate than those who feel they have not experienced these behaviours (Keashly, 2018).

In their meta-analysis, Nielsen et al. (2010) reported that although sampling made a difference to prevalence estimates, the methodological impact of how workplace bullying is measured (e.g., self-labelled vs behavioural-experience) resulted in a far greater difference. Acknowledging these methodological issues in establishing prevalence, it is still useful to explore published prevalence rates to gain a better understanding of the extent of workplace bullying internationally and in Australia.

2.2.2.2 International Prevalence Rates of Workplace Bullying

As mentioned, the prevalence of bullying behaviours is affected by workplace cultures and norms, as such there are different prevalence rates across nations. For example, rates of workplace bullying are lower in Scandinavia than in countries such as the United Kingdom (UK) and the United States (US), by as much as a half (Lutgen-Sandvik et al., 2007; Mikkelsen & Einarsen, 2001). Researchers have posited that this
lower prevalence may be due to the low power distance and feminine/egalitarian cultures in Scandinavian nations (Einarsen, 2000a, 2000b; Mikkelsen & Einarsen, 2001).

Results from the sixth European Working Conditions survey (Eurofound, 2016) reported that across the 28 European Union countries, 5% of respondents experienced bullying and harassment in the past 12 months. Other reports summarising studies across Europe have quoted a similar figure, noting though the varied prevalence rates across countries. For example, rates are higher in Finland (17%) and the Netherlands (12%) compared to rates reported by respondents in Italy and Bulgaria (both 2%) (European Agency for Safety and Health at Work, 2010). Even within countries, the prevalence of workplace bullying varies greatly. A report by the International Labor Organisation showed the prevalence of workplace bullying across five studies in the UK ranged from 11% to 53% depending upon the occupation of respondents (Chappell & Di Martino, 2006).

Despite variations in prevalence across and within nations, meta-analytical studies provide an opportunity to combine results from multiple studies. In the most comprehensive meta-analysis of international research to date, Nielson and colleagues examined prevalence rates from 86 independent samples (Nielsen et al., 2010). Overall, there was a reported 14.6% prevalence of workplace bullying. The researchers found several differences based on the method of measurement. A rate of 11.3% was reported for samples that were provided with a definition of bullying, and asked to self-label as a target of bullying. A higher rate of 14.8% was reported for samples that employed the behavioural-experience method, and finally the highest reported prevalence (18.1%) was found for self-labelled studies where there was no definition of bullying provided. In an earlier review, Nielsen et al. (2009) examined a group of 15 international studies, where both the behavioural-experience and self-labeling methods were employed in
defining cases of workplace bullying. That is, for the case to be termed ‘bullying’, the
behaviours that respondents experienced had to occur at least once a week and
respondents had to also identify as being bullied. Employing these criteria, a prevalence
of 3.7% was found (Nielsen et al., 2009).

In summary, international prevalence rates vary depending upon the culture,
occupation, and methodology employed. Using very stringent methods, less than 5% of
the workforce report these negative behaviours. However, employing measurement
methods used in the majority of studies, a conservative estimate would be that at least
one in ten employees are currently experiencing workplace bullying.

2.2.2.3 Australian Prevalence Rates of Workplace Bullying

As damaging and widespread as workplace bullying is estimated to be, there has
been very little Australia-wide research of the general population or representative
employee groups. The Australian Workplace Barometer study is the most
comprehensive empirical research to date that established national benchmarks on
psychosocial risk levels and working conditions within Australian workplaces (Dollard
et al., 2012). During 2009-2011, computer-assisted telephone interviews ($N = 5,743$)
were conducted across Australian states and territories (all except Queensland and
Victoria), to gain information from working Australians across a wide range of
occupations and industries regarding their work and health conditions (Dollard et al.,
2012). When provided with a definition of bullying (i.e., self-labelling method), 6.8% of
respondents reported experiencing workplace bullying in the last six months (Dollard et
al., 2012).

The longitudinal Personality and Total Health Through Life Project focuses on
the measurement and evaluation of the impact of psychosocial workplace hazards in
respondents from the Canberra and Queanbeyan regions of south-eastern Australia
(Anstey et al., 2012). The fourth wave of data collection of the project included new items on workplace bullying. Again using a self-labeling approach, results indicated that 5.2% of the almost 1,200 respondents reported that at the time of survey administration they currently experienced bullying in their workplace. A further 15.7% of respondents indicated that they had previously experienced bullying in their current workplace. When combined, a total of 20.9% of respondents had experienced bullying at some time in their current workplace (Butterworth, Leach, & Kiely, 2013).

The Australian Public Service (APS) is one of Australia’s largest employers, with just over 152,000 employees (Australian Public Service Commission, 2017a). With a strong response rate of 71%, the annual 2017 APS Employee Census provides an indication of the perceptions of workplace bullying in a major part of Australia’s public sector. Findings from the 2017 APS Employee Census showed that 15% of APS employees reported having been subjected to harassment or bullying in the workplace in the previous 12 months. This rate has remained stable for the past 10 years (Australian Public Service Commission, 2016).

As with the international research, it is difficult to compare across survey findings within Australia due to differences in method, definitions, and sampled populations. Researchers have tended to use prevalence rates from other countries to estimate the extent of bullying within Australia. There has been a concerted effort from the Australian government to fund work into establishing prevalence rates that will ascertain the true extent of the problem (House of Representatives Standing Committee on Education and Employment, 2012). Until such time, Caponecchia and Wyatt (2011) state that it would be reasonably conservative to conclude that bullying occurs each year to about 10% of the working population in Australia.
2.3 Workplace Bullying Risk Factors

Whilst the focus of this PhD is on the consequences of workplace bullying, it is important to identify some of the risk factors associated with its occurrence so that they can be evaluated within the ADF context. Risk factors identified in the literature can be grouped into the following categories:

1. Organisational culture. Workplace bullying is more prominent in cultures that accept and tolerate these behaviours as a necessary way to achieve results. Studies have shown higher incidences of workplace bullying in organisations with a hierarchical and authoritative culture, defined as environments where employees have high regard for authority, obedience, order, stability, and strictness (An & Kang, 2016; Hutchinson, Jackson, Wilkes, & Vickers, 2008; Pilch & Turska, 2015). In addition, organisations without anti-bullying policies, and training and awareness programs, are more at risk of these types of behaviours occurring (Caponecchia & Wyatt, 2011).

2. Leadership styles. Leadership within an organisation has a great deal of influence over the occurrence of workplace bullying. The occurrence of bullying in the workplace has been associated with two types of leaders: those who are strict and directive (i.e., autocratic) and those who avoid making decisions, provide inadequate or absent supervision, and give little or no guidance or performance feedback (i.e., laissez faire) (Di Martino, Hoel, & Cooper, 2003; Fleming, 2017; Hauge, Skogstad, & Einarsen, 2007; Hoel & Salin, 2003). Autocratic leaders may become perpetrators of bullying to ‘motivate’ workers, whereas laissez faire leaders are less likely to intervene.
when workplace bullying is reported (Lutgen-Sandvik, Namie, & Namie, 2009).

3. **Work environment.** The work environment hypothesis is one of the dominating frameworks in studies determining antecedents of workplace bullying, and states that stressful and poorly organised work environments are precursors to bullying (Einarsen, Raknes, & Matthiesen, 1994; Hauge et al., 2007; Skogstad et al., 2011). Targets of bullying consistently report less job control or decision authority (Agervold & Mikkelsen, 2004; Bakker, Demerouti, & Verbeke, 2004; Hauge et al., 2007; Zapf, 1999). Excessive workloads, unreasonable timeframes and performance measures, role conflict, and role ambiguity have all been associated with workplace bullying (Notelaers, De Witte, & Einarsen, 2010; Safe Work Australia, 2016; Skogstad et al., 2011; Spagnoli & Balducci, 2017). Uncertainty about the way work should be done—for example, through a lack of training, a lack of involvement in decision making and low skill utilisation—all increase the risk of bullying behaviours (Notelaers et al., 2010; Productivity Commission, 2010). Finally, organisations continually undergoing change, restructures, or downsizes have higher rates of bullying (Salin, 2003), presumably because of competition for jobs, poor change management, and role uncertainty.

4. **Individual characteristics.** There are conflicting findings in the research on individual characteristics that may explain who are more at risk to become targets of workplace bullying (Lutgen-Sandvik et al., 2007; Zapf & Einarsen, 2011). There appear to be certain subgroups for whom characteristics such as low social competency and a neurotic personality style make them more likely to be targets, yet there are other targets of bullying who do not show these characteristics (Zapf & Einarsen, 2011; Zapf et al., 2011). Those at
higher risk tend to be younger employees, or those new to the organisation, such as those in apprentice roles. Those in the minority group, such as males in a nursing population, are also at greater risk of bullying (Way, 2012). Finally, the characteristics of the perpetrator have been examined and typically include the need to protect self-esteem and/or a lack of social competence, such as lack of emotional control and self-reflection and perspective-taking. Perpetrators often display micro politically-motivated behaviour: that is, they bully another in order to protect or improve their own position in the organisation, or to weaken the position and reputation of a potential rival (Zapf & Einarsen, 2011).

2.4 Workplace Bullying Consequences

2.4.1 Individual Consequences

The consequences for a person experiencing workplace bullying are wide and varied. A person’s mental and physical health can be affected, as can their job satisfaction and commitment to their work. Productivity can also suffer. These effects on an individual will now be discussed.

2.4.1.1 Mental Health

Mental health issues for those who experience workplace bullying can appear within months of its commencement. Over time, these symptoms can become more chronic (Hallberg & Strandmark, 2006). Mental health symptoms reported by those who have experienced workplace bullying include psychological distress, such as increased anxiety and depression (Attell, Kummerow Brown, & Treiber, 2017; Bernotaite & Malinauskiene, 2017; Chang, Su, & Mizanur, 2018; Chatziioannidis, Bascialla,
Chatzivalsama, Vouzas, & Mitsiakos, 2018; Hauge et al., 2010; Hoel & Cooper, 2000; Mikkelsen & Einarsen, 2001; Verkuil, Atasayi, & Molendijk, 2015), and even posttraumatic stress symptomatology (Bond, Tuckey, & Dollard, 2010; Islamoska, Grynderup, Nabe-Nielsen, Hogh, & Hansen, 2018; Leymann & Gustafsson, 1996; Matthiesen & Einarsen, 2004; Mikkelsen & Einarsen, 2002; Nielsen, Tangen, Idsoe, Matthiesen, & Magerøy, 2015; Tehrani, 2004). In extreme cases, bullying can lead to suicide (Leymann, 1990). In a three-wave, 5-year longitudinal study, workplace bullying was a significant risk factor for later suicidal ideation. The odds for suicidal ideation at a later time point were two times higher among those bullied than among those not bullied. Reverse causation was not found, that is, suicide ideation was unrelated to subsequent reports of workplace bullying (Nielsen, Nielsen, Notelaers, & Einarsen, 2015).

A vicious cycle of workplace bullying and mental health problems has been demonstrated in many empirical longitudinal studies (Finne, Knardahl, & Lau, 2011; Kivimäki et al., 2003; Nielsen, Hetland, Matthiesen, & Einarsen, 2012; Verkuil et al., 2015). In a meta-analysis of 22 longitudinal studies that explored the association between workplace bullying and mental health, Verkuil et al. (2015) reported that baseline exposure to workplace bullying was significantly related to subsequent mental health complaints ($r = .21, 95\% CI = .13-.28, p < .0001, k = 22, N = 54,450$).

Specifically, baseline workplace bullying significantly predicted depression, anxiety, and stress-related psychological complaints. In addition, these relationships were not affected by age, gender, or type of work. A reversed association between mental health problems at baseline and exposure to workplace bullying at follow-up was also detected ($r = .18, 95\% CI = .10-.27, p < .0001, k = 11, N = 27,028$). This reversed association was observed for studies reporting on anxiety and stress-related psychological complaints, but was not apparent for depression. In the meta-analysis, the mean time
between the two collection points was 28 months, with a wide range of study lengths ($SD = 23$ months).

The shorter timeframe between data collection points in longitudinal studies has been criticised by Einarsen and Nielsen (2015), given that the average duration of workplace bullying can last at least 24 months, often longer (Bonde et al., 2016; Zapf et al., 2011). However, results from longitudinal designs across longer timeframes have shown very similar results between workplace bullying and mental health issues. Employing a longitudinal design across 5 to 7 years, Lahelma, Lallukka, Laaksonen, Saastamoinen, and Rahkonen (2012) reported that prior workplace bullying posed a higher risk to subsequent ‘common mental disorders’, measured by the General Health Questionnaire (GHQ), particularly in males. Increasing the GHQ cut-offs continued to show the long-term damaging effect of workplace bullying on more severe disorders. Einarsen and Nielsen (2015) also employed a prospective design with a 5-year time lag between measurement points to investigate the relationship between exposure to workplace bullying and subsequent mental health problems. Other well-known stressful aspects of the target’s job, such as high demands and lack of control, were adjusted for given their relationship with mental health. Exposure to workplace bullying predicted elevated levels of anxiety and depression five years later, even after adjusting for the subjective feeling of being victimised by bullying and for having a stressful work situation of high demands and low control. Similar to the gender differences reported by Lahelma et al. (2012), this relationship between bullying and later symptoms of psychological distress was only found among male, but not female, respondents. The reversed association that psychological distress at baseline was associated with an elevated risk of subsequent exposure to bullying was also only reported by males. That is, baseline anxiety predicted subsequent exposure to bullying among males; the researchers posited that distressed males perhaps elicit more rejection from others than
do females.

2.4.1.2 Psychosomatic and Physical Health

Poorer mental health is not the only consequence from experiencing workplace bullying. The psychosomatic and physical health of those targeted also suffer. Workplace bullying has been associated with hair and weight loss, rashes, headaches (Owoyemi, 2011), and dizziness, pains in the stomach, neck, back and lumbar region, and palpitation of the heart (Agervold & Mikkelsen, 2004; Feijo, Buriol, Bunchen, Oliveira, & Amazarray, 2018; Glambek, Nielsen, Gjerstad, & Einarsen, 2018; Mikkelsen & Einarsen, 2001). Being bullied has also been associated with musculoskeletal health complaints (Vie, Glaso, & Einarsen, 2012) and an increased risk of Type 2 diabetes (Xu et al., 2018).

In a longitudinal study of Australian police officers, past exposure to workplace bullying was significantly associated with cardiovascular risk indicators. That is, officers who reported being bullied at Time 1, were significantly more likely to visit a health professional in relation to cardiac symptoms such as chest pain or heart attack, and to report high blood pressure 12 months later at Time 2 (Tuckey, Dollard, Saebel, & Berry, 2010). In another longitudinal study, although noting limitations of a shorter lag time of 6 months, workplace bullying predicted physical health ailments such as headaches, stomach upsets, and respiratory issues (Sprigg, Martin, Niven, & Armitage, 2010).

2.4.1.3 Job Satisfaction

Moving from health consequences to exploring the impact on workplace attitudes and behaviours, a negative relationship between workplace bullying and job satisfaction has been consistently found in cross-sectional studies (Askew et al., 2012;
Carroll & Lauzier, 2014; Ertureten, Cemalcilar, & Aycan, 2013; Jaradat et al., 2016; Nielsen & Einarsen, 2012; Quine, 1999; Valentine, Fleischman, & Godkin, 2015). Even the more indirect forms of workplace bullying, such as social exclusion, rumours, and silence when trying to enter a conversation have been shown to have a negative impact on both global job satisfaction as well as satisfaction with specific aspects of the job (Einarsen & Raknes, 1997).

The experience of workplace bullying has also predicted lower job satisfaction in longitudinal studies. In a study of Belgian employees, Rodríguez-Muñoz, Baillien, De Witte, Moreno-Jiménez, and Pastor (2009) found that the experience of workplace bullying at Time 1 predicted low job satisfaction two years later at Time 2. No reverse causation was reported. Similar results were found by Heponiemi, Kouvon, Virtanen, Väskä, and Eloainio (2014) in a longitudinal study of Finnish physicians over four years. After controlling for age, gender, job status, and specialisation, workplace bullying at Time 1 was associated with lowered job satisfaction at Time 2.

2.4.1.4 Productivity and Commitment

Due to the relationships between job satisfaction, commitment, and performance (Judge, Thoresen, Bono, & Patton, 2001; Scott & Taylor, 1985; Spector, 1997; Tett & Meyer, 1993), it is no surprise that workplace bullying has also been associated with a greater propensity to leave the organisation, higher sickness absenteeism, lower productivity and organisational commitment (Ertureten et al., 2013; Grynderup et al., 2017; Hauge et al., 2010; Hoel & Cooper, 2000; Mathisen, Einarsen, & Mylketon, 2008; McCormack, Casimir, Djurkovic, & Yang, 2006; Mundbjerg Eriksen, Hogh, & Hansen, 2016; O’Driscoll et al., 2011; ur Rehman, Javed, Khan, Nawaz, & Hyder, 2015; Yuksel & Tunçsiper, 2011). Employees who have supervisors who are abusive or are socially undermining have lower commitment to the organisation (Duffy, Ganster, &
Pagon, 2002; Tepper, 2000), presumably because this behaviour evokes negative affect and hinders employees both personally and professionally. This lack of commitment and productivity, and high rates of absenteeism associated with workplace bullying, are costly to organisations (see following section).

2.4.2 Organisational Consequences

Whilst a great deal of research has been conducted into establishing the individual effects of experiencing workplace bullying, relatively less attention has been given to the organisational consequences and economic costs of workplace bullying (Einarsen et al., 2011). There are direct and indirect costs and consequences to organisations when workplace bullying occurs.

Direct costs and consequences include turnover and replacement costs, legal and compensation costs, and redundancy and early retirement payouts (Hoel, Sheehan, Cooper, & Einarsen, 2011; Productivity Commission, 2010). In addition to the individual productivity loss reported earlier, there are also productivity costs should targets leave an organisation and be replaced with less-experienced and therefore less-productive staff. Internal transfers of targets within the organisation can disrupt the workplace, as can loss or absenteeism of coworkers who may be affected by workplace bullying occurring around them (Sheehan, McCarthy, Barker, & Henderson, 2001).

There are further direct costs to the organisation. These costs include the personnel resources involved in investigating bullying allegations, and the management time spent addressing the impact of bullying, such as managing staff absences and reduced work performance (Sheehan et al., 2001).

Some consequences are difficult to quantify, especially indirect costs. These indirect costs include negative impacts on employee innovation and creativity, which reduce company growth and profits, as well as the negative impact of publicised cases
of bullying (Chappell & Di Martino, 2006; Mathisen et al., 2008; Sheehan et al., 2001). These indirect costs can then result in companies becoming less competitive in the market, and less attractive to future employees. It is a destructive cycle if workplace bullying is not addressed.

An often cited figure is that workplace bullying costs employers and the economy in Australia between $AUD6 billion and $AUD36 billion (Sheehan et al., 2001). The wide range is due to calculations based on two prevalence rates from US and European research (i.e., 3.5% to 15%). This assessment included direct hidden costs, such as those associated with pursuing formal grievance procedures, other staff time in addressing bullying-related incidents, and counselling, mediation, or employee assistance costs. Lost productivity costs were also calculated. These costs included reduced efficiency, lower work output, decline in work quality, and increased error margins. Sheehan et al. (2001) went on to calculate a unit cost estimate per bullying case based on an Australian working population of 10 million. Using the lower range of the estimated cost of bullying, each case of bullying would cost Australian employers at least $AUD16,977. At a higher range, the cost equated to $AUD24,256. This estimate was made over 15 years ago and hence the figures are likely to be higher today.

The organisational costs associated with the mental health impact from experiencing workplace bullying in Australia have been estimated. McTernan, Dollard, and LaMontagne (2013) estimated a population-attributable risk of 8.7% for depression attributable to bullying and job strain. That is, it was estimated that a proportion of depression (8.7%) could theoretically be eliminated by the removal of bullying and job strain. This would equate to $AUD693 million in preventable lost productivity costs per annum. A review of workers compensation claims in Australia in 2013-14 reported that on average, 29% of mental stress claims were caused by workplace harassment and/or bullying. This rate was second only to work pressures (30%) being a cause of mental
stress compensation claims (Safe Work Australia, 2016). In 2013-14, the median amount of time off work for mental stress claims related to workplace bullying and harassment was substantial at 9.4 weeks, and together with a median claim payment of $AUD22,600, presents a significant impact for organisations in terms of lost productivity and direct cost to workers’ compensation schemes (Safe Work Australia, 2016).

Internationally, the economic costs associated with workplace bullying are just as high. Table 2.1 provides an indication of the extent to which workplace bullying impacts on the cost to the international economy.

Table 2.1.

<table>
<thead>
<tr>
<th>Country</th>
<th>Annual estimated cost (and year calculated)</th>
<th>Costs inclusive of</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>€15 and €50 billion (2001)</td>
<td>Not stated</td>
<td>(Lorho &amp; Hilp, 2001)</td>
</tr>
<tr>
<td>Spain</td>
<td>€62 million (2003: 0.12% of public health expenses for that country)</td>
<td>Visiting a medical professional and any subsequent medication</td>
<td>(Carnero, Martinez, &amp; 2005)</td>
</tr>
<tr>
<td>UK</td>
<td>GBP 13.75 billion (2007)</td>
<td>Productivity loss, absenteeism, and turnover</td>
<td>(Giga et al., 2008)</td>
</tr>
<tr>
<td>US</td>
<td>US$6,869.50 per employee experiencing bullying (2012)</td>
<td>Time spent disengaged, worrying about and avoiding workplace bullying, calculated at an average of 3.9 hours per week</td>
<td>(Hollis, 2015)</td>
</tr>
</tbody>
</table>

It is difficult to compare across nations due to a great deal of variability in prevalence. Comparison within nations is also difficult since prevalence differs across
job sectors (Chappell & Di Martino, 2006). There are also variations in salary and differences in the factors that are included in the final estimated cost of workplace bullying. Despite all of this variation, Table 2.1 indicates that the costs of workplace bullying to an economy are far from minimal.

2.4.3 Societal Consequences

Beyond the individual and organisational consequences, workplace bullying affects the broader society. Targets may choose to leave the workforce before securing other employment, or they may be unable to work due to the mental and physical health consequences of experiencing bullying. Hence, unemployment benefits and income support may be required, as may long-term rehabilitation and training costs to reintegrate back into the workforce. Costs to society may also include public-sector funding, such as the health and medical services required to treat individuals who have been bullied at work. Litigation and criminal justice system expenses are also consequences that may arise due to workplace bullying (Chappell & Di Martino, 2006; Hoel et al., 2011; Poilpot-Rocaboy, 2006; Sheehan et al., 2001).

There is little doubt that workplace bullying impacts on the family and friends of those who are targeted. Family and friends may be required to take on a formal care role, adding an economic burden of doing so (Poilpot-Rocaboy, 2006). Those bullied have reported difficulty in communicating with loved ones (Owoyemi, 2011), resulting in family breakdowns. Targeted individuals speak of the negative ‘merging’ of work and family life due to the continual venting about workplace bullying to family and friends (Tracy, Lutgen-Sandvik, & Alberts, 2006). If targets feel unable to vent frustration at work this can then lead to arguments with partners and other family members (Buttigieg, Bryant, Hanley, & Liu, 2011).
2.5  **Workplace Bullying in the Military**

2.5.1  **Military Stress Research**

The depth of research into the outcomes of occupational stressors in civilian workplaces has not been matched by equivalent research within the military work environment (Bliese & Halverson, 1996; Brooks, Byrne, & Hodson, 2001; Deans & Byrne, 2009; Dobrev-Martinova et al., 2002; Pflanz, 2001; Shigemura & Nomura, 2002; Watkins, 2014). Research in the military has predominantly focused on the impact of operational stressors on deployment and members’ wellbeing and satisfaction (Hoge et al., 2004; Rona et al., 2017; Sipos, Bar-Haim, Abend, Adler, & Bliese, 2014; Sundin et al., 2014; Whybrow et al., 2016).

Stressors experienced in a garrison environment are similar to those found in a civilian workplace. Long work hours, coupled with work overload and inadequate staffing are some of these stressors (Pflanz & Ogle, 2006; Pflanz & Sonnek, 2002). Military work stressors associated with poor leadership, lack of resources to perform well in the job, and ambiguity or confusion about tasks and one’s role (Campbell & Nobel, 2009) are also found in civilian settings.

That said, Cotton (2001) emphasised that these ‘normal job demands’ are experienced in an environment with an expectation of being on call to work 24 hours a day and 7 days a week. In addition, military members are often taken from their social support networks every few years due to the posting cycle, and throughout their career the physical separation from family and friends occurs regularly due to military training and operational service. Military personnel are expected to remain current in advanced technology and complex ever-changing equipment. Even the process of socialisation into the military can be considered stressful. In many cases, military culture may be expressed in such a subtle manner that new recruits can only learn by trial and error,
leaving them vulnerable to costly consequences when cultural norms are unintentionally violated (vom Hagen, 2003).

The deployed nature of work that many military personnel perform also exposes these employees to operational stressors. These stressors include combat, threat of injury and death, as well as unfamiliarity with different cultures, languages, and customs. Exposure to these stressors often occurs in environments that offer extreme climates, loss of privacy, and poor sanitation (see Watkins (2014) for a review of operational stressors).

While there have been many attempts to classify these military stressors experienced on deployment (Bartone & Adler, 1994; Harms, Krasikova, Vanhove, Herian, & Lester, 2013; Kavanagh, 2005; Litz, King, King, Orsillo, & Friedman, 1997; Waller et al., 2012; Watkins, 2014), fewer studies have explored stressors across the phases of a military member’s workcycle. Two studies conducted within the US military have added to this knowledge base. The first study, by Adler, McGurk, Stetz, and Bliese (2003), focused on stressors experienced either in garrison, training, or on deployments, whereas the second study by Campbell and Nobel (2009) explored stressors within garrison, predeployment, combat/noncombat deployment, disengagement, and return home phases. Both studies drew attention to the fact that stressors often cut across the phases, and may become more salient at different times. Of note was that workplace bullying received very little, if any, mention in these studies.

Campbell and Nobel’s (2009) social-interpersonal stressor category included stressors arising from social interactions with colleagues and military superiors. The authors briefly mentioned sexual harassment as a social-interpersonal stressor, but did not identify exposure to workplace bullying as a stressor within this domain. Similarly, Adler et al. (2003) identified within group conflict as a workplace stressor, but relative to research on other forms of workplace stressors this received little attention. This
narrow focus may be because workplace bullying was not defined within US military policy until 2014, and so research up to this time was not inclusive of this stressor.

It is posited that future research using frameworks to classify military stressors would identify workplace bullying as a stressor that cuts across various phases of a military member’s work environment. If a team in garrison is already reporting a climate of bullying, this workplace hostility could follow into the predeployment, and deployment phases. Alternatively, the close working and living environments on deployment, where time away from other members is not often possible, could escalate low-level tensions and conflicts into workplace bullying. Inclusion of workplace bullying in any framework classifying military stressors allows for the effects from experiencing workplace bullying to be compared relative to other potential stressors that have been identified as part of a military’s working environment—such as high workload and low autonomy.

2.5.2 Prevalence of Workplace Bullying in International Militaries

The five military nations of the UK, US, Canada, New Zealand, and Australia that form part of the Technical Cooperation Program (TTCP) administer questionnaires to ascertain the prevalence of exposure to workplace bullying and harassment (TTCP, 2015). Prevalence rates across these and other militaries are difficult to compare. Not only are there different terminologies, definitions, and samples used in assessing prevalence, many militaries restrict access to research findings and do not publish results in the public domain (TTCP, 2015). A report from TTCP attempted to compare the prevalence of unacceptable behaviour across the five member nations. Of all types of unacceptable behaviour, ultimately only sexual harassment could be compared, and even then there were limitations due to differing definitions (TTCP, 2015).
The results in Table 2.2 demonstrate the variability in definitions and prevalence across militaries based on published reports. Similar to civilian research on workplace bullying, there are inconsistencies in definitions, and in the timeframes presented (e.g., no time frame, 6 months, 12 months). This inconsistency makes the comparison of prevalence across international militaries difficult.

Table 2.2.
*Prevalence of Workplace Bullying in International Militaries*

<table>
<thead>
<tr>
<th>Military</th>
<th>Prevalence of unacceptable behaviour</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>21% reported experiencing workplace bullying in the 12 months prior to survey administration. Bullying was defined as repeated experiences of hostile behaviour that created emotional, mental, or physical risks to the recipient.</td>
<td>2014 Unacceptable Behaviour Survey (TTCP, 2015)</td>
</tr>
<tr>
<td>Armed Forces of the Slovak Republic</td>
<td>25% reported personally experiencing mobbing (no timeframe). 28% of military respondents reported that their superior responded inappropriately “due to his higher position”.</td>
<td>(Nekoranec &amp; Kmosena, 2015). Data collected in 2014.</td>
</tr>
<tr>
<td>Canadian Forces</td>
<td>16% reported experiencing personal harassment in the 12 months prior to survey administration. Personal harassment could include offensive comments relating to race, religion, sex or physical traits.</td>
<td>2012 Canadian Forces Workplace Harassment Survey (Auld, 2013)</td>
</tr>
<tr>
<td>New Zealand Defence Force</td>
<td>25.1% reported experiencing bullying in the 12 months prior to survey administration.</td>
<td>NZDF Census16–Your Voice (New Zealand Defence Force, 2016)</td>
</tr>
<tr>
<td>Norwegian Navy</td>
<td>2.5% reported experiencing bullying or harassment in the workplace in the six months prior to survey administration.</td>
<td>(Mageroy, Lau, Riise, &amp; Moen, 2009)</td>
</tr>
<tr>
<td>UK Regular Armed Forces</td>
<td>13% reported being subject to bullying, discrimination, or harassment in the 12 months prior to survey administration.</td>
<td>(Ministry of Defence, 2017)</td>
</tr>
</tbody>
</table>
In 2016, for the first time, the US military included a question in their Workplace and Gender Relations Survey that assessed bullying. However, this question was asked of active duty members who indicated experiencing at least one sexual assault/harassment event in the past 12 months. These members were asked if they considered the most significant sexual event they experienced to be bullying (Department of Defense, 2017). Due to the nature of the question being restricted to only those who experienced sexual events, results were not included in Table 2.2.

2.5.3 Prevalence of Workplace Bullying in the ADF

There have been many formal investigations detailing cases of bullying, harassment, and/or abuses of power within the ADF (e.g., Committee of Enquiry into the Royal Military College, 1970; Grey, 1998; McArthur & Kitay, 2000; Rapke, 1971; Rumble et al., 2011; Senate HMAS SWAN Report, 1994). As detailed and alarming as the findings are within these reports, the investigations have mainly focused on specific establishments or ships within the ADF (e.g., the Australian Defence Force Academy, the Royal Military College, HMAS LEEUWIN, and HMAS SWAN). Establishing the prevalence of workplace bullying across the ADF has been more difficult.

For the past 17 years, the ADF has been administering at ad hoc time points an Unacceptable Behaviour Survey (UBS) to monitor rates of workplace bullying. However, for the majority of this time (during 2001 to 2012) the survey was administered to a small number of ADF personnel, with no stratified sampling, making generalisation of results to the broader ADF impossible.

In situations where questionnaires have been administered across the ADF, poor wording of the questionnaire items has limited the usefulness of the information collected. For example, the ADF-wide mental health prevalence study (McFarlane, Hodson, Van Hooff, & Davies, 2011) sought to establish the prevalence of bullying in
the ADF using a self-reported questionnaire. The timeframe that assessed the experience of workplace bullying was ‘at any time during one’s working career’, and therefore the experience of bullying could not be attributed to a respondent’s time within the military.

Underreporting also limits the ability to establish the true prevalence of bullying in the ADF. The final report into abuse within Defence prior to April 2011, noted that “a culture of silence” (Defence Abuse Response Taskforce, 2016, p. 63) prevented many individuals from reporting abuse when it occurred. ADF personnel report that power distance between targets and perpetrators, and subsequent potential ramifications to one’s careers, hinder reporting of unacceptable behaviours perpetrated by more senior members (TTCP, 2015).

In the review of allegations into unacceptable behaviour in the ADF, Rumble et al. (2011) highlighted that in addition to underreporting, poor record-keeping practices within the ADF has made it difficult to ascertain prevalence.

Defence is improving its collection of information on the prevalence of workplace bullying. In 2013, the previously mentioned UBS was reviewed, and an annual administration to a 25% stratified random sample of military and civilian personnel commenced. The UBS seeks information about work-related, sexual-related, and physical-related unacceptable behaviours. At the time of writing, the prevalence rate from this survey was not routinely published outside an internal chain of command. A public report by the Inspector-General ADF (IGADF, 2013) referred to results from the 2013 UBS, and noted that approximately 42% of ADF personnel reported being subjected to unacceptable behaviour during the review period, which was the previous 12 months. This reporting included all types of unacceptable behaviour. A smaller proportion of respondents (21%) to the 2014 UBS reported experiencing workplace bullying, defined as repeated experiences of hostile behaviour that creates emotional, mental, or physical risks to the recipient (TTCP, 2015).
Of all types of unacceptable behaviours, workplace bullying in the ADF remains one of the most common causes of complaints submitted to the IG-ADF, with a third of unacceptable behaviour complaints focused on workplace bullying. According to the IG-ADF report, workplace bullying has consistently been one of the most prevalent causes of complaints over the four years prior (IGADF, 2013).

The Defence Abuse Response Taskforce, established after the Report of the Review of Allegations of Sexual and Other Abuse in Defence (Rumble et al., 2011), investigated 1,751 formal complaints of abuse from current and previous serving military and civilian members. These were plausible claims of sexual abuse, physical abuse, sexual harassment, and workplace harassment and bullying experienced in Defence prior to 11 April 2011. Workplace bullying and harassment formed the most prevalent types of abuse that claimants reported experiencing (Defence Abuse Response Taskforce, 2016); see Figure 2.1.

![Figure 2.1. Type of abuse by the proportion of cases submitted to the Defence Abuse Response Taskforce](image-url)
2.5.4 Risk Factors of Workplace Bullying in the Military

Drawing upon the groupings of the risk factors to workplace bullying outlined earlier from the civilian literature, the risk factors that apply to military workforces will now be summarised.

2.5.4.1 Organisational Culture

A higher incidence of workplace bullying occurs in organisations with a hierarchical and authoritative culture (An & Kang, 2016; Hutchinson et al., 2008; Pilch & Turska, 2015). The formal hierarchy of a military, and power differential of the ranks within, are retained through disciplinary procedures for those who are insubordinate. The chain of command emphasises the relative position of employees and the reliance of those in command on subordinates to carry out their orders (Coetzee, Atkins, & Gould, 2012). The hierarchical organisational structure of the military, and the task-oriented leadership, could create a risk for workplace bullying.

The military has traditionally been described as having a masculine warrior culture, with masculine norms such as toughness, physical strength, and aggression (Coetzee et al., 2012; Dunivin, 1994). Even the cut of the military dress uniform, with its broad padded shoulders, has been suggested to symbolise masculinity. In such a culture, reporting of unacceptable behaviour may be seen as “weak” by others (TTCP, 2015, p. 83). There is also a potential for bullying behaviours such as shouting, aggression, and public humiliation to be accepted as the norm. In some cases, the power of uniform or organisation may serve as an authorization of some aspects of bullying.

After conducting a review of over 800 cases of alleged unacceptable behaviour in the ADF, including a review of past investigations into abuse, Rumble et al. (2011) concluded that there has been a culture in the ADF of discouraging the reporting of
abuse, a tolerance for unacceptable behavior, and a lack of punishment for perpetrators. All of these areas have contributed to the occurrence of bullying.

### 2.5.4.2 Leadership Styles

Military supervisors control many aspects of their subordinates’ career progression, especially through performance reports and duty allocation. This formal positional power can be abused and result in unfair practices that over time can become workplace bullying; unacceptable behaviours from leaders may prevent subordinates from reporting these behaviours for fear of retaliation.

There is also fierce competition amongst peer groups at the Officer and Non-Commissioned Officer ranks for promotion to leadership roles. Promotion comes with many rewards, not only increased pay but larger housing, better chance of lucrative postings (e.g., overseas postings), and prestige. Among other things, promotion depends upon strong performance, often enabled from those in subordinate positions. This dependency creates a risk of bullying those underperformers who may be seen as a threat to a superior’s promotion opportunities. Alternatively, Coetzee et al. (2012) point out that promising and able subordinates may be considered a threat for future competition and “eliminated with equal ruthlessness” (p. 116).

### 2.5.4.3 Work Environment

Workplace bullying occurs in high-stress work environments (Baillien et al., 2011; Einarsen et al., 1994; Hauge et al., 2007; Skogstad et al., 2011). The military equivalent of workload is epitomised by the concept Operations Tempo (OPTEMPO) which includes both the daily workplace demands as well as long-range work requirements (Adler et al., 2003). In the military, these long-range requirements can include training that requires extended periods away from home, attending regular guard
duty shifts, and deploying on combat, humanitarian, and/or peacekeeping missions. Therefore, the concept of workload is consistent with civilian literature but the content of such workload is specific to a military context where members are on call to work 24 hours a day, seven days a week. OPTEMPO for military organisations have been extremely high over the past two decades and working within these stressful environments is a risk factor to the occurrence of bullying.

The military trains its members to be aggressive, an attribute often required in an operationally deployed role. Part of this training involves enacting war-like simulations, including hostage situations. The flip side is that the military then requires members to treat others with respect, to act professionally, and to avoid outbursts of anger in the workplace. Some members may find it difficult to switch from an aggressive training environment or a high-operational combat environment, to what is expected when interacting with members in a garrison environment. This switch in work environments is a risk to the occurrence of unwarranted expressions of hostility or bullying.

In a Royal Norwegian Navy study, factors in the work environment were associated with the occurrence of bullying. Military members working in environments where there was a reported lack of fair leadership, lack of an innovative climate, and inequality were more likely to report experiencing workplace bullying. That is, working in an environment where there was innovation and communication, a fair distribution of work and treatment of others, and no differential treatment based on gender or age, reduced the risk of workplace bullying. These results were consistent when analysed at the individual level, and at the department level (i.e., four departments—ships, workshops, schools and Defence command). Furthermore, the findings were similar when those being bullied were excluded from the analyses at the departmental level (Mageroy et al., 2009).
2.5.4.4 Individual Characteristics

Younger employees, or employees representing minority groups, are more at risk of experiencing bullying (Safe Work Australia, 2016). Most Western militaries predominantly consist of males and full-time permanent members, with women and Reservists as minority groups. Rank within the military tends to be associated with age. Therefore, women, Reservists, and lower ranks may be more at risk either due to their subordinate position or minority status within the organisation. That said, in the Royal Norwegian Navy study reported earlier, there were no differences in reported experiences of bullying across age and gender. Rank was not tested due to its high correlation with age (Mageroy et al., 2009). Older Navy personnel were less likely to report witnessing bullying. The authors posited two reasons for this finding. The first was that older personnel were generally of higher rank and may not be exposed to as many people or ‘conscripts’ as those of lower ranks. The second was that younger people new to the Navy environment “have not socialized into the Navy yet and, thus, have not been familiarized with Navy culture” (p. 349). This statement suggests a culture that tolerates certain behaviours that may otherwise be perceived as bullying.

2.5.5 Protective Factors of Workplace Bullying in the Military

It must be acknowledged that many militaries have begun to address some of the risk factors identified in the previous section. Most Western militaries, including the ADF, have implemented anti-harassment policies (e.g., Defence Administrative Orders and Directives, 2017; Department of Defence, 2009; Ministry of Defence, 2013). During the time of conducting the present study, the US military issued new guidelines and policy that introduced workplace bullying as a separate unacceptable behaviour to hazing, ordering the Services to commence tracking and reporting on these behaviours.
accordingly (Department of Defense, 2014; Department of the Air Force, 2012; Department of the Army, 2014). These policies help to define unacceptable behaviours and outline the processes and practices to address these when experienced or observed.

Many militaries also have training and awareness programs that stipulate the process for formal enquiries when incidents are reported (Wither, 2004). Some programs have a cognitive behavioural component, raising members’ awareness of appraising and coping with stressful situations (Adler, Bliese, McGurk, Hoge, & Castro, 2009; Cohn & Pakenham, 2008). Independent review boards have been established in some militaries to create separate report-and-review chains for claims of unacceptable behaviour, removing the immediate superior from the process (IG-ADF, 2011).

There is also a strong sense of esprit de corps in the military, and a sense of mateship (Murphy, 2008) between service personnel that may help reduce the incidence of bullying, or lessen the consequences should bullying occur.

A specific move towards a culture change within the ADF has been facilitated by the implementation of the strategy Pathway to Change: Evolving Defence Culture (Department of Defence, 2012b). This culture change strategy towards zero tolerance of unacceptable behaviours was introduced to create a fair and inclusive culture within the ADF, to protect against future incidents of bullying and abuse. To coincide with this strategy, clear messages are routinely sent from the senior leaders that these behaviours will not be tolerated. An example of messaging was evident in the midst of a ‘Jedi Council’ sex scandal in 2013, when the then Chief of Army, Lieutenant-General David Morrison, delivered a 3-minute video regarding unacceptable behaviour. His video went viral internationally, with quoted lines such as “I’ll be ruthless of ridding the Army with people who cannot live up to its values”, “Those who think that it is ok to behave in a way that demeans or exploits their colleagues, have no place in this Army”, and “The
standard you walk past is the standard you accept” (Morrison, 2013). All Services have delivered equally strong and clear messages (see Air Force, 2012; Griggs, 2014).

2.5.6 Consequences of Workplace Bullying in the Military

Despite very little empirical research in the military environment, there is no doubt that general research findings on the consequences of workplace bullying in civilian workplaces would transfer to military settings. As part of a comprehensive review of past claims of abuse in the ADF, interviews with those who submitted formal complaints enabled the Defence Abuse Response Taskforce to summarise the consequences of experiencing this abuse. The consequences included high rates of psychological distress, posttraumatic stress, and suicidal thoughts. Members reported being cut-off from family and friends as they could no longer function in society or speak of the atrocities they experienced. They had been unable to hold down jobs, and suffered from leaving what was to be a lifetime career. Those who remained working in the military “were affected—perhaps severely affected—by their abuse and it contributed to reduced performance and a disrupted and sometimes dysfunctional workplace” (Defence Abuse Response Taskforce, 2016, p. 60).

In a qualitative review of the lead indicators of depression in the British Army, Finnegan et al. (2014) interviewed 19 mental health clinicians and concluded that harassment and bullying were among the causes for depression in soldiers nearing the end of their career, and for those aged from late 30s onwards. In a similar qualitative review, clinical psychologists recognised adjustment disorders, anxiety disorders, and posttraumatic stress disorders in UK Armed Forces members who had reported bullying (Coetzee et al., 2012). The anecdotal nature of the reports was noted by the authors who stressed the importance of future empirical research into the impact of workplace bullying on the performance, mental, and physical health of military personnel.
It is possible that empirical research into workplace bullying exists within international militaries, but is simply not publically available. There has been no empirical research on the relationships of workplace bullying with commitment, job satisfaction, and mental health of ADF personnel.

Whatever the consequences, the employment conditions surrounding military personnel may make any bullying situation worse. Enlistment into the ADF includes an Initial Minimum Period of Service (IMPS). At some stage during their service career, many ADF personnel will also have a Return of Service Obligation (ROSO). ROSO is a period of service that a member must serve as a consequence of receiving specified training, remuneration, education, experience, or undertaking special duties such as an overseas posting (Department of Defence, 2013). Hence, unlike employees within civilian organisations, if a military member with a ROSO or IMPS is experiencing workplace bullying then he or she would be unable to voluntarily leave the situation in the workplace and avoid the perpetrator, without financial and contractual implications.

There can also be a 12-month notice period for a member to willingly discharge from the military (Coetzee et al., 2012). This notice period is much longer than seen in most civilian organisations. When job mobility is low, the effects of unacceptable behaviour are more detrimental to mental health and workplace attitudes (Tepper, 2000) simply due to the longevity which an employee may be forced to endure these behaviours. Therefore, this extended notice period could worsen the impact of workplace bullying on an ADF member.
2.6 **Workplace Bullying Frameworks**

Until now, the discussion has centered on the risk factors and consequences of workplace bullying. Early research was predominantly focused on these bivariate relationships between bullying and risk factors, or between bullying and workplace outcomes (see Moayed, Daraiseh, Shell, & Salem, 2006, for a review). There was very little theoretical rationale behind the selection of variables, with the focus on prevalence of workplace bullying, rather than testing “theoretically derived hypotheses” (Aquino & Thau, 2009, p. 733). When a framework was applied to investigate the antecedents of workplace bullying, the work environment hypothesis dominated (Einarsen et al., 1994; Hauge et al., 2007; Skogstad et al., 2011). This framework emphasises characteristics of the work environment, such as inadequate leadership, poorly organised working conditions, and low levels of morale, as the main precursors of workplace bullying.

Even so, the large number of studies utilising this framework (see Notelaers, Baillien, De, Einarsen, & Vermunt, 2013) remain descriptive or explorative (Baillien et al., 2011), without a theoretical base.

Similarly, a meta-analysis of research into the consequences of workplace bullying indicated that there have been very few theoretical models published to understand the relationship between workplace bullying and different outcome variables (Nielsen & Einarsen, 2012).

During this PhD, a comprehensive model of workplace bullying was proposed by Branch and her colleagues (2013). Outlined in Figure 2.2, this model not only reflects the existing, less-detailed frameworks, but notes the macro-, meso- and micro-level foci of the antecedents and consequences of workplace bullying (D’Cruz, 2015). The model also underscores the dynamic and cyclical nature of the phenomenon.
Bringing together this framework with more empirically-driven theories, detailed in the next section, will aid the development of hypotheses for this PhD.


Bullying has been identified as an extreme form of social stressor that results in consequences similar to, or even stronger than those of other job stressors such as role overload, role ambiguity, and role conflict (Hauge et al., 2010). The occupational stress literature is therefore a likely place to find appropriate empirically-driven theories to predict and explain the associations of workplace bullying with psychological distress, affective commitment, and job satisfaction. Several occupational stress models will now be reviewed in terms of their suitability to explore these associations.
2.7 \textbf{Occupational Stressor-Strain Models}

2.7.1 \textit{Transactional Model of Stress and Coping}

The first model evaluates the processes of appraising stressors and how individuals cope with stressful events. Applied to the workplace, Lazarus and Folkman’s (1984) central tenet of their transactional model of stress and coping is that a potential workplace stressor triggers a primary appraisal in which an employee evaluates the significance of the event as stressful, positive, controllable, challenging, or irrelevant. After this primary appraisal, the secondary appraisal process assesses the individual’s coping resources and options to manage the stressor. If the appraisal and subsequent coping efforts are not adequate then the outcome is stress.

The transactional model could be applied to explore the relationships of bullying with psychological distress, affective commitment, and job satisfaction. According to this model, an employee would perceive workplace bullying as a potential threat to his/her wellbeing, and depending upon the coping mechanisms in place may go on to experience stress. While this PhD does not focus on cognitive appraisal and individual coping strategies, this model offers possible explanations for any individual differences in responses to workplace bullying.

2.7.2 \textit{Job Demands-Control / Job Demands-Control-Support Models}

The JDC model, also known as the decision latitude model, (Karasek, 1979; Karasek & Theorell, 1990) has dominated the occupational stressor-strain literature over the past three decades. It has been described as one of the most influential models in research on the relationship between work and health (Van der Doef & Maes, 1999) and has provided the theoretical framework for numerous studies. In the JDC model, Karasek (1979) stated that jobs can be classified in terms of two dimensions: job
demands and control. Job demands refer to the stressors one experiences in the work environment. Typically these are the mental job demands required to carry out the work. Job control, which is sometimes called decision latitude, refers to the “range of decision making freedom (discretion) available to the worker” (Karasek, 1979, p. 287). Decision latitude includes two components: skill discretion and decision authority.

The Job Demand-Control (JDC) model has generated two main hypotheses. The first, a strain hypothesis, is that job demands and control have an additive effect and in conditions of high demands and low control, worse health and performance effects are seen. Under the strain hypothesis, both job demands and job control are predicted to have direct effects on a worker’s wellbeing. The second, a buffer or interaction hypothesis, predicts that job control moderates the negative effects of job demands. Thus, when individuals experience high job demands and do not have adequate job control, the result is high strain, such as psychological distress, high blood pressure, and low job satisfaction. However, if individuals have more control over their work, then they would not experience such damaging effects. In a later publication, Karasek (1989, cited in de Lange, Taris, Kompier, Houtman, & Bongers, 2003) stated that the interaction effects are often difficult to detect because of the lack of statistical power. He argued that the exact form of the interaction term was not the main issue, since the practical implications for job redesign were similar for additive and interactive effects. This argument from Karasek has generated discussion that perhaps only additive effects (i.e., main effects only) suffice (de Lange et al., 2003).

The Job Demand-Control-Support (JDCS) model (Johnson & Hall, 1988) is an expanded version of the JDC, where work-related support was added. This perceived support can act as a moderator, or buffer, to the effects of job demands on strain outcomes (Brough & Pears, 2004). The interaction between support, job demands, and job control can result in job strain. For example, employees experience high job strain
when they have low levels of support, high job demands, and low job control (Johnson & Hall, 1988).

Häusser et al. (2010) reviewed 83 studies published between 1998 and 2007 that focused on the JDC and the JDCS models. The outcome measures chosen as part of this review reflected aspects of general psychological well-being (i.e., mental health, psychological distress, trait anxiety, depression, or fatigue) or job-related well-being (i.e., job satisfaction or emotional exhaustion). The review revealed three major results. First, evidence of the independent effects of demands, control, and social support on general psychological wellbeing was almost always found if the sample size was sufficient. In fact it was concluded that “the existence of additive effects” are “no longer in doubt” (p.29). Second, although there was consistent evidence for independent effects in relation to job-related wellbeing in cross-sectional studies, there was less evidence in longitudinal data. Thus, reciprocal or reversed causation might account for part of the association between JDC/JDCS dimensions and job-related wellbeing. Finally, evidence for interactive effects, as predicted by the buffer hypotheses of the JDC/JDCS model, was very weak overall—the reason being that the demonstration of buffering effects depended on whether or not demands and control were based on qualitatively identical JDC/JDCS dimensions (a matching principle). For example, the detrimental effect that frequent contact with difficult colleagues, clients, or patients at work (an emotional job demand) could have on emotional exhaustion can be buffered by a (matching) job resource, such as emotional support from others within the workplace (an emotional job resource). The need for a better match between the type of job demands and appropriately matched job control/support is not new and has been previously suggested as a reason for conflicting findings on interactive effects predicted by the JDC/JDCS model (de Jonge, Dollard, Dormann, Le Blanc, & Houtman, 2000).
The JDC model provides a useful theoretical framework for this PhD for three reasons. It has been applied successfully to a diverse set of physical and psychological health measures in multiple countries (de Lange et al., 2003). Of note is that it has been applied to the same outcome measures as this PhD: mental health (Barnett & Brennan, 1997; Bourbonnais, Comeau, & Vezina, 1999; Dalgard et al., 2009; Marchand & Durand, 2011; Stansfeld, 2002; Van der Doef & Maes, 1999), job satisfaction (Brough & Williams, 2007; Hussain & Khalid, 2011; Mansell & Brough, 2005) and organisational commitment (Laschinger, Finegan, Shamian, & Almost, 2001; Wong & Spence Laschinger, 2015).

Second, the theoretical underpinnings of the JDC model, and the enhanced JDCS model, can be applied directly to address the research questions of interest within this PhD. Minimal modification of the theoretical framework is required, and the key factors in combination can be tested.

Finally, the independent and moderator variables of the current study—role overload, job control, organisational and supervisor support—fit well with the JDC/JDCS models.

The JDC/JDCS models have been applied to workplace bullying, although bullying has been an outcome measure in these studies. In a longitudinal study in Belgium, workload at Time 1 was found to be a positive predictor, and job autonomy at Time 1 was a negative predictor, of the experience of bullying 6 months later (Baillien et al., 2011). Similarly, high job demands and low job control were associated with a higher probability of being a target of severe bullying in an application of the JDC model across a wide range of different occupations and within 30 organisations in Belgium. In addition, high job control buffered the negative effects of job demands on being a target of severe bullying. Having low job control and high job demands placed employees at risk of experiencing severe bullying (Notelaers et al., 2013).
In a study of Australian frontline police officers, increased levels of experiencing workplace bullying were associated with increased job demands, and low support and job control (Tuckey, Dollard, Hosking, & Winefield, 2009). Finally, in line with JDCS predictions, Goodboy, Martin, Knight, and Long (2017) reported that employees who worked at organisations characterised by high demands, low job control, and low supervisor support reported more workplace bullying. Additionally, the authors found a significant three-way interaction: in workplaces characterised by low supervisor support, job control buffered the negative effect of job demands on workplace bullying. That is, allowing employees control over how job-related tasks were performed buffered the negative effects of being bullied in workplaces where there was low supervisor support.

Two shortcomings of most research applications of the JDC/JDCS models have been the narrow definitions applied to both job demands and job resources. In regards to job demands, traditional applications of the models have focused on mental demands arising from employees’ workload (Van der Doef & Maes, 1999). In Karasek’s (1979) seminal paper testing the JDC model, he stated that the goal in constructing the job demands scale was to measure the “psychological stressors involved in accomplishing the work load, stressors related to unexpected tasks, and stressors of job-related personal conflict” (Karasek, 1979, p. 291). He went on to say that the job demands arising from social interactions were not explored in his work, but that they could be. This dissertation will introduce workplace bullying as a job demand. While Karasek (1979) acknowledges this broader range of job demands, the psychosocial safety climate (PSC) model (Dollard & Bakker, 2010) has demonstrated workplace bullying as a job demand, and will be discussed shortly.

The second shortcoming is the narrow application of the resource component within studies employing the JDC/JDCS models. Traditional applications have focused
on two components: job control and workplace support from supervisors and coworkers. This PhD will also explore job control, but will expand workplace support to include support from the organisation. The Job Demands-Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), also discussed shortly, demonstrates the potential to expand job resources to include this organisational support.

2.7.3 Psychosocial Safety Climate (PSC) Model

Psychosocial safety climate is an aspect of organisational climate, and is defined as “policies, practices, and procedures for the protection of worker psychological health and safety” (Dollard & Bakker, 2010, p. 580). According to its authors, PSC reflects an organisation’s commitment and applied practice to stress prevention (Dollard & Bakker, 2010). Psychosocial safety climate can act as a precursor to job demands, as well as a moderator, reducing the negative impact of job demands such as workload and workplace bullying on depression, engagement, and productivity outcomes (Dollard et al., 2012; Hall, Dollard, Winefield, Dormann, & Bakker, 2013; Law et al., 2011). While this thesis does not explore PSC, of note is that Dollard et al. (2012) have expanded the concept of job demands to include work pressure, emotional demands, physical demands, bullying and harassment, work-family conflict, and organisational change. Under this framework, bullying and harassment have been shown to be significant contributors to poor psychological health (Dollard et al., 2012; Law et al., 2011).

2.7.4 Job Demands-Resources Model

The JD-R model was first proposed by Demerouti et al. (2001) and expands earlier occupational stressor-strain models such as the JDC model (Karasek, 1979). It assumes that a broad set of job characteristics, categorised as job demands or job
resources, may influence individual and organisational outcomes, both directly and as secondary consequences of work related well-being and motivation.

As shown in Figure 2.3, the JD-R model proposes that mediating/moderating variables play an important role in governing the relationship between job demands and resources. Job demands put the individual under pressure and job resources help the individual to deal with that pressure. If high job demands exhaust employees’ mental and physical resources then burnout, and lack of commitment, may result through the health impairment process.

If resources outweigh demands, the individual is likely to become more engaged because the resources foster employee’s growth, learning, and development. Through the motivational process, job resources will lead to a more satisfied, high-performing employee (Bakker & Demerouti, 2007).

Figure 2.3. Job-Demands Resources model (from “The Job Demands-Resources model: Challenges for future research” by E. Demerouti and A. B. Bakker, 2011, South African Journal of Industrial Psychology, 37(2), p. 3. Copyright 2011 by the Open Journal’s Publishing.)
This dissertation will not explore the motivational or health-impairment pathways of the JD-R model. However, the main and interaction effects proposed by the JDCS model are similar to the JD-R model. Of note is that the JD-R model demonstrates the expansion of job resources to include organisational support, a variable of interest to this study.

2.7.5 *Multilevel Methodology*

One of the aims of this thesis is to explore the associations of workplace bullying with various measures at two levels of the organisation: the individual and unit (group). It is important to understand the environment in which bullying occurs, as this assists in interventions and management strategies employed to address workplace bullying. One way to explore workplace climate and group-level factors is to apply a multilevel approach to analyse data.

While occupational stressor-strain models have traditionally been applied and tested by analyses that are based on individual-level variation (Elovainio, Kivimaki, Steen, & Kalliomaki-Levanto, 2000), several studies have successfully applied these models using a multilevel approach to demonstrate the importance of individual- and group-level factors for mental health, motivation, and job satisfaction (see de Jonge, van Breukelen, Landeweerd, & Nijhuis, 1999; Elovainio et al., 2000; Finne, Christensen, & Knardahl, 2016; Montgomery, Spânu, Băban, & Panagopoulou, 2015; Presseau et al., 2014). In these studies, individual responses to surveys were aggregated to the group level so that variations between workgroups could be tested through multilevel modelling. That is, exploration of individual- and group-level factors were conducted statistically rather than assessing variables that were specifically individual and organisational (Presseau et al., 2014). A similar multilevel approach will be applied in this PhD, and reported in Chapter 7.
2.8 Chapter Summary

Despite the disparity across studies in regards to defining and measuring workplace bullying, it is clear that there is widespread occurrence of this negative workplace behaviour across nations. Given its prevalence, and the detrimental effects on an individual, organisation, and society, there is little doubt of the importance of this area for research. However, most studies to date have provided a piecemeal approach to the selection of variables without a suitable model upon which to hypothesise and test interactions.

Bullying is an extreme social stressor and, as such, occupational stress models were critiqued for their suitability to be applied as a framework for the present study. Overall, the models were similar in their approach to explaining the stressor-strain relationship. However, the JDC/JDCS models will be used as a base for addressing the research questions because the constructs within these models align well with the measures to be tested within this PhD. The JD-R model has shown that workplace support can include support from an organisation, and the PSC model has demonstrated that workplace bullying can be placed as a job demand when testing associations with strain. The next chapter will situate workplace bullying as another job demand alongside low job control and role overload.

Testing of the JDC/JDCS models will commence at the individual level for Chapters 3 through to 6. Aggregating the data to the group level and applying multilevel modelling techniques to better understand bullying climates will occur in Chapter 7.

The context within which this study will be conducted is the Australian military. This population has well-formed units, with a hierarchy that provides clear delineations between superiors, subordinates, and coworkers. There have been no empirical studies to date within the Australian military that have explored the relationships of workplace
bullying with psychological distress, affective commitment, and job satisfaction. The next chapter explores these relationships within an Australian Army sample.
CHAPTER 3. ASSOCIATIONS OF WORKPLACE BULLYING WITH PSYCHOLOGICAL DISTRESS, AFFECTIVE COMMITMENT, AND JOB SATISFACTION: A STUDY OF AUSTRALIAN ARMY PERSONNEL

3.1 Chapter Overview

The People Capability chapter within the Australian Government’s 2016 Defence White Paper begins with “The quality of our people is the foundation of Defence’s capability, effectiveness and reputation” (Department of Defence, 2016a, p. 145). Ensuring that employees are satisfied in their job, committed to their work, and psychological fit for duty builds a workforce that can deliver on the strategic goals set out in the White Paper. This relationship between people capability and achieving strategic goals appears in many organisations’ strategic workforce plans. Without the appropriate people capability, objectives and tasks cannot be met. The extent to which workplace bullying affects this capability within the military is unknown.

This chapter commences with a short discussion of attempts to assess workplace bullying in organisations, before moving on to outline three outcomes critical for workforce capability that may be impacted by workplace bullying—psychological distress, affective commitment, and job satisfaction. The procedure for data collection and data screening, and the psychometric properties of the scales and measures analysed in Study 1, are also reported. The relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction in an Australian Army sample will then be explored. Workplace bullying will be assessed alongside two other occupational stressors of role overload and low job control, allowing for the relative impact of each to be determined. The JDC model will be applied as a framework to explore these relationships.
3.2 Assessing Workplace Bullying Within the ADF: The PULSE

Workplace bullying is a sensitive research topic. Conducting research into bullying within an organisation can be a challenging undertaking for a number of reasons. First, no organisation wants to hear that it has a problem with bullying among its employees but, if it is to hear such news, the organisation wants to be assured that it comes from a reliable source. Heavily-scrutinised public sector organisations, such as the ADF, are justifiably wary of the consequences of researching sensitive issues in an inappropriate manner. Second, organisations are often wary of the dissemination of results due to the possible negative publicity. As discussed in the previous chapter, many militaries keep results from unacceptable behaviour questionnaires closely guarded. Third, there is often reluctance on the part of perpetrators to be involved in this research (Keashly, 2018; Zapf & Einarsen, 2011) and targets of bullying can be left emotionally scarred from experiencing bullying and may be unwilling to discuss their experiences in detailed face-to-face interviews.

Against this backdrop, the ADF is heavily invested in understanding the workplace climate within garrison units. The PULSE questionnaire, implemented in the ADF in 2005, was developed as a tool to inform commanders of the occupational stressors, job resources, and indicators of strain experienced by members of their units (Goyne, 2010). The questionnaire was suited for this PhD because it had the breadth, if not initially the depth, that could be utilised to address the research questions.

The PULSE questionnaire measures many aspects of the work environment. Table 3.1 outlines the 16 main constructs assessed within the PULSE questionnaire during the time period of data collection for this PhD, that is, from 2009 to 2012.
Table 3.1.

*PULSE Constructs Assessed During 2009 to 2012*

<table>
<thead>
<tr>
<th>PULSE constructs</th>
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</thead>
<tbody>
<tr>
<td>Career Intentions (3 items)</td>
</tr>
<tr>
<td>Communication (7 items)</td>
</tr>
<tr>
<td>Confidence in Leadership (3 to 6 items)</td>
</tr>
<tr>
<td>Fairness (6 items)</td>
</tr>
<tr>
<td>Individual/Group/Unit performance (9 items)</td>
</tr>
<tr>
<td>Job Satisfaction (28 items)</td>
</tr>
<tr>
<td>Motivation (8 items)</td>
</tr>
<tr>
<td>Negative Organisational Behaviours (4 to 10 items)</td>
</tr>
<tr>
<td>Perceived Organisational Support (8 items)</td>
</tr>
<tr>
<td>Role stressors (15 items)</td>
</tr>
<tr>
<td>Supervisor Support (15 items)</td>
</tr>
<tr>
<td>Teamwork (14 items)</td>
</tr>
<tr>
<td>Workplace Safety (12 items)</td>
</tr>
</tbody>
</table>

*Note.* Constructs in bold refer to measures that are analysed, either in entirety or as subscales, within this PhD.

3.3 **PULSE Outcome Variables**

The three outcome variables of central importance to this thesis—affective commitment, job satisfaction, and psychological distress—are regarded as critical to the core functioning of the military. Each will now be discussed in more detail.

3.3.1 **Affective Commitment**

Organisations are operating in a world of economic uncertainty, rapid change, continued globalization, increasing competition, and a rise of the mobile millennial generation (Mercurio, 2015). The ADF is no different, and as such is focused on attracting and retaining highly-skilled personnel who can adapt and respond to the changing environment. A committed and engaged military is one of the essential factors in ensuring this capability is maintained.
Three types of commitment were measured within the PULSE: affective, continuance, and normative. When people report having affective commitment, they have a strong sense of belonging to the organisation and the organisation has a great deal of personal meaning to them. They are working in an organisation because they want to stay. Continuance commitment is the degree to which leaving the organisation is considered costly to an individual, for example, the belief that no other organisation can match current benefits or prestige and therefore he/she must stay. Normative commitment is the degree to which a person feels obligated to the organisation or stays because it is the right thing to do, that is, he/she ought to stay (Meyer & Allen, 1991).

Affective commitment has repeatedly been found to have significantly higher associations with the key consequences of organisational commitment than normative and continuance commitment (Mathieu & Zajac, 1990; Mercurio, 2015). Findings from a meta-analysis of 155 independent samples found affective commitment correlated more strongly with absence (affective = -0.15, normative = 0.05, continuance = 0.06), performance (affective = 0.16, normative = 0.06, continuance = -0.07), and organisational citizenship behaviours (affective = 0.32, normative = 0.24, continuance = -0.01) than continuance commitment and normative commitment (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). In addition, affective commitment correlated with the widest range of behavioural variables such as helping others, working extra hours, information sharing, and supervisor’s evaluation of performance (Solinger, van Olffen, & Roe, 2008). Many studies have found significantly high, negative correlations between affective commitment and turnover (Gade, Tiggle, & Schumm, 2003; Heffner & Gade, 2003; Mathieu & Zajac, 1990; Meyer et al., 2002; Mowday, Steers, & Porter, 1979; Tremble, Trueman, Payne, Finch, & Bullis, 2003). Finally, employees who have high affective commitment seek out further opportunities for relevant work experience and training, and report high job satisfaction (Meyer, Allen, & Smith, 1993). In a review of
the empirical research into organisational commitment, Mercurio (2015) concluded that affective commitment is the core essence of organisational commitment.

Studies applying the JDC model have found that high job demands and low job control result in low affective commitment to the organisation, either directly (Laschinger et al., 2001) or indirectly through exhaustion and cynicism (Wong & Spence Laschinger, 2015).

In addition to its associations with performance, satisfaction, and retention, affective commitment was also chosen as an outcome measure for this PhD due to its more salient relationship with workplace bullying than the other two types of commitment. Continuance or normative commitment are more likely to be influenced by factors other than the strain associated with job demands such as workplace bullying. For continuance commitment, the other considerations might include lack of alternative employment opportunities. If there are no other perceived opportunities, an individual might tolerate a substantial amount of workplace bullying before continuance commitment starts to diminish. Similarly, an individual with strong normative commitment may continue to express the same level of commitment to the organisation out of obligation, despite being bullied.

Affective commitment, on the other hand, refers to the emotional ties to the organisation. The largest influences on affective commitment come from employees’ experiences at work, such as autonomy and participation in decision making (Meyer & Allen, 1991). Therefore, from a theoretical standpoint the experience of workplace bullying should impact most on affective commitment. Employees whose experiences within the organisation match their expectations, and satisfy their basic needs, have stronger affective attachment. By its nature, workplace bullying does not do this. It results in negative affective responses and hence reduces an individual’s emotional attachment to, and identification with, the organisation. Workplace bullying has thus
been shown to have a strong negative relationship with affective commitment (Hershcovis, 2011; McCormack et al., 2006), but not with continuance and normative commitment (Bulutlar & Öz, 2009).

3.3.2 Job Satisfaction

Alongside a committed and engaged workforce, organisations strive to ensure their employees remain satisfied in their job. Employees who are satisfied in their jobs are also more committed, and hence less likely to be absent and less likely to look for other employment opportunities outside of their current workplace (Scott & Taylor, 1985; Spector, 1997; Tett & Meyer, 1993). Retaining satisfied employees improves job performance (Judge et al., 2001), and this impacts on an organisation’s bottom line. Employees who have higher job satisfaction are also less likely to report emotional exhaustion (Griffin, Hogan, Lambert, Tucker-Gail, & Baker, 2010) that could result in burnout.

It is therefore important that the ADF addresses those things that are negatively associated with job satisfaction, such as workplace bullying. The theoretical grounds for proposing a negative relationship between bullying and job satisfaction comes from the literature on occupational stress. Experiencing stress at work is negatively associated with an employee’s job satisfaction (McVicar, 2016; Sullivan & Bhagat, 1992; Zangaro & Soeken, 2007). Research applying the JDC model has shown the theorised negative relationships between job demands and job satisfaction. In a review of 31 studies applying the JDC model with job satisfaction as an outcome, just over one-half of the studies found partial or full support for the strain hypothesis (Van der Doef & Maes, 1999); that is, as job demands increased, job satisfaction decreased.

Given workplace bullying is an extreme form of social stress (Hauge et al., 2010; Nica & Hurjui, 2016), it is expected to have the same negative relationship with
Job satisfaction as other stressors. Employees who are targets of workplace bullying may also feel that the organisation is partly responsible for the occurrence and frequency of bullying, or at least for failing to protect its employees. Being in this state for a long time can develop into dissatisfaction with the job itself (Nielsen et al., 2010). The negative relationship between workplace bullying and job satisfaction has been demonstrated in civilian workplaces (Bowling & Beehr, 2006; Carroll & Lauzier, 2014; Eriksen, Nygreen, & Webster, 2011; Fisher-Blando, 2008; Hoel & Cooper, 2000; Ikyanyon & Ucho, 2013).

3.3.3 Psychological Distress

The ADF places a great deal of emphasis on protecting the mental health of its members. A comprehensive Mental Health Screening Program has been implemented for all ADF personnel, regardless of operational service. Part of this screening program is to identify and assist individuals suffering from psychological distress (Commonwealth of Australia, 2016).

Psychological distress is significantly related to decreased productivity, increased mistakes and accidents at work, decreased ability to meet work deadlines, and increased absenteeism (Hardy, Woods, & Wall, 2003; Pflanz & Ogle, 2006). In the military, it is particularly important to ensure a member receives early treatment and assistance for mental health symptoms. It is a condition of an ADF member's service that he/she be physically and mentally capable of performing the duties required and, if determined to be medically unfit, including incapacity due to mental ill-health, a member's service may be terminated (Defence (Personnel) Regulations, 2002).

The findings of the Mental Health Prevalence and Wellbeing study (McFarlane et al., 2011) indicated that there was no significant link between operational deployments and risk of developing a mental disorder. Therefore, it is important to
explore triggers unrelated to operational deployment that could impact on a member’s mental health. Based on occupational stress literature, one proposed trigger in the working environment is workplace bullying.

A common feature of most occupational stress theories is that experiencing workplace stressors generates negative physical, psychological, or behavioural changes in the individual (Jex, 2002). In a review of 38 studies exploring the strain hypothesis within the JDC model with psychological wellbeing as an outcome, almost two thirds demonstrated support for the negative relationship between job demands and mental health (anxiety, depression, and psychological distress). It is theorised that the often underlying psychological approach to bullying (i.e., non-physical bullying behaviours) would have a destructive impact on the target’s mental health. This impact may explain why the experience of workplace bullying, as an extreme form of social stressor, has been associated with a significant increase in psychological distress in a target (Bowling & Beehr, 2006; Vartia, 2001; Zapf, Knorz, & Kulla, 1996).

3.4 Occupational Stressors

Discussed in more detail in the previous chapter, many applications of occupational stressor-strain models have treated workplace bullying as an outcome variable (e.g., Ariza-Montes, Muniz R, Leal-Rodriguez, & Leal-Millan, 2016; Olsen, Bjaalid, & Mikkelsen, 2017; Rodríguez-Muñoz et al., 2009; van den Broeck, Baillien, & De Witte, 2011). By applying the JDC model and treating workplace bullying as a job demand, this stressor can be assessed alongside ‘traditional’ job stressors of role overload and low job control. Assessing bullying as a demand will provide a better understanding of the relative impact of workplace bullying.

Hauge et al. (2010) explored the relative contribution of workplace bullying as a predictor of various health and wellbeing outcomes after controlling for the well-
documented job stressors of job demands, decision authority, role ambiguity, and role
class. Workplace bullying was a significant predictor of all outcomes, in particular to
anxiety and depression. While not as strong, workplace bullying also made a significant
relative contribution to job satisfaction, turnover intention, and absenteeism. This study
was conducted with the Norwegian working population (Hauge et al., 2010). Many of
these same relationships will now be hypothesised and tested in the military
environment. In the ADF, the focus has been on operational stressors, but understanding
the stressors that impact on the mental health and wellbeing of members during their
workcycle is critical to ensure the capability of the workforce.

3.5  Research Question and Hypotheses

Study 1 reported in this chapter addresses part of the first research question of
the PhD. Hypotheses are presented under the corresponding question/sub-question:

RQ1. Does workplace bullying have more impact on an employee’s
psychological distress, affective commitment, and job satisfaction than
role overload and low job control?

Given the finding in the civilian literature that bullying predicts a range
of outcomes over other occupational stressors (Hauge et al., 2010) it is
hypothesised that:

Hypothesis 1. Experiencing workplace bullying will explain variance in
psychological distress after adjusting for the influence of role overload
and job control.

Hypothesis 2. Experiencing workplace bullying will explain variance in
affective commitment after adjusting for the influence of role overload
and job control.
Hypothesis 3. Experiencing workplace bullying will explain variance in job satisfaction after adjusting for the influence of role overload and job control.

RQ1a. What are the nature and strength of relationships linking the experience of workplace bullying to psychological distress, affective commitment, and job satisfaction?

Based on the strain hypothesis of the JDC model (Karasek, 1979), and applying bullying as a job demand, it is hypothesised that:

Hypothesis 4. Experiencing workplace bullying will be negatively associated with affective commitment and job satisfaction, and positively associated with psychological distress.

3.6 Method

3.6.1 Sample: Study 1

Participants included 3,098 Australian Army personnel posted to 14 ADF units during 2009 and 2010. Dispersed across Australia, the majority of these units each comprised over 200 personnel. It is possible that military members are posted to (i.e., assigned for employment within) a unit at various times during a year, although most members will commence work within a unit at the start (i.e., mid to late January) of each year. Similarly, members may be posted to a unit for varying lengths of duty, more commonly two to three years, before being posted to another unit. At the time of each PULSE administration in Study 1, the majority of personnel had served with their current unit for over 16 months. Ranks ranged from Private to Lieutenant Colonel. Further demographic characteristics are shown in Table 3.2. The breakdown of gender, and rank aligns with rates in the broader ADF (see Table 1.1). However, generalisation
of prevalence findings to the broader ADF is not possible due to the small number of units analysed, and low numbers of respondents relative to the Australian Army of approximately 44,000 personnel (see Table 1.1).

Table 3.2.

*Demographic Characteristics of Study 1*

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Mean (SD) or Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30.6 years (9.2 years)</td>
</tr>
<tr>
<td>Gender</td>
<td>2,631 (85.1%) Males, 372 (12.0%) Females, 91 (2.9%) Unknown</td>
</tr>
<tr>
<td>Work Status</td>
<td>2,918 (94.2%) Australian Regular Army, 139 (4.5%) Australian Army reservists, 1.3% Unknown</td>
</tr>
<tr>
<td>Rank</td>
<td>2,563 (82.7%) Non-Commissioned Officers, 476 (15.4%) Officers, 59 (1.9%) Unknown</td>
</tr>
<tr>
<td>Length of Service</td>
<td>8.8 years (8.1 years), Range: First year to 45 years</td>
</tr>
</tbody>
</table>

Response rates across the 14 units ranged from 32% to 69%, with an average response rate of 53%. This response rate was deemed acceptable given the operational tempo of the units surveyed, with personnel absent from the workplace due to deployment-related leave, training exercises, courses, and annual leave.

3.6.2 *Scales and Measures in Study 1*

Described below are six of the variables analysed in Study 1. The covariates of Age and Gender are not reported.
3.6.2.1 Role Overload

The 3 items within the Role Overload scale were derived from the Occupational Roles Questionnaire (ORQ) within the Occupational Stress Inventory-Revised (Osipow, 1998). The ORQ measures the presence of stressors related to the nature of the individual’s role within an organisation. The original Role Overload subscale had ten items. The three items of the Role Overload scale within the PULSE were chosen by Defence psychologists during the development of the questionnaire, based on the relevance of the content to military commanders (A. Twomey, personal communication, June 20, 2011).

Participants were asked to rate the frequency with which they experienced each role overload item on a five-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = always). Higher mean scores indicated that participants often experienced role overload in the workplace. The three items were:

1. At work I am expected to do too many different tasks in too little time.
2. I am expected to do more work than is reasonable.
3. I work under tight deadlines.

3.6.2.2 Workplace Bullying

The following item assessed the experience of workplace bullying: ‘I have personally experienced bullying in my unit’. Frequency of experience was measured on a five-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = always). The higher the score the more frequent the experience of bullying.
3.6.2.3 *Job Control*

Two of the PULSE items assessing job control were originally part of a broader six-dimension Organizational Climate Questionnaire (OCQ, Villeneuve & Gingras, 1998). The OCQ was derived from a questionnaire used within Canada’s Department of National Defence to examine Officer Cadets' perceptions of organisational climate at the Royal Military College of Canada (Villeneuve & Gingras, 1998). A further three items assessing job control were developed by psychologists within the Australian and Canadian Defence Forces when first designing the PULSE (A. Twomey, personal communication, June 20, 2011).

Personnel were asked to respond to the five job control items by indicating agreement on a five-point Likert scale (*1 = strongly disagree* to *5 = strongly agree*). High mean scores indicated high-perceived job control. The items were:

1. The unit trusts me to do my work.
2. The unit lets me do work according to my own judgment.
3. I can make important decisions without having to ask permission from my immediate supervisor.
4. The unit allows me to show initiative.
5. The unit treats me as a responsible person.

3.6.2.4 *Psychological Distress*

Psychological distress was measured by the Kessler 10 (K10; Kessler et al., 2002). The K10 is a 10-item self-report measure of non-specific psychological distress in the areas of depression and anxiety (Andrews & Slade, 2001; Kessler et al., 2002). Personnel respond to a series of ten questions by indicating on a five-point Likert scale (*1 = none of the time*, *2 = a little of the time*, *3 = some of the time*, *4 = most of the time*, *5 = all of the time*).
Scores on each item are added to yield a K10 total score, with a high score indicating high levels of psychological distress.

The ten questions follow the same stem, ‘In the last four weeks how often did you feel’:

1. Tired-out for no good reason.
2. Nervous.
3. So nervous that nothing could calm you down.
4. Helpless.
5. Restless or fidgety.
6. So restless that you could not sit still.
7. Depressed.
8. Everything was an effort.
9. So sad that nothing could cheer you up.
10. Worthless.

3.6.2.5 Affective Commitment

Affective commitment was measured using an abbreviated version of the 8-item Allen and Meyer’s (1990) Affective Commitment Scale. Whilst each item referred to commitment to the ADF/Defence, respondents were primed by the statements: ‘If you are in the ADF, consider how you feel about your specific Service (Navy, Army, or Air Force). If you are civilian, consider how you feel about the Department of Defence.’ Respondents were asked to rate their level of agreement with each statement on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Higher mean scores indicated higher affective commitment.

The three items measuring affective commitment were:
1. The ADF/Defence has a great deal of personal meaning for me.

2. I enjoy discussing the ADF/Defence with people outside it.

3. I feel a strong sense of belonging to the ADF/Defence.

3.6.2.6 Job Satisfaction

There are two different approaches to measuring job satisfaction: a global approach and a faceted approach. As the name suggests, the global approach measures overall job satisfaction and allows individuals to decide what they believe contributes to their own job satisfaction (Lambert, Hogan, & Barton, 2002). The faceted approach assesses the sub-dimensions that make up a person’s satisfaction with his/her job (Lambert, Barton, & Hogan, 1999).

The 28-item Job Satisfaction scale within the PULSE has the capacity to assess both overall job satisfaction and satisfaction with particular facets of military service. Three items within the Job Satisfaction scale measure overall job satisfaction, with the remaining 25 items assessing areas such as satisfaction with promotion and posting opportunities, deployment opportunities, training, salary, and rules and procedures. The scale was based on Spector’s (1985) Job Satisfaction Survey (JSS) and Hackman and Oldham’s (1974) Job Diagnostic Survey (JDS).

The purpose of this study was to examine the associations of role overload, job control, workplace bullying, with job satisfaction. Therefore, only the global 3-item measure of job satisfaction was included for future analyses rather than the items measuring satisfaction with various facets of military life. Items within this global measure were:

1. I am satisfied with my current job.

2. I am satisfied with the kind of work I do in my current job.

3. I like the things I do at work.
These three items were dispersed throughout the 28-item scale. Respondents were asked to rate their level of agreement with each statement on a five-point Likert scale ($1 = \text{strongly disagree}$ to $5 = \text{strongly agree}$). Higher mean scores indicated higher job satisfaction.

3.6.3 Procedure

Requests for PULSE questionnaires to be administered to units are made by the Commanding Officers of each unit to Joint Health Command (JHC) in Canberra, Australia. A request could be made at any time during the year. Reasons for a request varied. Sometimes requests were generated because the Commanding Office became aware of workplace issues that he/she wanted quantified, some requests were initiated by the Commanding Officer upon commencement of taking over the command of a unit and therefore wanting to understand the current workplace climate. The selection of ADF units to be included into each Study was therefore dependent on, and limited by, the number of requests made each year. All ADF units who requested a PULSE questionnaire during the study period (14 ADF units in Study 1 and 21 ADF units in Study 2) were included in the final sample.

Joint Health Command employ psychology personnel to work at military establishments in Australia, delivering psychological services to meet the needs of military personnel. One service is the administration of the PULSE questionnaire. The PULSE questionnaire was administered to 14 Army units for Study 1, all by face-to-face group administration.

3.6.3.1 Face-to-face Group Administration

Each face-to-face group administration was held in an auditorium on a military base, large enough to accommodate all available members of the unit (up to 400
personnel). At the commencement of each administration session, psychology personnel delivered an instructional brief. This brief guaranteed confidentiality and anonymity of the results, except in the case of notifiable events, such as an indication that the respondent intended to harm someone else or had committed a military offence.

The commander or his/her delegate then delivered an unscripted brief on the reasons for requesting a PULSE administration, and the importance of the PULSE results in assessing and monitoring the climate of the unit. While the brief was unscripted, the commander or delegate would often encourage openness and honesty from the respondents, and again reiterate the privacy and confidentiality of the information. This introduction was followed by the distribution of the PULSE questionnaire.

Administration of the PULSE to all available personnel within the unit occurred during working hours. PULSE administrations were scheduled so that they did not clash with events that reduced the number of potential respondents, such as field exercises. They were also scheduled so that they fell well outside of major operations or exercises to avoid reports of temporary fatigue and stress from these activities. Participation was voluntary, however very few members who presented at an administration session openly declined to participate. Occasionally, there were uncompleted questionnaires submitted at the end of an administration session.

Administration sessions were scheduled for an hour, with the questionnaire taking approximately 30 minutes to complete. Upon completion of the session, questionnaires were collected by the psychology staff and sent to the PULSE team within JHC in Canberra for data capture, statistical analyses, and report writing.
3.6.4 Data Entry

All PULSE questionnaires were designed as Hewlett Packard TeleForms, enabling electronic scanning of the data. Each questionnaire approximated seven double-sided pages in length. Prior to electronically scanning the data, each questionnaire was checked to ensure there were no missing pages, that the order of the pages was correct, and that the field identifying the unit was completed. If this field was missing, it was added to the questionnaire by the scanning personnel before data entry.

The TeleForm-scanning system did not accurately capture qualitative hand-written data; so scanning personnel transcribed this information into the dataset. The qualitative general comments were not analysed as part of this research as they often pertained to specific issues occurring within that unit, such as concerns over proposed relocations, the impact of short-notice tasking, and changes to physical fitness training.

3.7 Data Screening Study 1 Dataset: Army 2009 and 2010

Prior to analyses, variables were examined for accuracy of data capture, missing values, and fit between their distributions and the assumptions of the statistical analyses to be employed. This data screening was conducted in accordance with guidelines suggested by Cohen et al. (2003), Field (2013), and Tabachnick and Fidell (2007).

3.7.1 Missing Values

Fewer than 4.0% of cases contained missing demographic data. Missing data were never more than 1.5% of cases for individual continuous independent and dependent variables. Exploration of patterns of missing data generated through the Missing Value Analysis of IBM SPSS Statistics version 15.0 (hereafter SPSS) showed that data were missing at random. With a large dataset and a small amount of missing
data, cases with missing data on variables of interest were deleted at the time of analyses. Throughout the PhD, the sample size for each analysis is detailed.

3.7.2 Univariate and Multivariate Outliers

Very small proportions (< .02%) of univariate outliers were detected for the variables of Age, Time in Unit, and Length of Service. These extreme values were substituted with scores that were two standard deviations from the mean.

Multivariate outliers were detected through Mahalanobis distance, Cook’s, and Leverage values. Upon further examination, these cases were found to be legitimate.

3.7.3 Normality

The descriptive statistics for six variables analysed in Study 1 are detailed in Table 3.3. Kolmogorov and Smirnoff tests of normality for all variables were significant, and most variables showed significant kurtosis. However, in large samples it is likely that tests of skewness and kurtosis will be significant even when they are not too different from normal (Field, 2013). For sample sizes over 200 it is more important to visually examine the shape of the distribution as well as the value of the skewness and kurtosis (Field, 2013). Visual inspection was made of the histograms and normal Q-Q plots for each variable. Most distributions showed only slight skewness and kurtosis.
Table 3.3.
Descriptive Statistics for Study 1 Variables (N range: 2,973–3,093)

<table>
<thead>
<tr>
<th>Scale/Measure</th>
<th>Mean</th>
<th>SD</th>
<th>Scale range</th>
<th>Skewness (SE .04)</th>
<th>Kurtosis (SE .09)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Commitment</td>
<td>3.50</td>
<td>0.88</td>
<td>1–5</td>
<td>-0.66</td>
<td>0.41</td>
</tr>
<tr>
<td>Job Control</td>
<td>3.45</td>
<td>0.82</td>
<td>1–5</td>
<td>-0.51</td>
<td>0.05</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3.21</td>
<td>0.98</td>
<td>1–5</td>
<td>-0.43</td>
<td>-0.53</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>16.07</td>
<td>6.52</td>
<td>10–50</td>
<td>1.76</td>
<td>3.56</td>
</tr>
<tr>
<td>Role Overload</td>
<td>2.98</td>
<td>0.72</td>
<td>1–5</td>
<td>0.25</td>
<td>-0.08</td>
</tr>
<tr>
<td>Workplace Bullying</td>
<td>1.68</td>
<td>1.02</td>
<td>1–5</td>
<td>1.44</td>
<td>1.25</td>
</tr>
</tbody>
</table>

There were two variables where skewness was a concern: Psychological Distress, measured by the K10 (Kessler et al., 2002) and Workplace Bullying. Studies administering the K10 via questionnaire to large community populations have also reported significant positive skew in the data (Slade, Grove, & Burgess, 2011; Sunderland, Mahoney, & Andrews, 2012; Wooden, 2009). Similarly, administration of questionnaires assessing the experience of workplace bullying, such as the widely administered Negative Acts Questionnaire, report significant positive skew (Abe & Henly, 2010; Hunt, Peters, & Rapee, 2012; Shaw, Dooley, Cross, Zubrick, & Waters, 2013). Skewness is therefore more a characteristic of these types of scales and what they are measuring, and not an isolated feature of the present data.

3.7.4 Linearity

Visual inspection of the bivariate scatterplots for all pairs showed no marked departures from linearity. Slight curvilinear relationships were observed for the stressors of Role Overload and Workplace Bullying with the strain variable of
Psychological Distress, however these relationships were not significantly different from the assumption of linearity.

3.7.5 Consistency

To check for responses that may have been made without due thought and consideration, that is, response inconsistency (Fogarty & Steele, 2013), responses to 25 pairs of highly-correlated items from within the PULSE questionnaire were explored. These pairs of highly positive and negative correlated items appeared across the beginning, middle, and end of the questionnaire. Cases where fewer than 18 pairs were responded to consistently were further examined. The inconsistency in responses resulted in the removal of five cases from the Study 1 dataset.

3.7.6 Principal Components Analysis of Study 1 Variables

A principal components analysis was conducted on the 24 items comprising the variables of Role Overload (3 items), Job Control (5 items), Psychological Distress (10 items), Affective Commitment (3 items), and Job Satisfaction (3 items). The Kaiser-Meyer-Olkin (KMO) measure (Kaiser, 1974) verified the sampling adequacy for the analysis, $KMO = 0.90^1$. Bartlett’s Test of Sphericity (Bartlett, 1954) was statistically significant ($\chi^2 (276) = 38676.05, p < .01$), supporting the factorability of the correlation matrix. Five components had eigenvalues over Kaiser’s criterion of 1 (see Table 3.4), and in combination explained 66.5% of the variance.

---

1 A value closer to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors (Field, 2013).
Table 3.4.

*Principal Components Analysis Results of Study 1 Data*

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial eigenvalues</th>
<th>Extraction sums of squared loadings</th>
<th>Rotation sums of squared loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>7.53</td>
<td>31.38</td>
<td>31.38</td>
</tr>
<tr>
<td>2</td>
<td>3.47</td>
<td>14.47</td>
<td>45.86</td>
</tr>
<tr>
<td>3</td>
<td>2.04</td>
<td>8.49</td>
<td>54.34</td>
</tr>
<tr>
<td>4</td>
<td>1.71</td>
<td>7.14</td>
<td>61.48</td>
</tr>
<tr>
<td>5</td>
<td>1.21</td>
<td>5.06</td>
<td>66.54</td>
</tr>
<tr>
<td>6</td>
<td>0.86</td>
<td>3.60</td>
<td>70.14</td>
</tr>
<tr>
<td>7</td>
<td>0.74</td>
<td>3.07</td>
<td>73.21</td>
</tr>
<tr>
<td>8</td>
<td>0.68</td>
<td>2.83</td>
<td>76.03</td>
</tr>
<tr>
<td>9</td>
<td>0.59</td>
<td>2.46</td>
<td>78.49</td>
</tr>
<tr>
<td>10</td>
<td>0.49</td>
<td>2.03</td>
<td>80.52</td>
</tr>
<tr>
<td>11</td>
<td>0.46</td>
<td>1.91</td>
<td>82.43</td>
</tr>
<tr>
<td>12</td>
<td>0.43</td>
<td>1.81</td>
<td>84.24</td>
</tr>
<tr>
<td>13</td>
<td>0.41</td>
<td>1.69</td>
<td>85.93</td>
</tr>
<tr>
<td>14</td>
<td>0.40</td>
<td>1.66</td>
<td>87.59</td>
</tr>
<tr>
<td>15</td>
<td>0.38</td>
<td>1.58</td>
<td>89.17</td>
</tr>
<tr>
<td>16</td>
<td>0.36</td>
<td>1.50</td>
<td>90.67</td>
</tr>
<tr>
<td>17</td>
<td>0.36</td>
<td>1.48</td>
<td>92.15</td>
</tr>
<tr>
<td>18</td>
<td>0.34</td>
<td>1.40</td>
<td>93.55</td>
</tr>
<tr>
<td>19</td>
<td>0.30</td>
<td>1.25</td>
<td>94.80</td>
</tr>
<tr>
<td>20</td>
<td>0.29</td>
<td>1.22</td>
<td>96.02</td>
</tr>
<tr>
<td>21</td>
<td>0.26</td>
<td>1.09</td>
<td>97.11</td>
</tr>
<tr>
<td>22</td>
<td>0.25</td>
<td>1.02</td>
<td>98.14</td>
</tr>
<tr>
<td>23</td>
<td>0.24</td>
<td>0.98</td>
<td>99.11</td>
</tr>
<tr>
<td>24</td>
<td>0.21</td>
<td>0.89</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Using Catell’s scree test, five factors were clearly identified (Figure 3.1). Given the convergence of findings from the scree test and Kaiser’s criterion, five factors were retained in the final analyses.

![Figure 3.1. Catell’s scree plot of Study 1 data](image)

To aid in the interpretation of these five factors, direct oblimin rotation was performed. The rotated solution revealed the presence of a simple structure (Thurstone, 1947), with components showing a number of strong loadings and most variables loading substantially on only one component. The components were as expected. Component 1 was Psychological Distress, Component 2 was Job Control, Component 3 was Role Overload, Component 4 was Affective Commitment, and Component 5 was Job Satisfaction. Component loadings, eigenvalues, and the percentage of variance explained by these components are shown in Table 3.5.
### Table 3.5.
### Principal Component Analysis Results of Study 1 Variables

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1 (Psych distress)</th>
<th>Component 2 (Job control)</th>
<th>Component 3 (Role overload)</th>
<th>Component 4 (Affective commit)</th>
<th>Component 5 (Job satisfaction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel so sad nothing could cheer you up</td>
<td>.81</td>
<td>.05</td>
<td>-.02</td>
<td>.04</td>
<td>.09</td>
</tr>
<tr>
<td>Feel so nervous nothing could calm you</td>
<td>.81</td>
<td>.00</td>
<td>-.04</td>
<td>.01</td>
<td>-.15</td>
</tr>
<tr>
<td>Feel hopeless</td>
<td>.77</td>
<td>-.06</td>
<td>-.01</td>
<td>-.01</td>
<td>-.01</td>
</tr>
<tr>
<td>Feel so restless you could not sit still</td>
<td>.76</td>
<td>.01</td>
<td>-.02</td>
<td>-.03</td>
<td>-.04</td>
</tr>
<tr>
<td>Feel depressed</td>
<td>.76</td>
<td>.02</td>
<td>.02</td>
<td>.04</td>
<td>.20</td>
</tr>
<tr>
<td>Feel worthless</td>
<td>.76</td>
<td>-.06</td>
<td>-.05</td>
<td>.04</td>
<td>.10</td>
</tr>
<tr>
<td>Feel restless</td>
<td>.73</td>
<td>-.01</td>
<td>-.03</td>
<td>-.03</td>
<td>.03</td>
</tr>
<tr>
<td>Feel nervous</td>
<td>.69</td>
<td>-.04</td>
<td>.03</td>
<td>-.05</td>
<td>-.18</td>
</tr>
<tr>
<td>Feel everything was an effort</td>
<td>.69</td>
<td>.01</td>
<td>.14</td>
<td>-.04</td>
<td>.15</td>
</tr>
<tr>
<td>Feel tired-out for no good reason</td>
<td>.47</td>
<td>-.00</td>
<td>.34</td>
<td>-.08</td>
<td>.09</td>
</tr>
<tr>
<td>The unit lets me do work according to my own judgment</td>
<td>.03</td>
<td>.84</td>
<td>-.02</td>
<td>.02</td>
<td>.00</td>
</tr>
<tr>
<td>The unit allows me to show initiative</td>
<td>-.03</td>
<td>.79</td>
<td>-.02</td>
<td>.03</td>
<td>-.05</td>
</tr>
<tr>
<td>I can make important decisions without having to ask permission from my immediate supervisor</td>
<td>.06</td>
<td>.79</td>
<td>.02</td>
<td>-.01</td>
<td>.01</td>
</tr>
<tr>
<td>The unit treats me as a responsible person</td>
<td>-.05</td>
<td>.78</td>
<td>-.01</td>
<td>.03</td>
<td>-.05</td>
</tr>
<tr>
<td>The unit trusts me to do my work</td>
<td>-.03</td>
<td>.78</td>
<td>.02</td>
<td>-.05</td>
<td>.04</td>
</tr>
<tr>
<td>At work I am expected to do too many different tasks in too little time</td>
<td>-.02</td>
<td>-.02</td>
<td>.87</td>
<td>-.02</td>
<td>.01</td>
</tr>
<tr>
<td>I am expected to do more work than is reasonable</td>
<td>.03</td>
<td>-.04</td>
<td>.84</td>
<td>-.01</td>
<td>.01</td>
</tr>
<tr>
<td>I work under tight deadlines</td>
<td>-.05</td>
<td>.05</td>
<td>.83</td>
<td>.07</td>
<td>-.06</td>
</tr>
<tr>
<td>The ADF has a great deal of personal meaning for me</td>
<td>.04</td>
<td>-.01</td>
<td>.01</td>
<td>.89</td>
<td>-.03</td>
</tr>
<tr>
<td>I enjoy discussing ADF/Defence with people outside it</td>
<td>.01</td>
<td>-.03</td>
<td>.01</td>
<td>.87</td>
<td>.06</td>
</tr>
<tr>
<td>I feel a sense of belonging to the ADF</td>
<td>-.05</td>
<td>.09</td>
<td>.02</td>
<td>.77</td>
<td>-.12</td>
</tr>
<tr>
<td>I am satisfied with the kind of work I do in current job</td>
<td>-.02</td>
<td>.02</td>
<td>.02</td>
<td>.00</td>
<td>-.90</td>
</tr>
<tr>
<td>I like the things I do at work</td>
<td>.01</td>
<td>.02</td>
<td>.01</td>
<td>.07</td>
<td>-.85</td>
</tr>
<tr>
<td>I am satisfied with my current job</td>
<td>-.04</td>
<td>.11</td>
<td>-.01</td>
<td>.06</td>
<td>-.80</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>7.53</td>
<td>3.47</td>
<td>2.04</td>
<td>1.71</td>
<td>1.21</td>
</tr>
<tr>
<td>Variance accounted for (Percent)</td>
<td>31.38</td>
<td>14.47</td>
<td>8.49</td>
<td>7.14</td>
<td>5.06</td>
</tr>
</tbody>
</table>
3.7.7 Reliability of Study 1 Variables

Table 3.6 summarises Cronbach’s alpha of five of the variables analysed within Study 1. All variables showed good to excellent alpha coefficients (George & Mallery, 2003).

Table 3.6.
Cronbach’s Alpha of Study 1 Variables (N range: 3,033–3,093)

<table>
<thead>
<tr>
<th>Scale</th>
<th>No. of items</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Commitment</td>
<td>3</td>
<td>.83</td>
</tr>
<tr>
<td>Job Control</td>
<td>5</td>
<td>.86</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3</td>
<td>.89</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>10</td>
<td>.91</td>
</tr>
<tr>
<td>Role Overload</td>
<td>3</td>
<td>.82</td>
</tr>
</tbody>
</table>

3.8 Statistical Analyses

All statistical analyses within Study 1 were conducted using SPSS version 15. To test Hypotheses 1 to 3 and examine the unique contribution of workplace bullying in predicting psychological distress, affective commitment, and job satisfaction (RQ1), hierarchical multiple linear regression analyses were performed. Before doing so, the independent variables of workplace bullying, role overload, and job control were all checked for multicollinearity. The Variance Inflation Factor (VIF) statistics were all under 2. All tolerance values were greater than 0.53. Whilst some variables were moderately correlated, exploration of the correlation matrix of all independent variables

---

2 Cohen et al. (2003) suggest that VIF values greater than 10 and tolerance values less than .10 are evidence of a serious problem.
showed no correlations greater than .40\(^3\). Based on these findings it was determined that while there was evidence of multicollinearity, it was deemed not severe enough to invalidate the use of the regression analyses. Each independent variable had the potential to add unique variance to the prediction of the dependent variable (Cohen, Cohen, West, & Aiken, 2003). There was no evidence of singularity.

In Step 1 of the hierarchical regression, age and gender were the independent variables (IVs), and either psychological distress, affective commitment, or job satisfaction was the dependent variable (DV). In Step 2, role overload and job control were entered, and finally in Step 3, workplace bullying was entered. The final step in the regression therefore tested the strain hypothesis of the JDC model and examined the relative impact of workplace bullying, role overload, and job control.

The relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction (RQ1a and H4) were determined in two parts. First, correlations were examined. Due to the significant skewness of two variables, Workplace Bullying and Psychological Distress, both Pearson’s product moment correlation coefficients and Spearman’s rho correlations were estimated. Second, residuals were derived from linear regression models in order to gain insight into the nature of associations between bullying and each of the adjusted DVs once the four other IVs (age, gender, role overload, and job control) were taken into account. By deriving residuals, the IVs known to have a relationship with the DVs were already accounted for, and any systematic relationship between workplace bullying and the residuals could be shown. To obtain these standardised residuals, a multiple linear regression of the four above-mentioned IVs with each of the three DVs was conducted. Results from these three regressions are shown in Appendix A. The residuals from each

\(^3\) Cohen et al. (2003) suggest correlations greater than .80 may pose a problem.
regression were saved, and were used as the DVs throughout the next series of analyses. Saving these residuals avoided having to conduct hierarchical multiple linear regressions each time to remove the covariance of age, gender, role overload, and job control. The standardised residuals were the adjusted measures of psychological distress, affective commitment, and job satisfaction. For simplicity throughout the Results section, reference to the standardised residuals of each outcome (e.g., standardised residuals of affective commitment) will be made once at the start of the section, and thereafter the outcome (e.g., affective commitment) will be used to refer to the adjusted measure.

Curve fitting determined the nature of relationship (i.e., linear or quadratic) between the frequency of workplace bullying and the adjusted outcome measures. The relationships between bullying and the adjusted outcomes were analysed through ANOVAs so that the relationship between the frequency of experiencing bullying and each DV could be tested.

The standardised residuals were also dummy coded. For job satisfaction and affective commitment, the 1/8th largest negative residuals were coded ‘1’ and the remaining residuals were coded ‘0’. The largest residuals represent those cases where the four IVs (age, gender, job control, role overload) account for the least variance in the DVs. Large positive residuals represent high affective commitment and job satisfaction. Large negative residuals represent low affective commitment and job satisfaction. It was these large negative residuals that were used in further analyses. For psychological distress, the 1/8th largest positive residuals were coded ‘1’ and the remaining residuals were coded ‘0’. These largest positive residuals represented the highest psychological distress and were used in further analyses. The proportion of cases with the largest residuals were then plotted against the frequency of workplace bullying (i.e., never, once in a while, sometimes, frequently, always) to visually show
the relationships between the frequency of bullying and the adjusted measures for low job satisfaction and affective commitment, and high psychological distress.

The results for each research question will be discussed in turn. For each question, the findings are reported by outcome: psychological distress, affective commitment, and then job satisfaction.

3.9 **Results**

3.9.1 **Descriptives and Correlations**

Table 3.7 details the descriptive statistics and correlations for all variables analysed in Study 1. On average, respondents reported experiencing overload of work ‘sometimes’ and experiencing workplace bullying infrequently, that is between *never* and *rarely*. Respondents were more likely to agree to having control over their job, commitment to the ADF, and to being satisfied with their work.

The optimal K10 cut-offs to detect 30-day ICD-10 anxiety disorders in ADF personnel is 17 and to detect 30-day ICD-10 affective disorders is 19 (McFarlane et al., 2011). With a median score of 14, Study 1 respondents typically reported a psychological distress score below these cut-offs.

Pearson’s product moment correlation coefficients are shown below the diagonal, with Spearman’s rho correlations reported above the diagonal of Table 3.7. There was little difference in the strength or significance of both the parametric and non-parametric correlations. There were predominantly moderate⁴ correlations between experiencing workplace bullying and all outcomes measures. These relationships were in the predicted direction: as the experience of workplace bullying occurred more

---

⁴Cohen (1992) suggests a correlation coefficient to be weak when $r = .20$, moderate when $r = .30$, and strong when $r = .50$. 
frequently, psychological distress increased, and affective commitment and job satisfaction decreased.
Table 3.7.
Descriptive Statistics, Reliabilities, and Correlations Among all Study 1 Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. Age</td>
<td>30.62</td>
<td>9.24</td>
<td>17-64</td>
<td>N/A</td>
</tr>
<tr>
<td>2. Gender</td>
<td>1.12</td>
<td>.33</td>
<td>1 = male</td>
<td>-06**</td>
</tr>
<tr>
<td>3. Role Overload</td>
<td>2.99</td>
<td>.77</td>
<td>1-5</td>
<td>.22**</td>
</tr>
<tr>
<td>4. Workplace Bullying</td>
<td>1.68</td>
<td>1.02</td>
<td>1-5</td>
<td>-.19*</td>
</tr>
<tr>
<td>5. Job Control</td>
<td>3.45</td>
<td>.82</td>
<td>1-5</td>
<td>.27**</td>
</tr>
<tr>
<td>6. Psychological Distress</td>
<td>16.07</td>
<td>6.52</td>
<td>10-50</td>
<td>-.11**</td>
</tr>
<tr>
<td>7. Affective Commitment</td>
<td>3.50</td>
<td>.88</td>
<td>1-5</td>
<td>.23**</td>
</tr>
<tr>
<td>8. Job Satisfaction</td>
<td>3.21</td>
<td>.98</td>
<td>1-5</td>
<td>.24**</td>
</tr>
</tbody>
</table>

Note. Spearman’s rho correlations are above the diagonal, Pearson’s correlations are below the diagonal. Cronbach’s alpha coefficients are on the diagonal.

N range: 2,973–3,092.

* p < .05. ** p < .01.
Job control showed moderate to strong correlations with all outcomes. Employees who reported more control over their work, also reported greater affective commitment and job satisfaction, and lower psychological distress.

In comparison, there was a very weak negative relationship between the occupational stressor of role overload and job satisfaction ($r = -0.08$, $p < .05$), and a non-significant relationship between role overload and affective commitment. The association between role overload and psychological distress was stronger ($r = .27$, $p < .01$) and in the direction predicted by the JDC model: as role overload increased, so too did psychological distress.

3.9.2 **RQ1, H1. Assessing the Relationship of Experiencing Workplace Bullying, Role Overload, and Job Control with Psychological Distress**

It was hypothesised (H1) that the experience of workplace bullying would explain variance in psychological distress after adjustment for role overload and job control. Table 3.8 details the results of the hierarchical regression that tested this hypothesis, with psychological distress as the dependent variable.
### Table 3.8.

**Hierarchical Regression Predicting Psychological Distress (N = 2,871)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th></th>
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<th>Model 2</th>
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<th>Model 3</th>
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<td>B</td>
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<td>sr²</td>
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<td>.30</td>
<td>.33</td>
<td>.02</td>
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<tr>
<td>Age</td>
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<td>-.11**</td>
<td>.01</td>
<td>-.07</td>
<td>.01</td>
<td>-.10**</td>
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<td>.01</td>
<td>-.07**</td>
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<tr>
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<td>.07</td>
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<td>.15</td>
<td>.25**</td>
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<td>-.28**</td>
<td>.07</td>
<td>-1.57</td>
<td>.15</td>
<td>-.20**</td>
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<td>1.46</td>
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<td>.23**</td>
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<tr>
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<td>.17</td>
<td>.21</td>
<td>.16</td>
<td>.04</td>
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<tr>
<td>F for change in R²</td>
<td>18.25**</td>
<td></td>
<td></td>
<td>274.04**</td>
<td>156.04**</td>
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</tr>
</tbody>
</table>

*p < .05. **p < .01.
Due to the possible differences across gender and age for reported psychological distress (Drapeau, Marchand, & Forest, 2014; Jorm, Windsor, Dear, & Anstey, 2005) these variables were entered first. The results of Step 1 indicated that the variance accounted for ($R^2$) by gender and age was small. In Step 2, role overload and job control were entered into the regression equation. The significant change in variance ($\Delta R^2$) was 0.16. In Step 3, workplace bullying was entered and the significant change in variance ($\Delta R^2$) was 0.04. The final model explained 21% of the variance. In the final model, age, role overload, job control, and workplace bullying all contributed significantly to predicting psychological distress ($F(5, 2870) = 155.91, p < .01$).

Role overload ($\beta = 0.25$) and workplace bullying ($\beta = 0.23$) showed the strongest associations with psychological distress, followed by job control ($\beta = -0.20$). Taken together these findings support Hypothesis 1: experiencing workplace bullying explained variance in psychological distress after adjusting for the influence of role overload and job control.

3.9.3 RQ1, H2. Assessing the Relationship of Experiencing Workplace Bullying, Role Overload, and Job Control with Affective Commitment

Next, the relationship between job demands and affective commitment was explored to test Hypothesis 2: experiencing workplace bullying will explain variance in affective commitment after adjustment for role overload and job control. Table 3.9 details the results of the hierarchical regression with affective commitment as the dependent variable.
Table 3.9.

Hierarchical Regression Predicting Affective Commitment (N = 2,862)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
<th>Model 3</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
</tr>
<tr>
<td>Gender</td>
<td>.13</td>
<td>.05</td>
<td>.05**</td>
<td>.00</td>
<td>.04</td>
<td>.05</td>
<td>.02</td>
<td>.00</td>
<td>.06</td>
</tr>
<tr>
<td>Age</td>
<td>.02</td>
<td>.00</td>
<td>.23**</td>
<td>.05</td>
<td>.01</td>
<td>.00</td>
<td>.14**</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>Role Overload</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.02</td>
<td>.02</td>
<td>-.02</td>
<td>.00</td>
<td>-.01</td>
</tr>
<tr>
<td>Job Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.35</td>
<td>.02</td>
<td>.33**</td>
<td>.10</td>
<td>.32</td>
</tr>
<tr>
<td>Bullying</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.08</td>
</tr>
<tr>
<td>R²</td>
<td>.05</td>
<td></td>
<td>.15</td>
<td></td>
<td>.16</td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
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<td></td>
<td>.10</td>
<td></td>
<td>.01</td>
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<td></td>
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</tr>
<tr>
<td>F for change in R²</td>
<td>80.76**</td>
<td></td>
<td>171.99**</td>
<td></td>
<td>26.41**</td>
<td></td>
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</tr>
</tbody>
</table>

*p < .05. **p < .01.
Again, due to possible age and gender differences on reported affective commitment (Mathieu & Zajac, 1990; Toga, Qwabe, & Mjoli, 2014) these variables were entered first. The results of this first step indicated that the significant variance accounted for by gender and age was .05. In Step 2, role overload and job control were entered into the regression equation. The change in variance ($\Delta R^2 = .10$) was significant. In Step 3, workplace bullying was entered and the $\Delta R^2$ was small (.01) but significant.

In the final model, age, job control, and bullying contributed significantly to the prediction of affective commitment ($F(5, 2861) = 111.18$, $p < .01$). The final model explained 16% of the variance in affective commitment. Unlike workplace bullying, role overload was not a significant contributor to the final model. This finding is not surprising given there was no correlation between role overload and affective commitment reported earlier ($r = .01$, ns) and that workplace bullying had a far stronger, and significant, association with affective commitment ($r = -.24$, $p < .01$). Job control had the largest beta value ($\beta = 0.30$). These findings support Hypothesis 2: workplace bullying explained variance in affective commitment after adjustment for role overload and job control.

3.9.4 **RQ1. H3: Assessing the Relationship of Experiencing Workplace Bullying, Role Overload, and Job Control with Job Satisfaction**

The final outcome variable, job satisfaction, was examined in terms of its relationship with job demands. This tested Hypothesis 3: experiencing workplace bullying will explain variance in job satisfaction after adjustment for role overload and job control.
Table 3.10.
Hierarchical Regression Predicting Job Satisfaction (N = 2,884)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>Gender</td>
<td>.12</td>
<td>.05</td>
<td>.04*</td>
</tr>
<tr>
<td>Age</td>
<td>.03</td>
<td>.00</td>
<td>.24**</td>
</tr>
<tr>
<td>Role Overload</td>
<td>-.12</td>
<td>.02</td>
<td>-.10**</td>
</tr>
<tr>
<td>Job Control</td>
<td>.53</td>
<td>.02</td>
<td>.44**</td>
</tr>
<tr>
<td>Bullying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F for change in R²</td>
<td>87.80**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.
Table 3.10 details the results of the hierarchical regression with job satisfaction as the dependent variable. Again, due to possible age and gender differences on reported job satisfaction (Boumans, de Jong, & Janssen, 2011; Clark, 1997) these variables were entered first. The results of this first step indicated that the significant variance accounted for ($R^2$) was .06. In Step 2, role overload and job control were entered into the regression equation. The significant change in variance ($\Delta R^2$) was .19. In Step 3, workplace bullying was entered and $\Delta R^2$ was small but significant. In the final model all variables, except gender, contributed significantly to the explanation of job satisfaction, with the final model explaining 26% of the variance ($F(5, 2883) = 201.44, p < .01$).

Of all predictors, job control had the highest beta value (0.40). The beta weights were not as strong for workplace bullying ($\beta = -.10$) and role overload ($\beta = -.08$), however they were significant. These findings support Hypothesis 3: workplace bullying explained variance in job satisfaction after adjustment for role overload and job control.

3.9.5 RQ1a, H4. The Association of Experiencing Workplace Bullying with Psychological Distress

As reported earlier in Table 3.7, there was a significant positive correlation between the frequency of workplace bullying and psychological distress ($r = .34, p < .01$). Curve fitting determined if a linear or quadratic relationship existed between psychological distress standardised residuals and the frequency of workplace bullying. The addition of a quadratic term gave a significantly better fit than the linear term alone ($F(1,2869) = 132.34, p < .01; R^2 = .04$).

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5 As mentioned in the Statistical Analyses section, a multiple linear regression of the four IVs (age, sex, role overload, and job control) were entered simultaneously in a regression, with each dependent variable (psychological distress, affective commitment, and job satisfaction). Standardised residuals were saved for each dependent variable.
ANOVA results (see Figure 3.2) showed a significant relationship between psychological distress and the frequency of experiencing workplace bullying ($F_{(4,2866)} = 33.38; p < .01$). Posthoc Tukey tests confirmed that increases in psychological distress across all intervals were significant, except for those between Frequently and Always, and between Once in a While and Sometimes.

*Figure 3.2. Relationship between the experience of workplace bullying and standardised residuals of psychological distress*

The residuals were sorted in size and dummy coded. The top $1/8^\text{th}$ for psychological distress represented the largest positive standardised residuals once age, gender, job control, and role overload were accounted for. Figure 3.3 visually shows the strong positive relationship between the frequency of experiencing workplace bullying and psychological distress. There was a clear dose effect. Respondents who reported experiencing workplace bullying *always* were five times more likely to have large

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As mentioned in the Statistical Analyses section, the $1/8^\text{th}$ largest (i.e., the residuals at the extreme for each outcome measure) were coded ‘1’ and the remaining residuals were coded ‘0’.

---
psychological distress residuals compared to those never experiencing bullying. Hypothesis 4 is supported: there is a strong positive association between experiencing workplace bullying and reported psychological distress.

![Figure 3.3: Proportion scoring in the top 1/8th on standardised residual scores for psychological distress](image)

3.9.6 RQ1a, H4. The Association of Experiencing Workplace Bullying with Affective Commitment

Hypothesis 4 also predicted a negative association between experiencing workplace bullying and reported affective commitment. This hypothesis is supported: there was a significant negative association between the frequency of experiencing workplace bullying and affective commitment ($r = -.24$, $p < .01$, see Table 3.7). Curve fitting determined if a linear or quadratic relationship existed between the affective commitment standardised residuals and the frequency of workplace bullying. Significance testing showed that a linear equation fitted the relationship between affective commitment and workplace bullying adequately ($F_{(1, 2860)} = 21.08$, $p < .01$;
\( R^2 = .01 \), and that a quadratic relationship did not improve significantly on the linear fit.

ANOVA results (Figure 3.4) indicated a significant relationship between affective commitment and workplace bullying (\( F(4,2857) = 6.06, p < .01 \)). Posthoc Tukey tests confirmed that increases between Always and all levels below (except for Frequently) were significant (\( p < .05 \)). In addition, Never was significantly different to Frequently (\( p < .05 \)).

![Graph showing relationship between frequency of workplace bullying and affective commitment](image)

**Figure 3.4.** Relationship between the experience of workplace bullying and standardised residuals of affective commitment

The bottom 1/8th of the standardised residuals for affective commitment represent the largest negative residuals for this measure once age, gender, role overload, and job control are accounted for. As Figure 3.5 shows, there was again a dose effect. Those reporting the occurrence of experiencing workplace bullying *always* were three times more likely to have large residual scores on affective commitment than those never reporting this behaviour.
Figure 3.5. Proportion scoring in the bottom 1/8th on standardised residual scores for affective commitment

3.9.7  RQ1a, H4. The Association of Experiencing Workplace Bullying with Job Satisfaction

The final part of Hypothesis 4 predicted a negative association between experiencing workplace bullying and reported job satisfaction. Correlations reported earlier confirmed support for this hypothesis: there was a significant negative association between the frequency of experiencing workplace bullying and job satisfaction \((r = -0.29, p < .01, \text{ see Table 3.7})\). Curve fitting determined if a linear or quadratic relationship existed between job satisfaction standardised residuals\(^7\) and the frequency of workplace bullying. Significance testing showed that a linear equation fitted the relationship between job satisfaction and workplace bullying adequately

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\(^7\) As mentioned in the Statistical Analyses section, a multiple linear regression of the four IVs (age, sex, role overload, and job control) were entered simultaneously in a regression, with each dependent variable (psychological distress, affective commitment, and job satisfaction).
(\(F_{(1, 2882)} = 24.53, p < .01; R^2 = .01\)), and that a quadratic relationship did not improve significantly on the linear fit.

ANOVA results (Figure 3.6) indicated a significant relationship between job satisfaction and workplace bullying (\(F_{(4, 2879)} = 6.29, p < .01\)). Posthoc Tukey tests showed significant differences between Never and Sometimes, Never and Frequently, and Never and Always (\(p < .05\)).

![Figure 3.6](image.png)

*Figure 3.6. Relationship between the experience of workplace bullying and standardised residuals of job satisfaction*

Similar to that described for affective commitment, the bottom 1/8th standardised residuals for job satisfaction represent the largest negative residuals after accounting for age, gender, job control, and role overload. These residuals represent the lowest job satisfaction scores.

Although not as strong as the findings for psychological distress and affective commitment, there was still a dose effect. Those reporting the occurrence of experiencing workplace bullying *always* were twice as likely to have large residual scores on job satisfaction than those never reporting this behaviour (see Figure 3.7).
Figure 3.7. Proportion scoring in the bottom 1/8th on standardised residual scores for job satisfaction

3.10 Discussion

The inclusion within the PULSE questionnaire of one item assessing the experience of workplace bullying provided an opportunity to make an initial assessment of the relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction. Study 1 reported in this chapter therefore had two main aims. The first aim was to determine if workplace bullying had more impact on psychological distress, affective commitment, and job satisfaction than role overload and low job control in an Australian Army sample (RQ1). The second aim was to determine the nature and strength of relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction (RQ1a).
3.10.1 RQ1, H1–H3. Assessing the Relationships of Experiencing Workplace Bullying, Role Overload, and Job Control with Outcomes in an Australian Army Sample

As an extreme form of social stressor, workplace bullying was hypothesised to explain variance in psychological distress, affective commitment, and job satisfaction after adjustment for two well-known job demands of role overload and low job control. Hypotheses 1 to 3 were all supported. Workplace bullying accounted for a significant proportion of the variance in each outcome, in particular for psychological distress, after adjusting for job control and role overload. Hauge et al. (2010) also reported that workplace bullying “offered a substantial relative contribution in relation to anxiety and depression, while for job satisfaction, turnover intention and absenteeism, more modest relative contributions were identified” (p. 426). These findings demonstrate the importance of recognising and addressing a broad spectrum of occupational stressors experienced at work, with workplace bullying being significantly associated with the mental health and wellbeing of employees.

3.10.2 RQ1a, H4. Assessing the Relationships of Experiencing Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction

Analysis to examine the nature and strength of associations between workplace bullying and each outcome measure (aim 2, RQ1a) showed significant relationships between the frequency of workplace bullying and all three outcome measures. These relationships were also demonstrated after adjusting for age, gender, role overload, and job control. Most evident was the dose effect that occurred between the frequency of experiencing workplace bullying and reported psychological distress. Members reporting the experience of workplace bullying always were five times more likely to report high psychological distress compared to those never experiencing bullying.
Similar patterns were shown for affective commitment and job satisfaction. Hypothesis 4 was supported: as workplace bullying increased, psychological distress increased, and affective commitment and job satisfaction decreased.

This is the first empirical study to demonstrate the associations of workplace bullying with psychological distress, affective commitment, and job satisfaction in an Australian Army sample. These associations lend weight to the importance of addressing occupational stressors in garrison, similar to the importance placed on addressing deployment-related stressors on operations. Occupational stressors are associated with the health and wellbeing of personnel and a reduction in these stressors is associated with an improvement to workforce capability.

3.11 Limitations of the Workplace Bullying Measure

A number of limitations of Study 1 arose from the use of a single-item measure of workplace bullying. First, this item assessed the experience of workplace bullying during a member’s time within the unit. Respondents may have been referring to workplace bullying incidents that occurred several years ago, making the associations of this experience with more recent mental health, commitment, and satisfaction levels difficult to ascertain.

Second, having this long time frame against which respondents rate their experience of workplace bullying limits the ability to assess the climate of bullying within a unit. Workplace climate refers to the shared perceptions of employees within the organisation and can be influenced by things such as new leadership, revised strategic direction, and changes in the nature of work or interpersonal relationships at work (Schneider, Brief, & Guzzo, 1996). Assessing the experience of workplace bullying within a shorter timeframe allows for exploring the experience of working
within high or low bullying climates at a more specific point in time. Workplace climate will be explored in detail in Chapter 7.

Third, the scale to assess the frequency of workplace bullying (e.g., sometimes, frequently, always) was open to interpretation. For example, one respondent may interpret ‘sometimes’ to refer to experiencing these negative behaviours once a month, whereas another respondent may interpret it as experiencing the behaviours at least weekly.

Finally, the culture of the ADF can influence the acceptance and tolerance of certain negative behaviours that may otherwise be reported as workplace bullying (Rumble et al., 2011). Therefore, it is important to measure negative workplace behaviours that are occurring, even if these behaviours are not identified as workplace bullying. Improving the workplace bullying measure to address these limitations will be explored in the next chapter.

3.12 Chapter Summary

Study 1 demonstrated the effects of workplace bullying relative to other well-known stressors of low job control and role overload in an Australian Army population. Workplace bullying is another demand experienced at work which has negative associations with mental health, commitment, and satisfaction. Further research is now warranted to better understand these behaviours.

The next chapter will set out to replicate and extend the findings of Study 1 with a tri-Service population, utilising a more comprehensive measure of workplace bullying. The ADF is comprised of several subgroups, such as gender, work status (permanent/reserve), Service, and rank. It is important to understand if there are differing associations of workplace bullying with various outcomes for these subgroups. If so, anti-bullying training and targeted campaigns can be enhanced and tailored to
address these differences. The first part of Study 2, reported in the next chapter, will also explore these subgroup differences.
CHAPTER 4. REDEFINING WORKPLACE BULLYING AND EXPLORING ITS ASSOCIATIONS WITH PSYCHOLOGICAL DISTRESS, AFFECTIVE COMMITMENT, AND JOB SATISFACTION IN THE ADF

4.1 Chapter Overview

Results from Study 1 confirm the negative associations that experiencing workplace bullying has with an employee’s affective commitment and job satisfaction, and the positive association that bullying has with psychological distress. In an Australian Army sample, these associations were similar in magnitude, and for some consequences even stronger, than the associations of the same outcomes with role overload and job control. While the findings demonstrate that workplace bullying is an occupational stressor associated with poor mental health and wellbeing there were some limitations to the results. Study 2 aims to address these limitations.

This chapter will commence with a critique of two common methods of assessing workplace bullying: the behavioural-experience method and the self-report method. It will discuss the importance of a reporting timeframe and the importance of determining frequency when measuring the occurrence of bullying. The statistical treatment of the data will be similar to the methods used in Study 1. The associations of the new measure of workplace bullying with psychological distress, commitment, and job satisfaction in the broader ADF will be determined. Similar to Study 1, the associations of experiencing workplace bullying with these outcomes, after accounting for two other well-known stressors of role overload and low job control, will be assessed. Finally, any differences in these associations across the subgroups of gender, Service, work status (permanent/reserve), and rank will be ascertained.
4.2 Measuring Workplace Bullying

4.2.1 Behavioural-experience and Self-report Methods

It is difficult to obtain objective data on the prevalence of workplace bullying and most research is conducted via organisational questionnaires or interviews. As discussed in Chapter 2, there are two main methods of assessing the prevalence of workplace bullying through questionnaires. The self-report method asks respondents if they have experienced workplace bullying. Often a definition of bullying is provided. The behavioural-experience method lists negative workplace behaviours associated with bullying, and respondents rate the frequency of experiencing each. The word ‘bullying’ is omitted from the list of behaviours.

The self-report method often results in lower prevalence rates when compared to the behavioural-experience method (Cakirpaloglu et al., 2017; Nielsen et al., 2009; Salin, 2001; Way, Jimmieson, Bordia, & Hepworth, 2013). This underreporting may be due to the possible stigma of identifying oneself as a target of bullying. That is, some may fear that others will view them as a weak or helpless victim. There could also be a lack of awareness, or understanding, of what the term ‘workplace bullying’ refers to (Duncan, 1999; Lutgen-Sandvik, 2006). Therefore, when presented with the term, especially if a definition is not provided, respondents may not associate their experience with this phenomenon.

There may also be a level of tolerance within some workplaces whereby employees do not perceive the experience of negative acts towards them as being bullied, rather they accept or tolerate certain behaviours as the norm. This tolerance was evident in the Defence Abuse Response Taskforce’s (DART) report on abuse in the Australian Defence Organisation (Defence Abuse Response Taskforce, 2014). The taskforce detailed serious cases of abuse that occurred within the ADF and found that...
Defence plausibly knew about the pattern or practice of negative behaviour towards others and mismanaged the situation. After reviewing submissions to the DART it was concluded that:

many complainants told the Taskforce that more senior serving members, particularly staff in recruit and training establishments, tacitly accepted the occurrence of abuse. This may be indicative of a culture that permits or enables abusive practices to continue from one generation to another (Defence Abuse Response Taskforce, 2014, p. 6).

There is therefore a risk that due to stigma, lack of understanding, or tolerance and acceptance, Defence employees are experiencing extreme negative behaviours and are not reporting these experiences as being bullied.

Not identifying oneself as having been bullied has implications for reported prevalence. In a critique of UK research into workplace bullying, Dick and Rayner (2012) concluded that as many as half of those who, on a weekly basis, experienced negative behaviours in the workplace did not label themselves as bullied. If employing the self-report method, which relies on defining the experience of these negative behaviours as bullying, this group of people would be ignored. From using this method, organisations could unknowingly be underestimating the prevalence of workplace bullying amongst its employees.

Whether or not employees label themselves as being bullied, the experience of repeated negative behaviours is associated with harmful individual and organisational outcomes (Hoel & Cooper, 2000). Interestingly, Cooper, Hoel, and Faragher (2004) reported substantially stronger associations of the overall experience of negative behaviours with mental and physical health outcomes for those non-labellers, than when respondents labelled their experience as bullying. They concluded that negative
workplace behaviours had a greater organisational impact than would be discovered if only the self-report method was used (Cooper et al., 2004). Dick and Rayner’s (2012) study of UK employees provided additional empirical support. Exposure to negative behaviours had similar emotional effects on those who had not self-labelled compared to those who had. Based on this finding, Dick and Rayner (2012) advised that researchers should investigate the experience of negative behaviours at work, rather than investigate only those who label themselves as bullied.

Finally, Einarsen et al. (2009) suggested that in the self-report method, respondents need to cognitively and emotionally process labelling themselves as ‘bullied’. Utilising a list of negative behaviours for respondents to rate provides a more objective estimate of exposure to workplace bullying because these cognitive and emotional processes do not need to occur.

The behavioural-experience method also has shortcomings. A main shortcoming is that this method is restricted to the behaviours being assessed, whereas in theory any act that an individual considers as bullying is captured in the self-report method. Overall though, the behavioural-experience method overcomes many of the shortcomings of the self-report method and as such will be employed in Study 2 within this chapter and those that follow. As already detailed, this method lists a range of negative behaviours that can be experienced, and when assessed for frequency and duration can be used to determine the occurrence of workplace bullying. The methodological considerations around frequency and duration will now be discussed.

4.2.2 Frequency: Methodological Considerations

One of the main operational criteria for defining workplace bullying is that the experience of negative behaviours has to be persistent. Just how persistent has been debated in the literature. Leymann (1996) stated that behaviours have to be experienced
weekly for six months in order for them to be considered bullying. This operational criterion became known as the ‘Leymann criterion’ and has been employed in many studies (e.g., Cemaloglu, 2007; Gardner et al., 2016; Ling, Young, Shepherd, Mak, & Saw, 2016; Niedhammer, David, & Degioanni, 2007; Privitera, 2009). Einarsen et al. (2003) later proposed a less stringent criterion: behaviours have to be experienced ‘regularly’ rather than ‘occasionally’. Others have argued that if there is potential for negative behaviours to be repeated, for example through a perceived threat of reoccurrence, then the behaviours only have to occur once for them to be considered bullying (International Bullying Prevention Agency, 2015; Zapf, 2004, cited in Branch, Ramsey, & Barker, 2009; U.S. Department of Health and Human Services, 2015; Vivolo-Kantor, Martell, Holland, & Westby, 2014).

Before determining the frequency of negative acts that define bullying, the workplace environment has to be considered. In most ADF units, military members are routinely away on training exercises and/or operations, and are often required to take respite leave upon return from these activities. Negative interactions could at times be less frequent simply due to the nature of the military role. Having a less stringent frequency criterion would more accurately capture the bullying being experienced in this working environment.

4.2.3 Duration: Methodological Considerations

The duration of bullying sets it apart from short, less intense, interpersonal conflicts in the workplace. Zapf et al. (2011) summarised three large representational studies in Germany, Norway, and Sweden, and found that the experience of workplace bullying lasted on average 15-18 months. When looking more broadly across 18 international studies, the span in length of time that people were exposed to workplace bullying ranged from a minimum of 12 months up to 5 years.
This varied duration has perhaps contributed to the application of different time referents in questionnaires assessing workplace bullying. Some studies do not specify a timeframe or may assess exposure to workplace bullying across a broad timeframe of ‘one’s working life’. Other studies ask participants if they have been exposed to workplace bullying in the past year, or in the past six months, or even in the past month (Way et al., 2013). A timeframe most often used in studies assessing workplace bullying is six months (e.g., Dick & Rayner, 2012; Einarsen & Skogstad, 1996; Vartia, 1996; Zapf et al., 1996). This duration is long enough to judge the repetitive nature of the behaviours over a set period of time. In cross-sectional studies, such as this one, this time period also enables more accurate associations of workplace bullying with reported attitudes, health, and wellbeing to be calculated.

In Study 1, the timeframe used to assess the experience of workplace bullying was both broad and varied. Respondents were asked to consider their personal experience of bullying during their time in the unit. The majority of respondents had been working within their unit for over 17 months, with a third reporting that they had served at the unit for 2 to 3 years. Therefore, there was a varied timeframe to report against for each respondent. In addition, if a respondent reported the experience of workplace bullying, this experience may have occurred when first joining the unit several years prior, and may have subsequently ceased.

One of the aims of this PhD was to explore the associations of experiencing workplace bullying with current levels of psychological distress, commitment, and job satisfaction. The broad and varied timeframe applied in Study 1 did not allow for the narrowed assessment of recent exposure to workplace bullying. A shorter timeframe would allow respondents to reflect on any recent exposure, would minimise recall bias, and would provide a consistent timeframe for all respondents.
4.2.4 Workplace Bullying Items

There is no set list of negative behaviours that operationalise workplace bullying. Reliable and valid questionnaires, such as the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen et al., 2009) have upwards of 22 items assessing direct and indirect aspects of bullying at work. Some have suggested that there are underlying factors of workplace bullying that could be used to frame items into meaningful groups, such as work-related bullying, person-related bullying, and physical intimidation (Einarsen et al., 2009). Other studies categorise employees into ‘bullied’ and ‘not bullied’ groups based on responses to questionnaire items (An & Kang, 2016; Einarsen & Nielsen, 2015; Niedhammer et al., 2007), although the items used are not consistent across studies.

At times, questionnaire items assessing workplace bullying appear alongside items assessing other negative workplace behaviours such as harassment, discrimination, aggressive supervision, and incivility (Caponecchia & Wyatt, 2011). However, there are certain nuances that set workplace bullying apart from other negative acts. Unlike harassment and discrimination, bullying behaviours have to be repeated, or have the imminent likelihood of being repeated, and do not have to be directed towards a particular characteristic of the targeted individual, such as age, gender, disability, and race. There are also anti-discrimination, industrial, and human rights laws that address discrimination and harassment (Eisenberger, Cummings, Armeli, & Lynch, 1997; Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger, Huntington, Hutchison, & Sowa, 1986; Safe Work Australia, 2016). There are no specific anti-bullying laws in Australia to prosecute against workplace bullying (Caponecchia & Wyatt, 2011), although for certain workgroups, prosecution can be pursued under the *Fair Work Act 2009* (Cth). For the negative act to be called bullying,
there needs to be an intent to cause harm when committing the act. Noting that this intent is difficult to measure, it is this intent that sets bullying apart from incivility (Andersson & Pearson, 1999). Finally, unlike abusive or aggressive supervision (Tepper, 2000), bullying can come from any direction—superiors, subordinates, and coworkers. Despite the differentiating characteristics of these constructs, methods to assess each type of unacceptable behaviour often fail to capture the distinctive features. As a result, similar measurement items appear across scales purporting to measure different negative workplace behaviours (Hershcovis, 2011; Tepper & Henle, 2011).

4.3 **Subgroup Differences in the Relationships between Experiencing Workplace Bullying and Outcomes**

While it is important to understand the overall relationships of experiencing workplace bullying with psychological distress, affective commitment, and job satisfaction, it is also important to understand if these relationships are the same for all groups of employees. There has been a lot of research on the prevalence of experiencing workplace bullying across individual characteristics, such as gender, age, and organisational tenure. This research has produced mixed findings. Vartia (1996) reported no correlation between gender and the reported prevalence of being bullied, and only a small correlation between age and experiencing bullying. In a meta-analysis of 14 studies exploring workplace bullying within Norwegian organisations, Einarsen and Skogstad (1996) reported no difference in the prevalence of experiencing bullying across gender, and reported inconsistent findings across age. Ten years on, Bowling and Beehr’s (2006) meta-analysis of studies of negative workplace behaviours (i.e., harassment, bullying, and mobbing) published between 1987 and 2005 showed that age, gender, and tenure were very weakly associated with the prevalence of experiencing these negative acts. In their review, Aquino and Thau (2009) concluded that employee
demographic variables were likely to explain relatively little variance in being a target of workplace bullying.

The mixed and often weak findings in terms of reported prevalence across different subgroups align with the minimal difference across these subgroups in terms of consequences from experiencing workplace bullying. Vartia and Hyyti (2002) examined whether workplace bullying had similar associations with the reported stress and job satisfaction of male and female prison officers. They found that workplace bullying had similar associations for both men and women. Those bullied reported more stress, mental ill-health, and job dissatisfaction than those not bullied. These associations did not differ across gender.

Zhang and Liao (2015) conducted a meta-analysis of 96 studies (with 119 samples) to explore the moderating effects of age, tenure, and the time spent with one’s supervisor, on the relationships of abusive supervision with 21 outcome measures covering attitudes to work, wellbeing, and performance. Subordinates’ organisational tenure moderated the relationship between abusive supervision and organisational commitment, job satisfaction, and supervisor-directed deviance, such that the longer an employee worked in an organisation, the less impact abusive supervision had. Subordinate's age moderated the relationships of abusive supervision with anger and emotional exhaustion, such that the older an employee was, the less impact abusive supervision had. There were no differences across subgroups for the majority of consequences.

More recently, Attell et al. (2017) reported mixed findings on the differential associations of workplace bullying with job stressors for males and females. Workplace bullying had a stronger association with perceived job stressors for women than for
men. However, there were stronger associations of workplace bullying with anxiety and hopelessness for men than for women.

Overall, evidence suggests that the experience of negative workplace behaviours is linked to harmful effects on employees, regardless of subgroup demographics. However, it could be that in hierarchical, male-dominated organisations, subgroups relating to rank and gender report different associations between experiencing bullying and outcome measures. The military has several other prominent subgroups relating to Service and work status (permanent/reserve) where the different traditions and culture within could impact on the association that workplace bullying has with various outcomes. While the subgroup of Service is specific to the military, the findings from subgroups representing gender, positional status, and occupational groupings can be generalised to other workplaces, especially those within the emergency services or para-military domains. Testing these differences also provides the opportunity to explore the homogeneity of the study sample. This is new and exploratory research and no hypotheses are made.

4.4 Research Questions and Hypotheses

This chapter addresses the first research question of the PhD and the two sub-questions. Hypotheses are presented under the corresponding question/sub-question:

**RQ1.** Does workplace bullying have more impact on an employee’s psychological distress, affective commitment, and job satisfaction than role overload and low job control?

**Hypothesis 1.** Experiencing workplace bullying will explain variance in psychological distress after adjusting for the influence of role overload and job control.
Hypothesis 2. Experiencing workplace bullying will explain variance in affective commitment after adjusting for the influence of role overload and job control.

Hypothesis 3. Experiencing workplace bullying will explain variance in job satisfaction after adjusting for the influence of role overload and job control.

RQ1a. What are the nature and strength of relationships linking the experience of workplace bullying to psychological distress, affective commitment, and job satisfaction?

Hypothesis 4. Experiencing workplace bullying will be negatively associated with affective commitment and job satisfaction, and positively associated with psychological distress.

RQ1b. Are the associations of experiencing workplace bullying with psychological distress, affective commitment, and job satisfaction moderated by gender, work status, Service, or rank?

No hypotheses were formulated.

4.5 Method

4.5.1 Sample: Study 2

Participants in the Study 2 sample included 3,193 ADF and civilian personnel posted to 21 ADF units during 2011 and 2012. Similar to Study 1, these units were dispersed across Australia. At the time of each PULSE administration in Study 2, the majority of the units comprised over 120 personnel. The majority of personnel had served with their current unit for over 17 months, and most were within their first 9 years of service (56.5%). Ranks ranged from Private (Equivalent) to Lieutenant Colonel
(Equivalent), and most civilians (72.8%) were below the Australian Public Service (APS) Executive Level. Most respondents (54.5%) reported ages between 22–36 years. Further demographic characteristics are shown in Table 4.1. The breakdown of gender, rank, and work status aligns with rates in the broader ADF (see Table 1.1). However, generalisation of prevalence findings to the broader ADF is not possible due to the small numbers of units analysed, and low number of respondents, especially from the Navy and Air Force.

Table 4.1.
Demographic Characteristics of Study 2

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>N (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>2,553 (80.0%)</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>527 (16.5%)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>113 (3.5%)</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Australian Navy</td>
<td>187 (5.9%)</td>
<td></td>
</tr>
<tr>
<td>Australian Regular Army</td>
<td>2,126 (66.6%)</td>
<td></td>
</tr>
<tr>
<td>Royal Australian Air Force</td>
<td>651 (20.4%)</td>
<td></td>
</tr>
<tr>
<td>Defence APS civilian personnel</td>
<td>215 (6.7%)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>14 (0.4%)</td>
<td></td>
</tr>
<tr>
<td>Military Work Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Force</td>
<td>2,386 (80.3%)</td>
<td></td>
</tr>
<tr>
<td>Reserve Force</td>
<td>586 (19.7%)</td>
<td></td>
</tr>
<tr>
<td>Military Rank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Commissioned Officers</td>
<td>2,230 (76.1%)</td>
<td></td>
</tr>
<tr>
<td>Officers</td>
<td>700 (23.9%)</td>
<td></td>
</tr>
</tbody>
</table>

Response rates across the 21 units ranged from 31% to 79%, with an average response rate of 55%. This response rate was deemed acceptable given the operational tempo of the units surveyed, with personnel absent from the workplace due to deployment-related leave, training exercises, courses, and personal leave.
4.5.2 Scales and Measures

Most measures across Study 1 and Study 2 remained the same, and are described in detail in Section 3.6.2 of Chapter 3. Of importance to the research question addressed in this chapter is the substantial change across the two studies to the Negative Organisational Behaviour section within the PULSE. This change will be described in more detail in the subsequent section.

4.5.2.1 Negative Organisational Behaviours

The measure of workplace bullying in Study 1 comprised one item assessing the personal experience of bullying while working within the unit. Measurement reflected the self-report method, without the use of a definition. In Study 2, the behavioural-experience method was employed. The term ‘bullying’ was removed and respondents were asked to rate the frequency of exposure to nine unacceptable behaviours. The nine unacceptable behaviours covered workplace bullying (6 items), discrimination (1 item), sexual harassment (1 item), and ‘other’ (1 item) (see Table 4.2). The three categories of workplace bullying, discrimination, and sexual harassment align with the overarching Management and Reporting of Unacceptable Behaviour policy in the Australian Defence Organisation (Department of Defence, 2009).
Table 4.2.

*Items in the Negative Organisational Behaviours Section*

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Over the past six months, in my workplace I have personally experienced:</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>discrimination on the basis of race, gender, or age</td>
<td>Discrimination</td>
</tr>
<tr>
<td>2</td>
<td>sexual harassment</td>
<td>Sexual Harassment</td>
</tr>
<tr>
<td>3</td>
<td>physical violence or threats of physical violence</td>
<td>Bullying</td>
</tr>
<tr>
<td>4</td>
<td>excessive criticism</td>
<td>Bullying</td>
</tr>
<tr>
<td>5</td>
<td>deliberate exclusion from social gatherings</td>
<td>Bullying</td>
</tr>
<tr>
<td>6</td>
<td>humiliating comments</td>
<td>Bullying</td>
</tr>
<tr>
<td>7</td>
<td>damaging rumours/gossip</td>
<td>Bullying</td>
</tr>
<tr>
<td>8</td>
<td>deliberate withholding of equipment, resources, or information</td>
<td>Bullying</td>
</tr>
<tr>
<td>9</td>
<td>hurtful behaviours not covered by any of the above categories</td>
<td>Other</td>
</tr>
</tbody>
</table>

The six workplace bullying items selected for inclusion had been assessed in climate questionnaires within a similar large government organisation in Australia (Jury et al., 2009). While the items conceptually covered work-related bullying, person-related bullying, and physical intimidation, it is not the intent of the PULSE questionnaire to report at the factor level. The intent is to provide commanders with a short snapshot of negative behaviours that may be experienced within the unit. Therefore the new measure had to remain brief enough to encourage a good response rate, and to prevent questionnaire fatigue for this population, yet provide enough information to enable follow-up investigation if warranted.

A timeframe of the ‘past 6 months’ was employed. This timeframe was fixed for all respondents, and is commonly used in studies of workplace bullying (Dick & Rayner, 2012; Einarsen & Skogstad, 1996; Vartia, 1996; Zapf et al., 1996). The same five-point Likert scale as Study 1 was used, with additional defined behavioural anchors for each response option to reduce ambiguity in interpretation:
\[1 = \text{Never}\]
\[2 = \text{Rarely (e.g., once or twice)}\]
\[3 = \text{Sometimes (e.g., once a month)}\]
\[4 = \text{Often (e.g., 4-5 times a month)}\]
\[5 = \text{Very Often (e.g., 2-3 times a week).}\]

The Negative Organisational Behaviour section was subjected to PCA using SPSS version 20. Prior to performing the PCA, the suitability of the data for factor analysis was assessed. The Kaiser-Meyer-Olkin (KMO) measure (Kaiser, 1974) verified the sampling adequacy for the analysis, KMO = 0.93. Bartlett’s Test of Sphericity (Bartlett, 1954) was statistically significant \((\chi^2 (36) = 13,013.25, p < .01)\), supporting the factorability of the correlation matrix.

The PCA of all nine negative organisational behaviour items revealed the presence of one component with an eigenvalue exceeding 1, explaining 53.32\% of the variance. Using Catell’s scree test, it was decided to retain this one component for further investigation. The pattern matrix, the eigenvalue, and the percentage of variance explained by this component are shown in Table 4.3.
Table 4.3.

*Pattern Matrix for One Factor PCA Solution of Negative Organisational Behaviours*

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
<th>Component matrix Negative behaviours</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>humiliating comments</td>
<td>.84</td>
<td>.71</td>
</tr>
<tr>
<td>4</td>
<td>excessive criticism</td>
<td>.81</td>
<td>.66</td>
</tr>
<tr>
<td>7</td>
<td>damaging rumours/gossip</td>
<td>.80</td>
<td>.64</td>
</tr>
<tr>
<td>9</td>
<td>hurtful behaviours not covered by any of the above categories</td>
<td>.79</td>
<td>.62</td>
</tr>
<tr>
<td>5</td>
<td>deliberate exclusion from social gatherings</td>
<td>.71</td>
<td>.50</td>
</tr>
<tr>
<td>3</td>
<td>physical violence or threats of physical violence</td>
<td>.71</td>
<td>.50</td>
</tr>
<tr>
<td>1</td>
<td>discrimination on the basis of race, gender, or age</td>
<td>.69</td>
<td>.48</td>
</tr>
<tr>
<td>8</td>
<td>deliberate withholding of equipment, resources, or information</td>
<td>.63</td>
<td>.40</td>
</tr>
<tr>
<td>2</td>
<td>sexual harassment</td>
<td>.54</td>
<td>.29</td>
</tr>
</tbody>
</table>

Eigenvalue

4.80

Percent accounted for (Variance)

53.32

The reliability of the full nine-item scale was .89. The six workplace bullying items shown in Table 4.2 had a Cronbach’s alpha of .85.

Depending upon the analysis, the measure of workplace bullying in this thesis is treated in three ways.

1. A continuous measure of exposure to workplace bullying: the score of the six workplace bullying items (hereafter Bullying score) is summed. The Bullying score ranges from 6 to 30, with higher scores indicating higher frequency of experiencing workplace bullying.

2. An ordinal measure with four categories formed from the continuous bullying measure: ‘Never’ (Bullying score of 6, 59.4% of sample); ‘Rarely’ (Bullying score of 7-8, 17.7% of sample); ‘Sometimes’ (Bullying score of 9-
12, 14.0% of sample); and ‘Often’ (Bullying score of 13-30, 8.9% of sample).

3. A binary categorical measure of workplace bullying: those in the ‘Bullied’ group experienced at least one of the six bullying behaviours monthly or more over the past six months (20.6% of sample).

4.5.3 Procedure

Study 2 utilised results from the administration of the PULSE questionnaire to 21 ADF units. The majority of these units received a face-to-face questionnaire administration, with four receiving a mail-out administration. A full description of the face-to-face administration is provided in Chapter 3, Section 3.6.3.1. The mail-out administration will now be described.

4.5.3.1 Mail-out Administration

Due to either geographical spread or logistical reasons (e.g., shift work) a mail-out administration of the PULSE questionnaire was conducted for four units within Study 2. Questionnaires were mailed from Joint Health Command (JHC), Canberra, to a central point of contact at each location for distribution to all personnel at that site. Accompanying the questionnaire was a letter from the commander explaining the purpose of the administration, the importance of the information, as well as assurances of confidentiality and anonymity of responses. Instructions on how to complete the questionnaire were also included, similar to those provided by Defence psychology staff during face-to-face group administration.

Return envelopes to the PULSE team within JHC, Canberra, were included in the mail-out questionnaires. There was minimal difference in response rates between the face-to-face administration and the mail-out administrations.
4.6 Data Screening Study 2 Dataset: ADF 2011 and 2012

Prior to further analyses, Study 2 variables were examined for accuracy of data capture, missing values, and fit between their distributions and the assumptions of the statistical analyses to be employed. Data screening was conducted in accordance with guidelines suggested by Cohen et al. (2003), Field (2013), and Tabachnick and Fidell (2007).

4.6.1 Missing Values

There were 199 cases with missing data on the six items comprising the Bullying variable. This variable was deemed essential for all analyses and cases with incomplete responses were removed from the Study 2 dataset.

Fewer than 4.0% of cases contained missing data on demographic variables, except for the variable Years of Service. During 2012, two units were administered PULSE questionnaires that did not require respondents to provide their years of service, resulting in missing data for 9.6% cases. Missing data were never more than 1.5% of individual continuous independent and dependent variables. Exploration of patterns of missing data generated through the Missing Value Analysis of SPSS showed that data were missing at random. With the exception of the Bullying variable, listwise deletion was used to handle cases with missing data.

4.6.2 Univariate and Multivariate Outliers

Small proportions (< 1%) of univariate outliers were detected for the variables of Age, Time in Unit, and Years of Service. These extreme values were substituted with scores that were two standard deviations from the mean. Multivariate outliers were
detected through Mahalanobis distance, Cook’s and Leverage values. Upon further examination these cases were found to be legitimate.

4.6.3 Normality

The descriptive statistics for the Study 2 variables are shown in Table 4.4. As was found for the Study 1 dataset, Kolmogorov and Smirnoff tests of normality for all variables were significant. Visual inspection was made of the histograms and normal Q-Q plots for each variable. Most distributions showed only slight skewness and kurtosis. Similar to Study 1, Psychological Distress and Workplace Bullying were the two measures where more substantial skewness occurred. As skewness is a typical characteristic of these types of scales, and not an isolated feature of the data, the measures were not transformed. Chapter 3, Section 3.7.3, discussed the skewness of these measures in other populations.
Table 4.4.
*Descriptive Statistics for Study 2 Variables (N range 3,163–3,193)*

<table>
<thead>
<tr>
<th>Scale/Measure</th>
<th>Mean</th>
<th>SD</th>
<th>Scale range</th>
<th>Skewness (SE .04)</th>
<th>Kurtosis (SE .09)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Commitment</td>
<td>3.72</td>
<td>.85</td>
<td>1–5</td>
<td>-.76</td>
<td>.75</td>
</tr>
<tr>
<td>Job Control</td>
<td>3.71</td>
<td>.75</td>
<td>1–5</td>
<td>-.72</td>
<td>.85</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3.52</td>
<td>.95</td>
<td>1–5</td>
<td>-.67</td>
<td>-.03</td>
</tr>
<tr>
<td>Perceived Organisational Support</td>
<td>3.39</td>
<td>.79</td>
<td>1–5</td>
<td>-.51</td>
<td>.03</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>15.22</td>
<td>6.20</td>
<td>10–50</td>
<td>2.03</td>
<td>4.98</td>
</tr>
<tr>
<td>Role Overload</td>
<td>3.05</td>
<td>.79</td>
<td>1–5</td>
<td>.21</td>
<td>-.28</td>
</tr>
<tr>
<td>Supervisor Support</td>
<td>3.88</td>
<td>.81</td>
<td>1–5</td>
<td>-.80</td>
<td>.39</td>
</tr>
<tr>
<td>Workplace Bullying</td>
<td>7.81</td>
<td>3.47</td>
<td>6–30</td>
<td>2.82</td>
<td>9.21</td>
</tr>
</tbody>
</table>

**4.6.4 Linearity**

Visual inspection of the bivariate scatterplots for all pairs showed no marked departures from linearity.

**4.6.5 Consistency**

To check for responses that may have been made without due thought and consideration, that is, response inconsistency (Fogarty & Steele, 2013), responses to 10 pairs of highly-correlated items from within the PULSE questionnaire were explored. These pairs of highly positive and negative correlated items appeared across the beginning, middle, and end of the questionnaire. Cases where fewer than 7 pairs were responded to consistently were further examined. This examination resulted in the removal of 10 cases from the Study 2 dataset.
4.7 **Statistical Analyses**

All statistical analyses within Study 2 were conducted using SPSS version 20, with the exception of those within the multilevel modelling chapter (Chapter 7) in which analyses were performed through Stata Statistical Software release 14.

Hierarchical multiple linear regressions explored whether workplace bullying had more impact on an employee’s psychological distress, affective commitment, and job satisfaction than role overload and low job control (RQ1). The unique contribution of workplace bullying to each DV was determined, after adjusting for role overload and job control (to test H1 to H3).

Before hierarchical multiple linear regression analyses were conducted, the independent variables of workplace bullying, role overload, and job control were all checked for multicollinearity. The Variance Inflation Factor (VIF) statistics were all under 2 and all tolerance values were greater than 0.83. Whilst some variables were moderately correlated, exploration of the correlation matrix of all independent variables showed no correlations greater than .40. Based on these findings it was determined that the assumption of multicollinearity was not violated. Each independent variable had the potential to add unique variance to the prediction of the dependent variable (Cohen et al., 2003). There was no evidence of singularity.

Three hierarchical multiple linear regressions were conducted, with psychological distress, affective commitment, or job satisfaction as the DV. In Step 1, age and gender were entered. In Step 2, role overload and job control were added, and finally in Step 3 workplace bullying was entered. Step 3 allowed for the variance

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*Cohen et al. (2003) suggest that VIF values greater than 10 and tolerance values less than .10 are evidence of a serious problem.*

*Cohen et al. (2003) suggest correlations greater than .80 may pose a problem.*
accounted for by workplace bullying, after adjustment for role overload and job control, to be determined.

The relationships of experiencing workplace bullying with psychological distress, affective commitment, and job satisfaction (RQ1a and H4), were explored in two ways. First, correlations were conducted. Due to the significant skewness of two variables, Workplace Bullying and Psychological Distress, both Pearson’s product moment correlation coefficients and Spearman’s rho correlations were estimated.

Second, residuals were derived from linear regression models in order to gain insight into the nature of associations between experiencing workplace bullying and each of the DVs once the four other independent variables (IVs; age, gender, role overload, and job control) were taken into account. By doing so, the IVs known to have a relationship with the DVs were already accounted for, and any systematic relationships between experiencing bullying and the residuals could be shown.

To obtain these standardised residuals, a multiple linear regression of the four above-mentioned IVs with each of the three DVs was conducted. Results from these three regressions are shown in Appendix B. The residuals from each regression were saved, and were used as the DVs throughout the next series of analyses. Saving these residuals avoided having to conduct multiple linear regressions each time to remove the covariance of age, gender, role overload, and job control. The standardised residuals were the adjusted measures of psychological distress, affective commitment, and job satisfaction. For simplicity throughout the Results section, reference to the standardised residuals of each outcome (e.g., standardised residuals of affective commitment) will be made once at the start of the section, and thereafter the outcome (e.g., affective commitment) will be used to refer to the adjusted measure.
Curve fitting determined the nature of the relationship (i.e., linear or quadratic) between workplace bullying and each adjusted outcome measure. This analysis was conducted through the SPSS curve estimation module.

The standardised residuals were also dummy coded. For job satisfaction and affective commitment, the 1/8th largest negative residuals were coded ‘1’ and the remaining residuals were coded ‘0’. The largest residuals represented those cases where the four IVs (age, gender, job control, role overload) account for the least variance in the DVs. The largest negative residuals represented the lowest affective commitment and job satisfaction. For psychological distress, the 1/8th largest positive residuals were coded ‘1’ and the remaining residuals were coded ‘0’. These largest positive residuals represented the highest psychological distress. The proportion of cases with the largest residuals were then plotted against the four frequency groups of bullying (never, rarely, sometimes, often; refer to Section 4.5.2.1 for details of these groups) to visually show the relationship between the frequency of bullying and the adjusted measures for low job satisfaction and affective commitment, and high psychological distress.

The relationships between workplace bullying and each outcome measure across four demographic subgroups in the population (RQ1b)—gender, Service, work status, and rank—were explored through hierarchical moderated regressions. The adjusted measures of psychological distress, affective commitment, or job satisfaction were again the DVs. In Step 1, workplace bullying and one categorical variable that defined the demographic subgroup were entered. In Step 2, the interaction of workplace bullying and this categorical variable (e.g., Bullying x Gender) was entered. Mean centering of the workplace bullying variable was not conducted. A significant interaction meant that there was a different association between workplace bullying and the DV for different
levels of the subgroup variable. There were 4 levels within the Service variable, hence this variable was dummy-coded before being entered into the regression.

4.8 Results

4.8.1 RQ1, H1. Assessing the Relationship of Experiencing Workplace Bullying, Role Overload, and Job Control with Psychological Distress

The first hypothesis, that the experience of workplace bullying will explain variance in psychological distress after adjusting for the influence of role overload and job control, was explored through hierarchical regression. Table 4.5 details the results of this analysis.

Due to the possible differences across gender and age for reported psychological distress (Drapeau et al., 2014; Jorm et al., 2005) these variables were entered first. The results of Step 1 indicated that the variance accounted for ($R^2$) by gender and age was small. In Step 2, role overload and job control were entered into the regression equation. The change in variance ($\Delta R^2$) was 0.18, which was statistically significant ($p < .01$). In Step 3, bullying was entered and the change in variance ($\Delta R^2$) was also significant ($p < .01$). In the final model, all variables contributed significantly to predicting psychological distress. Workplace bullying ($\beta = 0.26$) showed the strongest association with psychological distress. The final model explained 24% of the variance ($F_{(5, 3014)} = 191.26, p < .01$). Taken together these findings support Hypothesis 1.
### Table 4.5.
*Summary of Hierarchical Regression Analysis for Variables Predicting Psychological Distress (N = 3,020)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
<th>Model 3</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
</tr>
<tr>
<td>Gender</td>
<td>.28</td>
<td>.30</td>
<td>.02</td>
<td>.00</td>
<td>.64</td>
<td>.27</td>
<td>.04**</td>
<td>.00</td>
<td>.73</td>
</tr>
<tr>
<td>Age</td>
<td>-.51</td>
<td>.08</td>
<td>-.12**</td>
<td>.01</td>
<td>-.39</td>
<td>.08</td>
<td>-.09**</td>
<td>.01</td>
<td>-.27</td>
</tr>
<tr>
<td>Role Overload</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.01</td>
<td>.13</td>
<td>.26**</td>
<td>.06</td>
<td>1.65</td>
</tr>
<tr>
<td>Job Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-2.56</td>
<td>.14</td>
<td>-.31**</td>
<td>.09</td>
<td>-1.80</td>
</tr>
<tr>
<td>Bullying</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.01</td>
<td></td>
<td></td>
<td>.19</td>
<td></td>
<td></td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
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<td></td>
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</tr>
<tr>
<td>F for change in R²</td>
<td>20.77**</td>
<td></td>
<td></td>
<td>325.83**</td>
<td></td>
<td></td>
<td>206.34**</td>
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<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.
4.8.2 RQ1, H2. Assessing the Relationship of Experiencing Workplace Bullying, Role Overload, and Job Control with Affective Commitment

Next, the relationship between job demands and affective commitment was explored to test Hypothesis 2: experiencing workplace bullying will explain variance in affective commitment after adjusting for the influence of role overload and job control. Table 4.6 details the results of the hierarchical regression with affective commitment as the DV.

Again, due to possible age and gender differences on reported affective commitment (Mathieu & Zajac, 1990; Toga et al., 2014) these variables were entered first. The results of this first step indicated gender and age accounted for .04 of the variance (p < .01). In Step 2, role overload and job control were entered into the regression equation. The change in variance (Δ$R^2 = .09$) was significant (p < .01). In Step 3, workplace bullying was entered and explained very small, yet significant, additional variance. In the final model, age, job control, and workplace bullying contributed significantly to the prediction of affective commitment ($F_{(5, 3011)} = 88.43, p < .01$). The final model explained 13% of the variance in affective commitment.

Results showed that workplace bullying (β = -.07) had a stronger association with affective commitment than role overload (β = -.02), the latter relationship being nonsignificant. Job control had the largest beta value (β = .28), indicating that a change in job control would result in the largest change in affective commitment. While the findings support Hypothesis 2, it is noted that experiencing workplace bullying did not contribute much to the variance in affective commitment after adjustment for role overload and job control.
Table 4.6.
*Summary of Hierarchical Regression Analysis for Variables Predicting Affective Commitment (N = 3,016)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
<th></th>
<th>Model 3</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.04</td>
<td>0.04</td>
<td>-0.02</td>
<td>0.00</td>
<td>-0.06</td>
<td>0.04</td>
<td>-0.03</td>
<td>0.00</td>
<td>-0.06</td>
<td>0.04</td>
<td>-0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Age</td>
<td>0.11</td>
<td>0.01</td>
<td>0.19**</td>
<td>0.04</td>
<td>0.07</td>
<td>0.01</td>
<td>0.13**</td>
<td>0.01</td>
<td>0.07</td>
<td>0.01</td>
<td>0.12**</td>
<td>0.01</td>
</tr>
<tr>
<td>Role Overload</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.04</td>
<td>0.02</td>
<td>-0.04*</td>
<td>0.00</td>
<td>-0.03</td>
<td>0.02</td>
<td>-0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Job Control</td>
<td>0.33</td>
<td>0.02</td>
<td>0.30**</td>
<td>0.08</td>
<td>0.31</td>
<td>0.02</td>
<td>0.28**</td>
<td>0.06</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.02</td>
<td>0.01</td>
<td>-0.07**</td>
<td>0.00</td>
</tr>
<tr>
<td>R²</td>
<td>0.037</td>
<td></td>
<td></td>
<td></td>
<td>0.125</td>
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<tr>
<td>ΔR²</td>
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<td></td>
<td>0.09</td>
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</tr>
<tr>
<td>F for change in R²</td>
<td>58.50**</td>
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<td></td>
<td></td>
<td>150.29**</td>
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<td></td>
<td>11.49**</td>
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</tr>
</tbody>
</table>

*p < .05.  **p < .01.
4.8.3  RQ1, H3. Assessing the Relationship of Experiencing Workplace Bullying, Role Overload, and Job Control with Job Satisfaction

The third hypothesis was again tested through hierarchical regression to determine if the experience of workplace bullying explained variance in job satisfaction after adjusting for the influence of role overload and job control. Table 4.7 details the results of the hierarchical regression with job satisfaction as the dependent variable.

Due to possible age and gender differences on reported job satisfaction (Boumans et al., 2011; Clark, 1997) these variables were entered first. The results of this first step indicated that the variance accounted for ($R^2$) was .02 ($p < .01$). In Step 2, role overload and job control were entered into the regression equation. The change in variance ($\Delta R^2$) was .24, which was statistically significant ($p < .01$). In Step 3, workplace bullying was entered and change in variance was small but significant ($p < .01$). In the final model all variables, except gender, contributed significantly to the explanation of job satisfaction, with the final model explaining 27% of the variance ($F(5, 3028) = 219.81, p < .01$).

Similar to affective commitment, of all predictors, job control had the strongest association with job satisfaction ($\beta = .45$). The associations of workplace bullying ($\beta = -.06$) and role overload ($\beta = -.12$) with job satisfaction were significant, though not as strong as that shown for job control. Although Hypothesis 3 was supported, the experience of being bullied at work did not explain much variance in job satisfaction after adjusting for role overload and job control.
Table 4.7.

Summary of Hierarchical Regression Analysis for Variables Predicting Job Satisfaction (N = 3,028)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th>Model 3</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td></td>
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</tr>
<tr>
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<td>.02</td>
<td>.00</td>
<td>.01</td>
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<td>.00</td>
<td>.01</td>
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<td>.00</td>
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</tr>
<tr>
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<td>.15**</td>
<td>.02</td>
<td>.04</td>
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<td>.01</td>
<td>.05**</td>
<td>.00</td>
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<td></td>
</tr>
<tr>
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<td>.02</td>
<td>-.13**</td>
<td>.01</td>
<td>-.14</td>
<td>.02</td>
<td>-.12**</td>
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<td>-.12**</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>.45**</td>
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<td>.56</td>
<td>.02</td>
<td>.45**</td>
<td>.16</td>
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<td>.02</td>
<td>.45**</td>
<td>.16</td>
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<tr>
<td>Bullying</td>
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<td></td>
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<td>-.02</td>
<td>.01</td>
<td>-.06**</td>
<td>.00</td>
<td>-.02</td>
<td>.01</td>
<td>-.06**</td>
<td>.00</td>
<td>-.02</td>
<td>.01</td>
<td>-.06**</td>
<td>.00</td>
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<td></td>
</tr>
<tr>
<td>$R^2$</td>
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<td></td>
<td></td>
<td></td>
<td>.26</td>
<td></td>
<td></td>
<td></td>
<td>.27</td>
<td></td>
<td></td>
<td></td>
<td>.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.24</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$ for change in $R^2$</td>
<td>36.93**</td>
<td></td>
<td></td>
<td></td>
<td>491.58**</td>
<td></td>
<td></td>
<td>13.58**</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.
4.8.4 RQ1a, H4. The Associations of Experiencing Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction.

In Table 4.8, Pearson’s product moment correlation coefficients are shown below the diagonal, with Spearman’s rho correlations reported above the diagonal. Cronbach’s alpha coefficients are on the diagonal. All study variables showed good to excellent Cronbach’s alpha coefficients (George & Mallery, 2003).

There was little difference in the strength or significance of both the parametric and non-parametric correlations. Both showed predominantly moderate correlations for workplace bullying with all outcomes measures. These relationships were in the hypothesised direction: as the experience of workplace bullying occurred more frequently, psychological distress increased, and affective commitment and job satisfaction decreased (providing support for Hypothesis 4).

\[^{10}\text{Cohen (1992) suggests a correlation coefficient to be weak when } r = .20, \text{ moderate when } r = .30, \text{ and strong when } r = .50.\]
Table 4.8.

Reliabilities and Correlations Among Study 2 Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Workplace Bullying</td>
<td>.85</td>
<td>.20**</td>
<td>-.36**</td>
<td>-.31**</td>
<td>-.39**</td>
<td>.36**</td>
<td>-.18**</td>
<td>-.27**</td>
</tr>
<tr>
<td>2. Role Overload</td>
<td>.19**</td>
<td>.81</td>
<td>-.04*</td>
<td>-.14**</td>
<td>-.26**</td>
<td>.27**</td>
<td>-.01</td>
<td>-.15**</td>
</tr>
<tr>
<td>3. Job Control</td>
<td>-.40**</td>
<td>-.08**</td>
<td>.86</td>
<td>.46**</td>
<td>.55**</td>
<td>-.32**</td>
<td>.33**</td>
<td>.48**</td>
</tr>
<tr>
<td>4. Supervisor Support</td>
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<td>-.15**</td>
<td>.48**</td>
<td>.97</td>
<td>.44**</td>
<td>-.24**</td>
<td>.24**</td>
<td>.34**</td>
</tr>
<tr>
<td>5. Perceived Organisational Support</td>
<td>-.42**</td>
<td>-.26**</td>
<td>.59**</td>
<td>.44**</td>
<td>.92</td>
<td>-.36**</td>
<td>.38**</td>
<td>.56**</td>
</tr>
<tr>
<td>6. Psychological Distress</td>
<td>.39**</td>
<td>.26**</td>
<td>-.35**</td>
<td>-.24**</td>
<td>-.39**</td>
<td>.91</td>
<td>-.21**</td>
<td>-.36**</td>
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<tr>
<td>7. Affective Commitment</td>
<td>-.22**</td>
<td>-.04*</td>
<td>.34**</td>
<td>.25**</td>
<td>.41**</td>
<td>-.25**</td>
<td>.80</td>
<td>.41**</td>
</tr>
<tr>
<td>8. Job Satisfaction</td>
<td>-.28**</td>
<td>-.15**</td>
<td>.50**</td>
<td>.35**</td>
<td>.56**</td>
<td>-.40**</td>
<td>.45**</td>
<td>.90</td>
</tr>
</tbody>
</table>

Note. Spearman’s rho correlations are above the diagonal, Pearson’s correlations are below the diagonal. Cronbach’s alpha coefficients are on the diagonal.

N range = 3,163–3,193.

* p < .05. ** p < .01.
Curve fitting determined if a linear or quadratic relationship existed between workplace bullying and the adjusted measures of psychological distress, affective commitment, and job satisfaction. Significance testing showed that a linear equation fitted the relationship between each outcome measure and workplace bullying adequately, and that a quadratic relationship did not improve significantly on the linear fit (i.e., workplace bullying with psychological distress ($F_{(1, 3018)} = 162.84, p < .01; R^2 = .05$), affective commitment ($F_{(1, 3015)} = 9.16, p < .01; R^2 = .003$), or job satisfaction ($F_{(1, 3027)} = 10.84, p < .01; R^2 = .004$)).

The residuals were sorted in size and dummy coded. For job satisfaction and affective commitment, the $1/8^{th}$ largest negative residuals represented those cases where the four IVs (age, gender, job control, role overload) account for the least variance in the DVs. The largest negative residuals represented the lowest affective commitment and job satisfaction. For psychological distress, the $1/8^{th}$ largest positive residuals represented the highest psychological distress. Figure 4.1 visually shows the strong positive relationship between the frequency of experiencing workplace bullying and the adjusted measure of each outcome. These relationships demonstrate a clear dose effect: as the frequency of experiencing bullying increases so too do the reported negative effects. As found in Study 1, this association is particularly strong between workplace bullying and psychological distress. Respondents who *often* experienced workplace bullying were four times more likely to have large psychological distress residuals compared to those never experiencing bullying.

---

11 As mentioned in the Statistical Analyses section, the $1/8^{th}$ largest (i.e., the residuals at the extreme for each outcome measure) were coded ‘1’ and the remaining residuals were coded ‘0’.
Figure 4.1. Relationships between frequency of experiencing workplace bullying and standardised residuals of (low) affective commitment, (low) job satisfaction, and (high) psychological distress.

Overall, these results, together with those from the correlation analyses and curve estimations, provide support for Hypothesis 4: the experience of workplace bullying is negatively associated with affective commitment and job satisfaction, and positively associated with psychological distress. The association between experiencing workplace bullying and psychological distress is stronger than for the other two outcome measures in this sample.

4.8.5 RQ1b. Examining Service Differences

The final research question of this chapter sought to assess if associations between experiencing workplace bullying and all outcomes measures were similar across subgroups (RQ1b). The first subgroup to be explored was the Service of the respondent. Table 4.9 displays the proportion responding within each Service for Study 2. Also shown is the average Bullying score and the proportion of respondents within
each Service reporting at least one bullying behaviour, experienced monthly or more, in the past six months.

Comparing results from both calculations of bullying across the Services produced the same findings. There was a significant relationship between experiencing workplace bullying at least monthly and the Service of the respondent ($\chi^2 (1) = 57.99$, $p < .01$; Cramer’s $V = 0.14$). More Air Force respondents reported the experience of workplace bullying than what would have been expected by chance. Similarly, results from a one-way between subjects ANOVA showed significant differences in the average Bullying score across the Services ($F_{(3, 3174)} = 20.09$, $p < .01$). Post hoc comparisons using the Tukey HSD test indicated that the mean Bullying score for Air Force respondents was significantly higher than the other two Services and Civilians. There were no other significant differences in the average Bullying score across Navy, Army, or Civilian subgroups.

Table 4.9.

<table>
<thead>
<tr>
<th>Service</th>
<th>N</th>
<th>Percent</th>
<th>Average bullying score</th>
<th>% Experiencing at least one bullying behaviour monthly or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navy</td>
<td>184</td>
<td>5.8</td>
<td>7.3</td>
<td>13.0</td>
</tr>
<tr>
<td>Army</td>
<td>2,125</td>
<td>66.9</td>
<td>7.6</td>
<td>18.2</td>
</tr>
<tr>
<td>Air Force</td>
<td>651</td>
<td>20.5</td>
<td>8.7</td>
<td>30.9</td>
</tr>
<tr>
<td>Civilian</td>
<td>215</td>
<td>6.8</td>
<td>7.6</td>
<td>17.2</td>
</tr>
<tr>
<td>Total</td>
<td>3,175</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of three hierarchical moderated regressions are shown in Table 4.10. There was a significant difference across the Services and civilian subgroups for the association of workplace bullying with the adjusted measure of affective commitment.
Table 4.10.

*Hierarchical Regression Analyses Showing the Moderating Effects of Service, Including Civilians, on the Relationships between Experiencing Workplace Bullying and Affective Commitment, Job Satisfaction, and Psychological Distress (N range: 3,013–3,025)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affective commitment standardised residuals</th>
<th></th>
<th>Job satisfaction standardised residuals</th>
<th></th>
<th>Psychological distress standardised residuals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>(sr^2)</td>
<td>B</td>
<td>SE B</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
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<td>0.01</td>
<td>-0.07*</td>
<td>.00</td>
<td>-0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>NavyDC</td>
<td>0.15</td>
<td>0.10</td>
<td>0.04</td>
<td>.00</td>
<td>-0.02</td>
<td>0.10</td>
</tr>
<tr>
<td>ArmyDC</td>
<td>0.23</td>
<td>0.07</td>
<td>0.11**</td>
<td>.00</td>
<td>-0.08</td>
<td>0.07</td>
</tr>
<tr>
<td>AirForceDC</td>
<td>0.31</td>
<td>0.08</td>
<td>0.13**</td>
<td>.00</td>
<td>-0.12</td>
<td>0.08</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>0.06</td>
<td>0.03</td>
<td>0.21*</td>
<td>.00</td>
<td>0.00</td>
<td>0.03</td>
</tr>
<tr>
<td>NavyDC</td>
<td>0.95</td>
<td>0.30</td>
<td>0.22*</td>
<td>.00</td>
<td>-0.25</td>
<td>0.29</td>
</tr>
<tr>
<td>ArmyDC</td>
<td>0.95</td>
<td>0.22</td>
<td>0.45**</td>
<td>.01</td>
<td>0.05</td>
<td>0.22</td>
</tr>
<tr>
<td>AirForceDC</td>
<td>0.75</td>
<td>0.23</td>
<td>0.30**</td>
<td>.00</td>
<td>0.04</td>
<td>0.23</td>
</tr>
<tr>
<td>Bullying x NavyDC</td>
<td>-0.11</td>
<td>0.04</td>
<td>-0.20**</td>
<td>.00</td>
<td>0.03</td>
<td>0.04</td>
</tr>
<tr>
<td>Bullying x ArmyDC</td>
<td>-0.10</td>
<td>0.03</td>
<td>-0.43**</td>
<td>.00</td>
<td>-0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Bullying x AirForceDC</td>
<td>-0.06</td>
<td>0.03</td>
<td>-0.25*</td>
<td>.00</td>
<td>-0.02</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>Final model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R^2)</td>
<td>.013</td>
<td></td>
<td></td>
<td></td>
<td>.006</td>
<td></td>
</tr>
<tr>
<td>(F) Statistic</td>
<td>(F(7, 3012) = 6.62^*)</td>
<td>(F(7, 3017) = 2.39^*)</td>
<td>(F(7, 3015) = 27.26^{**})</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.*
Further analysis showed that for the civilian subgroup, the relationship between workplace bullying and affective commitment was significantly different to that shown for Army and Air Force respondents. There was a positive relationship between the experience of workplace bullying and affective commitment for the civilian subgroup. Figure 4.2 graphs this relationship. Workplace bullying is graphed as a categorical binary variable: no experience of workplace bullying (Bullying score of 6) and experiencing workplace bullying (one standard deviation above the average total bullying score).

*Figure 4.2. Relationship between experiencing workplace bullying and the standardised residuals of affective commitment for each Service and civilians*

Due to the unexpected nature of the relationship between workplace bullying and affective commitment for civilians, this subgroup was removed from the dataset, and the hierarchical moderated regression was again analysed with the remaining three military Service subgroups. Results are shown in Table 4.11.
Table 4.11.
Hierarchical Regression Analyses Showing the Moderating Effects of Service on the Relationships between Experiencing Workplace Bullying and Affective Commitment, Job Satisfaction, and Psychological Distress: Civilians Removed (N range: 2,808–2,816)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affective commitment standardised residuals</th>
<th>Job satisfaction standardised residuals</th>
<th>Psychological distress standardised residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>-0.02</td>
<td>0.01</td>
<td>-0.08**</td>
</tr>
<tr>
<td>NavyDC</td>
<td>-0.05</td>
<td>0.08</td>
<td>-0.01</td>
</tr>
<tr>
<td>AirForceDC</td>
<td>0.08</td>
<td>0.05</td>
<td>0.03</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>-0.03</td>
<td>0.01</td>
<td>-0.12**</td>
</tr>
<tr>
<td>NavyDC</td>
<td>-0.24</td>
<td>0.21</td>
<td>-0.06</td>
</tr>
<tr>
<td>AirForceDC</td>
<td>-0.19</td>
<td>0.11</td>
<td>-0.08</td>
</tr>
<tr>
<td>Bullying x NavyDC</td>
<td>0.03</td>
<td>0.03</td>
<td>0.05</td>
</tr>
<tr>
<td>Bullying x AirForceDC</td>
<td>0.03</td>
<td>0.01</td>
<td>0.14**</td>
</tr>
<tr>
<td>Final model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Statistic</td>
<td>F(5, 2806) = 6.00**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.
With civilians removed from the sample, there was a significant interaction between Service and workplace bullying for the outcomes of affective commitment and psychological distress (Table 4.11). Further investigation showed that Air Force members differed significantly in the relationship between experiencing workplace bullying and affective commitment when compared to Army respondents (see Figure 4.3), such that Air Force members tended to have a null relationship between the experience of bullying and affective commitment. Furthermore, the experience of workplace bullying for Navy members was not significantly associated with psychological distress (see Figure 4.4). In both figures the measure of bullying is graphed as a categorical binary variable: no experience of workplace bullying (Bullying score of 6) and experiencing workplace bullying (one standard deviation above the average Bullying score).

Figure 4.3. Relationship between experiencing workplace bullying and the standardised residuals of affective commitment for each Service
Figure 4.4. Relationship between experiencing workplace bullying and the standardised residuals of psychological distress for each Service

4.8.6 RQ1b. Examining Gender Differences

Gender differences were explored with the remaining sample comprising ADF personnel only. Table 4.12 outlines the proportion of ADF males and females in Study 2. Also shown are the average Bullying score and the proportion of males and females reporting at least one bullying behaviour, experienced monthly or more, in the past six months.

There was a nonsignificant relationship between the proportion reporting the experience of workplace bullying and gender ($\chi^2 (1) = 1.17, p = .28$). While an independent sample t-test showed a significant difference in the average Bullying score across gender, with males scoring significantly higher than females ($t(3,078) = 2.65, p < .01$), the practical significance of this difference, especially given the range for this score (i.e., 6–36), was very small (Cohen’s $d = 0.14$).
Table 4.12.

ADF Gender Demographics

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Percent</th>
<th>Average bullying score</th>
<th>% Experiencing at least one bullying behaviour monthly or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>2,451</td>
<td>86.1</td>
<td>7.9</td>
<td>20.9</td>
</tr>
<tr>
<td>Female</td>
<td>397</td>
<td>13.9</td>
<td>7.4</td>
<td>18.9</td>
</tr>
<tr>
<td>Total</td>
<td>2,848</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of three hierarchical moderated regressions are shown in Table 4.13. There were no significant differences across gender. That is, the association of experiencing workplace bullying and all outcomes were the same for males and females.
Table 4.13.
Summary of Hierarchical Regression Analyses Showing the Moderating Effects of Gender on the Relationships of Experiencing Workplace Bullying with Affective Commitment, Job Satisfaction, and Psychological Distress (N range: 2,794–2,803)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affective commitment standardised residuals</th>
<th>Job satisfaction standardised residuals</th>
<th>Psychological distress standardised residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$  $SE$  $\beta$  $sr^2$</td>
<td>$B$  $SE$  $\beta$  $sr^2$</td>
<td>$B$  $SE$  $\beta$  $sr^2$</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>-.02  .01  -.07**  .00</td>
<td>-.02  .01  -.06**  .00</td>
<td>.07  .01  .23**  .05</td>
</tr>
<tr>
<td>Gender</td>
<td>.07   .06  .03    .00</td>
<td>-.01  .06  -.00   .00</td>
<td>-.01  .05  -.00   .00</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>-.05  .02  -.16*  .00</td>
<td>-.03  .02  -.09   .00</td>
<td>.10  .02  .34**  .01</td>
</tr>
<tr>
<td>Gender</td>
<td>-.11  .16  -.04  .00</td>
<td>-.07  .16  -.02  .00</td>
<td>.20  .15  .07   .00</td>
</tr>
<tr>
<td>Bullying x Gender</td>
<td>.02   .02  .11    .00</td>
<td>.01  .02  .04   .00</td>
<td>-.03  .02  -.13  .00</td>
</tr>
<tr>
<td><strong>Final model</strong></td>
<td>$R^2$  0.006</td>
<td>0.004</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>$F$ Statistic  $F_{(3, 2791)} = 5.27**$</td>
<td>$F_{(3, 2800)} = 3.93**$</td>
<td>$F_{(3, 2792)} = 52.60**$</td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.
4.8.7 RQ1b. Examining Rank Differences

The positional status of the respondent was explored to determine if there were differences in associations of experiencing workplace bullying with each outcome based on rank. Rank was divided into Officer and Non-Commissioned Officer (NCO) personnel (see Table 4.14). Also shown in Table 4.14 are the average Bullying score and the proportion of Officer and NCO respondents reporting at least one bullying behaviour, experienced monthly or more, in the past six months.

There was a small yet significant relationship between the proportion experiencing workplace bullying and rank ($\chi^2 (1) = 30.92, p < .01; \text{Cramer’s } V = .10$). As shown in Table 4.14 there was a greater proportion of NCOs reporting the experience of bullying than Officers.

Similarly, an independent sample t-test showed a significant difference in the average Bullying score across rank, with NCOs scoring higher than officers ($t(2,927) = 7.52, p < .01$). There was a medium effect size for this difference (Cohen’s $d = .37$).

Table 4.14.

<table>
<thead>
<tr>
<th>Rank</th>
<th>N</th>
<th>Percent</th>
<th>Average total bullying score</th>
<th>% Experiencing at least one bullying behaviour monthly or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officer</td>
<td>700</td>
<td>23.9</td>
<td>7.0</td>
<td>13.3</td>
</tr>
<tr>
<td>NCO</td>
<td>2,230</td>
<td>76.1</td>
<td>8.1</td>
<td>23.0</td>
</tr>
<tr>
<td>Total</td>
<td>2,930</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of three hierarchical moderated regressions are shown in Table 4.15.
Table 4.15.
Summary of Hierarchical Regression Analyses Showing the Moderating Effects of Rank on the Relationships of Experiencing Workplace Bullying with Affective Commitment, Job Satisfaction, and Psychological Distress (N range: 2,794–2,803)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affective commitment standardised residuals</th>
<th>Job satisfaction standardised residuals</th>
<th>Psychological distress standardised residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>-.02</td>
<td>.01</td>
<td>-.05**</td>
</tr>
<tr>
<td>Rank</td>
<td>.26</td>
<td>.04</td>
<td>.11**</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>-.30</td>
<td>.14</td>
<td>-.05*</td>
</tr>
<tr>
<td>Rank</td>
<td>-.03</td>
<td>.15</td>
<td>-.01</td>
</tr>
<tr>
<td>Bullying x Rank</td>
<td>.04</td>
<td>.02</td>
<td>.99*</td>
</tr>
<tr>
<td><strong>Final model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.018</td>
<td></td>
<td>.005</td>
</tr>
<tr>
<td>F Statistic</td>
<td>$F(3, 2791) = 16.98^{**}$</td>
<td>$F(3, 2800) = 4.64^{**}$</td>
<td>$F(3, 2792) = 52.45^{**}$</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.
There was a significant interaction \((p = .046)\) between rank groups and workplace bullying with affective commitment. This interaction is displayed in Figure 4.5. Further correlational analysis showed that this interaction reflected a null relationship between workplace bullying and affective commitment for Officers \((r = .04, \text{ns})\) compared to a significant negative relationship between these two variables for NCO respondents \((r = -.07, p < .01)\). However, Officers reported less workplace bullying than NCOs. When the range of the Bullying score was restricted to the highest reported score for Officers, there was no significant interaction.

![Figure 4.5. Relationship between experiencing workplace bullying and standardised residuals of affective commitment for rank](image)

**Figure 4.5.** Relationship between experiencing workplace bullying and standardised residuals of affective commitment for rank

4.8.8 **RQ1b. Examining Work Status (Permanent vs Reserve) Differences**

Finally, the work status of the respondent was explored to determine if there were differences between Permanent and Reserve ADF members in terms of the associations between workplace bullying and each outcome measure. Table 4.16 details the proportion of Permanent and Reserve ADF personnel in Study 2. Also shown are the
average Bullying score and the proportion of respondents within each subgroup reporting at least one bullying behaviour, experienced monthly or more, in the past six months.

There was a small yet significant relationship between experiencing workplace bullying and work status ($\chi^2 (1) = 87.96, p < .01; \text{Cramer’s } V = .17$). There were more Permanent members reporting bullying at work than Reserve Force members (see Table 4.16).

An independent sample t-test also showed a significant difference in the average Bullying score, with Permanent members scoring significantly higher than Reserve members ($t(2,970) = 8.69, p < .01$). There was a medium effect size for this difference (Cohen’s $d = .46$).

Table 4.16.

*Work Status Demographics*

<table>
<thead>
<tr>
<th>Work Status</th>
<th>N</th>
<th>Percent</th>
<th>Average total bullying score</th>
<th>% Experiencing at least one bullying behaviour monthly or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent</td>
<td>2,344</td>
<td>80.0</td>
<td>8.1</td>
<td>24.2</td>
</tr>
<tr>
<td>Reserve</td>
<td>585</td>
<td>20.0</td>
<td>6.7</td>
<td>6.7</td>
</tr>
<tr>
<td>Total</td>
<td>2,929</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of three hierarchical moderated regressions are shown in Table 4.17. There were no significant differences across work status. That is, the associations of workplace bullying and all outcomes did not differ for Permanent ADF members and Reservists.
Table 4.17.

Summary of Hierarchical Regression Analyses showing the Moderating Effects of Work Status on the Relationships of Experiencing Workplace Bullying with Affective Commitment, Job Satisfaction, and Psychological Distress (N range: 2,793–2,801)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affective commitment standardised residuals</th>
<th>Job satisfaction standardised residuals</th>
<th>Psychological distress standardised residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>-.01</td>
<td>.01</td>
<td>-.04*</td>
</tr>
<tr>
<td>Work Status</td>
<td>.38</td>
<td>.05</td>
<td>.15**</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td>.01</td>
<td>.02</td>
<td>.04</td>
</tr>
<tr>
<td>Work Status</td>
<td>.53</td>
<td>.16</td>
<td>.21**</td>
</tr>
<tr>
<td>Bullying x Work Status</td>
<td>-.02</td>
<td>.02</td>
<td>-.09</td>
</tr>
<tr>
<td><strong>Final model</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$ Statistic</td>
<td>$F_{(3, 2790)} = 26.03**$</td>
<td>$F_{(3, 2798)} = 23.74**$</td>
<td>$F_{(3, 2791)} = 54.43**$</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.
4.9 Discussion

Workplace bullying is a sensitive research topic, often investigated through the administration of questionnaires. There are two main ways to measure workplace bullying via questionnaires: the self-report method and the behavioural-experience method. Study 1 utilised the self-report method with an Australian Army sample. One item measured the experience of workplace bullying and suffered from an ill-defined reporting timeframe and unclear frequency anchor points. These limitations were addressed in this chapter by employing the behavioural-experience method of an inventory of negative workplace behaviours, and having more defined anchor points and time frames that took into consideration the operational tempo of the military. The assessment of workplace bullying via the behavioural-experience method also addressed any potential tolerance of negative behaviours in ADF respondents, and any possible misunderstandings of what comprises workplace bullying.

There were three main aims of this chapter. The first aim was to determine if exposure to workplace bullying explained variance in psychological distress, affective commitment, and job satisfaction after adjusting for the influence of role overload and low job control (RQ1). The second aim was to determine the nature and strength of relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction (RQ1a). These two aims replicated the methods of Study 1, with a more comprehensive measure of workplace bullying, administered to a broader population. The third aim was to assess if gender, Service, work status, and rank moderated the relationships between experiencing workplace bullying and the outcome measures (RQ1b). Each aim will now be discussed.
4.9.1 RQ1. Assessing the Relationships of Experiencing Workplace Bullying, Role Overload, and Job Control with Outcomes in an ADF sample

As found in Study 1, experiencing workplace bullying contributed significantly to the variance explained in psychological distress, after adjustment for two well-known organisational stressors of low job control and role overload. In fact, when compared against these two occupational stressors, experiencing workplace bullying had the largest association with psychological distress. Hauge et al. (2011) also reported the experience of workplace bullying to be a significant predictor of anxiety and depression beyond what was accounted for by job demands, decision authority, role ambiguity, and role conflict.

Despite not showing as strong a contribution to affective commitment as to psychological distress, experiencing workplace bullying still had a significant unique association with affective commitment, whereas role overload did not.

Although a significant contributor to the variance in job satisfaction, after adjustment for job control and role overload, experiencing workplace bullying had a weaker association with job satisfaction than the other two occupational stressors. Hauge et al. (2011) reported similar findings. In their study, reported exposure to workplace bullying accounted for variation in job satisfaction after adjusting for other job demands, however the association was not as strong as it was for mental health.

Overall, these findings demonstrate support for Hypotheses 1 through 3. Exposure to workplace bullying is an occupational stressor, worthy of attention alongside the more traditionally-researched job stressors. Results from Studies 1, and now Study 2, confirm that at the individual level of analysis, demands with the job, low autonomy, and experiencing workplace bullying all have significant associations, to varying degrees, with psychological distress, affective commitment, and job
satisfaction. At times, these occupational stressors are likely to occur simultaneously, and/or interact with other stressors in the work environment that have not been explored here, such as role ambiguity and role conflict. The climate at work has an influence on the health and wellbeing of employees, and will be explored in more detail in later chapters.

4.9.2 RQ1a. The Associations of Experiencing Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction

A significant positive relationship between experiencing workplace bullying and reported psychological distress \( (r = .39) \) was demonstrated alongside significant negative relationships between experiencing workplace bullying and affective commitment \( (r = -.22) \) and job satisfaction \( (r = -.28) \). All these relationships were best described as linear. Similar to that found with the one-item measure of workplace bullying in Study 1, these relationships were demonstrated after adjusting for age, gender, role overload, and job control. The association between workplace bullying and psychological distress was the strongest. Members who reported that they often experienced workplace bullying were four times more likely to report high psychological distress compared to those never experiencing bullying. The patterns were similar for affective commitment and job satisfaction, but the magnitude of these associations were smaller. Hypothesis 4 was supported: the more comprehensive measure of exposure to workplace bullying within a broader ADF sample showed significant negative associations with affective commitment and job satisfaction, and a significant positive association with psychological distress.

It is acknowledged that the significant relationships between workplace bullying and each outcome measure reported in this chapter may not be causal in nature. For any two correlated variables, A (workplace bullying) and B (psychological distress,
affective commitment, or job satisfaction), there are many different possible relationships. The three main relationships are that A causes B (direct causation), B causes A (reverse causation), or A and B are consequences of a third variable (i.e., the correlation is due entirely to third variable causation). At this stage in the PhD, it is evident that there are significant associations between workplace bullying and each outcome measure. Due to the cross-sectional nature of the data, it is not possible to draw causal conclusions. Causality and correlation will again be discussed in Chapter 7 when exploring group-level (unit) associations between workplace bullying and each outcome.

A benefit of this study was that it allowed for a comparison of the two main methods of assessing bullying (i.e., self-report and behavioural-experience). Dick and Rayner (2012) compared the two methods and the ‘emotional effect’ each had on the respondent. Emotional effect was a composite of 11 items. The researchers found that those who chose not to self-label themselves had as severe emotional effect from experiencing the bullying behaviours as those who labelled themselves as being bullied. In a study across 70 organisations within the private, public, and voluntary sectors in Great Britain, Cooper et al. (2004) found that overall there were stronger associations between the experience of negative behaviours and physical health and mental health outcomes than was the case for self-labelled bullying. The authors go on to mention that a considerable number of respondents, far higher than the number labelling their experience as bullying, were exposed to negative behaviours, many on a regular basis, and so these findings suggest an overall greater organisational impact. No studies could be found that explored differences across the two methods in non-health related consequences, such as affective commitment and job satisfaction. This current study enabled that comparison.
Noting that Study 1 comprised only Army personnel, a subsample of Army personnel was extracted from Study 2 and associations explored. The Pearson correlation coefficients of workplace bullying with affective commitment and job satisfaction were similar in strength and significance using both the self-report \((r = -.24; r = -.29\) respectively) and behavioural-experience methods \((r = -.25; r = -.27\) respectively), providing support for the notion that the two methods will demonstrate similar associations with outcomes. However, the Pearson correlation coefficient between workplace bullying and psychological distress utilising the self-report method \((r = .34)\) was smaller in strength to that reported when using the behavioural-experience method \((r = .41)\). The difference in the strength of association was significant \((p = .004)\). It is acknowledged that the self-report approach in Study 1 did not provide a full definition of bullying and that there would be a more restricted scale range than the behavioural-experience method. However, the comparison of results across studies shows that workplace bullying could be measured by means of an inventory of negative behaviours identified with bullying. It is a reliable estimate of negative workplace behaviours, and in cultures where these behaviours may be tolerated and accepted, it may also provide a more accurate understanding of the widespread prevalence and impact.

4.9.3 RQ1b. Examining Subgroup Differences

The final aim of this chapter was to examine the homogeneity of the sample, and to determine if the relationship between workplace bullying and each outcome measure was similar across the subgroups of gender, Service, work status, and rank. There has been limited research on subgroup differences, so this aim was exploratory.

There was an unexpected positive relationship between experiencing workplace bullying and the reported affective commitment for the civilian subgroup. The civilian
subgroup was not representative of Defence APS employees. Respondents were predominantly lower-level employees, employed within military units often in administrative roles. Therefore, no further investigation or generalisation was made regarding this unexpected relationship, and these respondents were removed from the sample for subsequent analyses.

4.9.3.1 Experiencing Workplace Bullying and Psychological Distress

The relationship between experiencing workplace bullying and psychological distress was similar across all subgroups. That is, there were no moderation effects from gender, Service, work status (permanent/reserve), or rank.

4.9.3.2 Experiencing Workplace Bullying and Affective Commitment

There were two demographic subgroups, rank and Service, that moderated the relationship between the experience of workplace bullying and affective commitment. Further exploration of the significant interaction between Service and bullying revealed that unlike the other two Services, there was no relationship between experiencing workforce bullying and the standardised residuals of affective commitment \((r = .003, \text{ ns})\) for Air Force respondents. It should be noted that there was a significant correlation between experiencing workplace bullying and affective commitment for Air Force respondents \((r = -.19, p < .01)\). However, once age, gender, role overload, and job control are accounted for, no relationship remained.

The significant interaction between rank and workplace bullying occurred because there was no relationship between bullying and the standardised residuals of affective commitment for Officers \((r = .04, \text{ ns})\) compared to NCO respondents \((r = -.07, p < .01)\). There was also a range restriction for scores on the workplace bullying measure that may be impacting on this interaction. Officers reported less
bullying than NCOs. When the range was restricted to the highest workplace bullying score for Officers, there was no moderation effect from rank.

4.9.3.3 Experiencing Workplace Bullying and Job Satisfaction

The relationship between experiencing workplace bullying and job satisfaction was similar across all subgroups. That is, there were no moderation effects from gender, Service, work status (permanent/reserve), or rank.

4.9.3.4 Subgroup Moderation and Prevalence Implications

When looking at moderation effects, it is also important to explore the prevalence of reporting workplace bullying within each subgroup. For example, both males and females could report similar associations of experiencing bullying with poor mental health and wellbeing, however females may be reporting the experience of bullying in far greater numbers than males, thereby warranting more focused attention. In this sample, gender did not moderate the relationship between experiencing workplace bullying and the outcome measures, and there was also no significance difference in the prevalence of being bullied across males or females. However, there were some subgroup demographics (Air Force, Reservists, and NCOs) where the prevalence of reported workplace bullying was significantly higher or lower than others. These will now be discussed.

More Air Force respondents reported experiencing bullying at least monthly compared to the other Services. No generalisations should be made to the wider ADF population given that only 4 of the 21 units explored in this study comprised predominantly of Air Force respondents. As discussed earlier, the PULSE questionnaire enabled commanders to self-select in to the process. The sample in this study is not
representative of the Air Force. Further work with more representative groups would be required to explore prevalence rates across the Services.

There were significantly more NCOs who reported experiencing workplace bullying than Officers in this study. As mentioned in the previous section, Officers in this sample did not report at the higher frequency levels of being bullied and this restriction of range limited further exploration. Rank within each stream (Officer and NCO) spans from very junior entry-level respondents to senior members within many years of work experience. It is therefore unlikely that this rank difference is based on the time spent in the job. Positional status of an experienced Warrant Officer (NCO) would also be viewed by many to be superior in terms of positional status to that of a junior Officer. The low numbers of Officer respondents prevented a further breakdown of rank groups into senior and junior officers which could be used to assess positional status in a more meaningful way. Therefore, before any further interpretation is made, research with a more refined breakdown of rank group would be required.

Given the smaller number of Reservists in this sample, no generalisations should be made regarding Reservists experiencing lower levels of workplace bullying. That said, Reservists are a unique population. Many have fulltime employment outside of the ADF, and may be parading (working) within a unit as infrequently as once a month. It is likely that exposure to frequent bullying behaviours over six months would be lower simply due to the nature of their employment.

4.10 Chapter Summary

Results from Study 1, and now replicated within Study 2, confirm the negative associations that experiencing workplace bullying has with affective commitment and job satisfaction, and the positive association with psychological distress. There were minimal differences across subgroups in the relationship between experiencing bullying
and each outcome measure. Based on these findings, tailored interventions or targeted anti-bullying strategies to a particular subgroup is not warranted.

These findings lend themselves to the claim that as an occupational stressor, workplace bullying warrants equal attention alongside more well-known workplace stressors of role overload and low job control. The climate at work influences the occurrence of these stressors and employees’ satisfaction in their job, their commitment to work, and overall mental health. Organisations need to look for ways to improve workplace climate. The next chapter will focus on three factors in the occupational stressor-strain literature that could be fostered within an organisation to improve mental health and wellbeing: job control, support from supervisors, and perceived organisational support. These factors may not only have positive effects on employees, they may reduce risk factors to workplace bullying, and may also offer some protective ability against the negative effects should workplace bullying occur.
CHAPTER 5. THE BENEFITS OF SUPPORT AND JOB CONTROL

5.1 Chapter Overview

An employee experiencing workplace bullying is more likely to report lower job satisfaction, lower affective commitment, and higher psychological distress. These associations have been demonstrated within an Army sample in Chapter 3, and within an ADF sample in Chapter 4. These findings are supported by international research (e.g., Bowling & Beehr, 2006; Nielsen & Einarsen, 2012; Verkuil et al., 2015) and leave little doubt that workplace bullying is an extreme social stressor for employees across gender, military rank, Service, and work status.

The previous analyses in Chapters 3 and 4 also demonstrated that workplace bullying can occur alongside other occupational stressors, and working in this climate is associated with poorer mental health and wellbeing. Organisations therefore need to look for ways to create positive working environments that will foster collaboration, commitment, and productivity (Management Sciences for Health, 2002), and are conducive to minimising mental health concerns (Stansfeld & Candy, 2006). According to the work environment hypothesis detailed in Chapter 2, fostering these positive climates with strong supportive leadership, enhanced control over work, and reduced role conflict may also prevent the occurrence of workplace bullying (Einarsen et al., 1994; Hauge et al., 2011; Skogstad et al., 2011), and/or protect employees against the negative effects should bullying occur.

There has been very little research on identifying the possible factors that minimise the harmful effects of workplace bullying (Moreno-Jimenez et al., 2009; Rai & Agarwal, 2016). Studies that have explored moderators have focused on factors internal to the individual, such as psychological detachment (Moreno-Jimenez et al., 2009), proactive personality (Park & DeFrank, 2010), sense of coherence (Nielsen et al., 2012).
2008), and negative and positive affectivity (Matthiesen & Einarsen, 2004). There is mixed support for the ability of these factors to moderate the effects of experiencing workplace bullying.

It is difficult for organisations to manipulate internal factors. Identifying *external* factors that may moderate the harmful effects of workplace bullying allows organisations to more easily address these factors, incorporating them into anti-bullying education and awareness programs, or within job design, or in employee development programs and training courses.

Given the findings in previous chapters demonstrating support for workplace bullying as an occupational stressor, three potential factors from the occupational stressor-strain literature—perceived organisational support (POS), supervisor support, and job control—will be tested for their direct associations with mental health and wellbeing, and for their potential to buffer the effects of workplace bullying.

This chapter’s two aims address the second research question of the PhD and its two parts:

**RQ2.** Are work support and job control associated with better mental health and wellbeing, and do they act as buffers of any effects of workplace bullying?

**RQ2a.** What are the associations of perceived organisational support, supervisor support, and job control with psychological distress, affective commitment, and job satisfaction?

**RQ2b.** Do perceived organisational support, supervisor support, and job control moderate the relationships of exposure to workplace bullying with psychological distress, affective commitment, and job satisfaction?
The occupational stressor-strain models providing a framework for the hypotheses tested within this chapter are the JDC (Karasek, 1979) and expanded JDCS model (Johnson & Hall, 1988). These models were described in Chapter 2.

The chapter commences with a discussion of each factor in reference to its ability to (1) have a main effect on mental health and wellbeing, and (2) protect against the effects of workplace bullying. Hypotheses will be made according to assumptions within the JDC/S models. Analyses will determine the main and moderating effects of POS, support from supervisors, and job control.

5.2 **Perceived Organisational Support**

Employees form opinions regarding the extent to which an organisation values their contributions and cares about their wellbeing. These opinions and beliefs, which are known as POS, become central to how employees construct meaning at work (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). Employees tend to personify an organisation, and perceive that an organisation has a benevolent or malevolent orientation toward them through the exchange of effort for rewards and recognition. Employees form opinions about how sincere an organisation is with its rewards and job conditions, and adjust their behaviour accordingly so as to meet their socio-emotional needs.

As with other measures of support, POS has been found to have significant associations with many outcomes. Employees with high POS have increased performance, decreased absenteeism, and increased affective commitment when compared to employees with low POS (Kurtessis et al., 2015; Rhoades & Eisenberger, 2002; Riggle, Edmondson, & Hansen, 2009). Low POS has also been associated with physical ailments and depressive symptoms (Gopalkrishnan, 2011), poor overall mental
health and low job satisfaction (Bradley & Cartwright, 2002; Dobreva-Martinova et al., 2002; Kurtessis et al., 2015; Riggle et al., 2009).

Several studies have explored the moderating effects of POS on the impact from workplace stressors, with mixed findings depending upon the stressor and outcome (Bradley & Cartwright, 2002; Dobreva-Martinova et al., 2002; Duke, Goodman, Treadway, & Breland, 2009; Zhou & George, 2001). There has been scarce research assessing the ability of POS to moderate the relationship between workplace bullying and strain outcomes. While this current review of moderator effects is confined to the outcomes of interest to this PhD, due to the limited number of studies found, the first two studies discuss the moderating effects of POS on intention to leave. Intention to leave is closely associated with affective commitment (Gade et al., 2003; Heffner & Gade, 2003; Meyer et al., 2002), a variable of interest to this PhD, and as such these studies were included in the review.

In a study among Australian school teachers, POS moderated only the relationship between work-related bullying (e.g., persistent unreasonable criticism or monitoring of work) and intention to leave. The effect of work-related bullying on intention to leave was less pronounced with high levels of POS. POS did not moderate the relationships of intention to leave with person-related (e.g., excessive criticism and teasing) or organisational bullying (e.g., given tasks that are unreasonable to manage or complete within allocated deadlines) (Djurkovic, McCormack, & Casimir, 2008).

Van Schalkwyk, Els, and Rothmann (2011) explored similar relationships between workplace bullying and intention to leave, and extended this further by analysing effects from different sources of bullying. There was a significant moderator effect of POS on the relationship between workplace bullying from superiors and turnover intentions. POS did not moderate against the effects of workplace bullying from colleagues. In the study, each sub-facet of POS, defined as role clarity, job
information, participation in decision-making, colleague support, and supervisory relationships, was tested for its moderating effect. Role clarity, participation in decision making, and supervisory relationships each moderated the relationship between workplace bullying from superiors and turnover intention. However, these sub-facets are conceptually very different to the original concept of POS proposed by Eisenberger et al. (1986), and it can be argued that they were not directly assessing an employee’s perceived support from an organisation.

Gopalkrishnan (2011) employed a narrower definition of POS to explore its moderating role in the relationship between acts of incivility, and reports of depression and physical strain outcomes in nurses. Incivility is similar to workplace bullying in that it can cause harm to the health and wellbeing of an individual, yet it is different in that it often comprises less intense deviant behaviours with ambiguous intent to harm (Andersson & Pearson, 1999). POS did not buffer the effects of incivility on employees’ physical or psychological wellbeing.

As can be seen, the empirical evidence supporting a moderation role for POS is unclear, often due to poorly defined measures of POS and lack of studies on workplace bullying. This current study improves upon these limitations in two ways. First, it utilises a refined measure of POS proposed by Eisenberger et al. (1986) that does not combine various facets of the work environment. Second, it ensures the organisational stressor of exposure to workplace bullying is well defined.

According to the JDCS model (Johnson & Hall, 1988), workplace support measures such as POS will have main effects on employees’ organisational commitment, work engagement, and other positive attributes such as job satisfaction and mental wellbeing. In regards to the buffering effects of POS, the assumption of the JDCS model is that employees who experience workplace bullying, a job demand, will exhibit less stress by drawing upon their perceived support from their organisation.
Employees with high POS may feel that because their organisation cares for them, and provides them with an environment of respect and support, it is also likely to deal with the source of bullying, or provide the necessary resources for them to do so. Therefore, employees with high POS may believe that they do not have to be concerned long-term with tolerating rude and disrespectful behaviour, and this in turn will result in less psychological distress, and higher commitment and job satisfaction. Within this context, the following hypotheses are made.

**Hypothesis 1.** There will be a negative relationship between POS and psychological distress.

**Hypothesis 2.** There will be positive relationships of POS with affective commitment and job satisfaction.

**Hypothesis 3.** POS will moderate the relationships of exposure to workplace bullying with psychological distress, affective commitment, and job satisfaction. Those who experience workplace bullying and report high levels of POS will have higher job satisfaction and affective commitment, and lower psychological distress than those who experience workplace bullying and report low levels of POS.

5.3 **Workplace Support**

The JDCS model defines workplace support as “the overall levels of helpful social interaction available on the job from both coworkers and supervisors” (Karasek & Theorell, 1990, p.69). The JDCS model proposes that workplace support has a main effect on strain, and also moderates the relationships between stressors and strain.

Studies have found that social support is associated with better overall mental and physical health (Cohen & Wills, 1985; Lakey & Orehek, 2011; Milner, Krnjacki, Butterworth, & LaMontagne, 2016; Uchino, 2009). Applicable to this study, having
supervisor and coworker support at work has been associated with low psychological distress (Noblet, 2003), high affective commitment (Rousseau, 2010), and high job satisfaction (Cummins, 1989; Noblet, 2003).

Findings are mixed regarding workplace support as a protective factor against the negative effects from experiencing workplace bullying. As part of a larger survey of working life, Quine (1999) explored the buffering effects of workplace support on experiencing bullying in community National Health Service trust employees in southeast England. Results showed that workplace support buffered the effects of experiencing bullying on three outcomes: depression, job satisfaction, and propensity to leave. There were no buffering effects against anxiety and job-induced stress. There were also main effects of workplace support with each outcome except job-induced stress. In this study, the operational definition of workplace support was broad and included feedback and support from peers and managers, access to community resources, workplace morale, positive working practices, and access to resources within the physical work environment. Therefore, it was not clear if all these forms of support had a moderating effect, or if there were sub-facets in particular (e.g., morale) that were of most influence to buffering the effects from experiencing workplace bullying.

Carroll and Lauzier (2014) reported significant buffering effects of coworker and supervisor support in mitigating the effects of workplace bullying on job satisfaction. Employees who self-identified as targets of workplace bullying, yet also reported a high level of social support at work, had significantly greater job satisfaction than those who reported high exposure to bullying and low social support. This study was conducted across a variety of industries and included employees of different positional status. However, similar to the definition of support within Quine’s (1999) UK study, ‘social support at work’ was a combined measure. The authors argued for
further research that makes a distinction between support from coworkers and support from supervisors.

This current study aimed to address some of the limitations of earlier research by narrowing one of the components of workplace support to supervisor support. According to the JDCS model, if employees have supervisors that offer support then this has direct positive associations with commitment, satisfaction, and wellbeing. In relation to the buffering effect, if employees have supervisors that can and will provide necessary resources then they may reassess the potential for harm from exposure to workplace bullying. Employees may also become empowered as a result of the support from their supervisors, and may address the workplace bullying they are experiencing, or have the confidence to know that they can do so. Immediate supervisors are also a particularly valuable source of support since they often have the authority and the knowledge to address or advise on specific work-related issues to employees. Intervening between the experience of the stressor and the onset of the outcomes by providing a solution could reduce the negative impact.

The following hypotheses are made:

**Hypothesis 4.** There will be a negative relationship between supervisor support and psychological distress.

**Hypothesis 5.** There will be positive relationships of supervisor support with affective commitment and job satisfaction.

**Hypothesis 6.** Supervisor support will moderate the relationships of exposure to workplace bullying with psychological distress, affective commitment, and job satisfaction. Those who experience workplace bullying and perceive high levels of supervisor support will have higher job satisfaction and affective commitment, and lower psychological distress than those who experience workplace bullying and perceive low levels of supervisor support.
5.4 Job Control

A variable commonly thought to influence the occupational stressor-strain process is job control (Spector, 1986). As detailed in Chapter 2, according to the JDC/S models, job control influences the stressor-strain process in two ways. The first is a direct association. It is generally accepted that low job control in the workplace is considered a stressor (Karasek, 1979; Sonnentag & Frese, 2003; Way, 2008), and is associated with poorer psychological wellbeing, reduced job satisfaction, more burnout, and more job-related psychological distress (Häusser et al., 2010; Van der Doef & Maes, 1999). These associations have been tested and demonstrated in the findings of Chapters 3 and 4.

The second way is as a buffer to job demands. Employees who have a degree of control over work have the potential to change a situation if it becomes too difficult, which may then reduce the stress arising from that situation (Rousseau, Eddleston, Patel, & Kellermanns, 2014). Almost two decades ago, Quine (1999) recommended that research be conducted to explore the buffering effects of job control on experiencing bullying. Despite this recommendation, only two studies could be found. The first, by Heponiemi et al. (2014) examined the effects of job control as a buffer to physical violence and bullying at work over a four-year period to determine if there were differences in turnover intentions and job satisfaction among physicians. Job control at Time 1 had a significant moderating effect against violence and workplace bullying reported at Time 1, on turnover intentions at Time 2. The highest levels of turnover intentions were among those physicians who had fewer job control opportunities and had encountered workplace bullying at Time 1. There was no moderating effect of job control on the relationship between workplace bullying and job satisfaction. The second study, by Livne and Goussinsky (2017), explored the moderating role of job control on
the relationship between workplace bullying and burnout among two samples of hospital workers in Israel. Findings were mixed across the two samples, and across the dimensions of burnout. Only two of the four possible interactions demonstrating moderating effects were significant. The authors therefore cautioned any interpretation of the findings.

Job control may empower employees to adjust their work practice so as to buffer the negative effects of workplace bullying. For example, if an employee is experiencing workplace bullying through the perpetrator withholding information, then having job control could empower the employee to seek new ways to achieve results without reliance on the information withheld, or to seek out other avenues to ensure the information is received. Daniels (1999) also posited that being able to make decisions about work tasks may provide flexibility to avoid certain tasks at certain times and to take breaks from work, which help employees to regulate not only their emotional responses but also their exposure to work demands. Finally, job control may empower employees to assertively defend themselves against workplace bullying (Rousseau et al., 2014).

The following hypotheses are made:

**Hypothesis 7.** There will be a negative relationship between job control and psychological distress.

**Hypothesis 8.** There will be positive relationships of job control with affective commitment and job satisfaction.

**Hypothesis 9.** Job control will moderate the relationships between exposure to workplace bullying and psychological distress, affective commitment, and job satisfaction. Those who experience workplace bullying and perceive high levels of job control will have higher job satisfaction and affective commitment, and
lower psychological distress than those who experience workplace bullying and perceive low levels of job control.

5.5 **Method**

5.5.1 **Sample**

The analyses in this chapter are conducted on the Study 2 dataset of ADF personnel. Due to the findings from the civilian subgroup in the previous chapter, civilians were removed from this dataset. The resulting sample included 2,960 ADF personnel posted to 21 ADF units during 2011 and 2012. Demographics were comparable to those reported within the larger Study 2 dataset in terms of Years of Service, Time in Unit, Rank, Military Work Status (see Table 4.1 in Chapter 4). Age was grouped into 5 levels: 17-21; 22-36; 27-31; 32-36; and 37+. The majority of respondents were aged between 22 and 36. Further demographic information is detailed in Table 5.1.

**Table 5.1.** *Demographic Characteristics of Sample*

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>2,463 (83.2%) Males</td>
</tr>
<tr>
<td></td>
<td>399 (13.5%) Females</td>
</tr>
<tr>
<td></td>
<td>98 (3.3%) Unknown</td>
</tr>
<tr>
<td>Service</td>
<td>184 (6.2%) Royal Australian Navy</td>
</tr>
<tr>
<td></td>
<td>2,125 (71.8%) Australian Regular Army</td>
</tr>
<tr>
<td></td>
<td>651 (22.0%) Royal Australian Air Force</td>
</tr>
<tr>
<td>Military Work Status</td>
<td>2,371 (80.1%) Permanent Force</td>
</tr>
<tr>
<td></td>
<td>585 (19.8%) Reserve Force</td>
</tr>
<tr>
<td></td>
<td>4 (0.1%) Unknown</td>
</tr>
<tr>
<td>Rank</td>
<td>2,230 (76.1%) Non-Commissioned Officers (NCO)</td>
</tr>
<tr>
<td></td>
<td>700 (23.9%) Officers</td>
</tr>
</tbody>
</table>
5.5.2 Procedure and Measures

The procedure and most measures for Study 2 have been described in Chapters 3 and 4. This chapter explores factors in the workplace that may be associated with positive working environments, and may act as protective factors against the negative effects of workplace bullying. Two new measures, Supervisor Support and POS, are analysed in this chapter and are therefore described here in more detail.

5.5.2.1 Supervisor Support

The 15 items comprising the Supervisor Support scale were derived from the 38-item Empowered Leadership Questionnaire (Arnold, Arad, Rhoades, & Drasgow, 2000). Personnel indicated on a five-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = very often) how often their immediate supervisor performed each of the behaviours (e.g., provides help to workgroup members). Higher mean scores indicated greater supervisor support.

The 15-item scale was subjected to PCA using SPSS version 20. Prior to performing PCA, the suitability of data for factor analysis was assessed. The Kaiser-Meyer-Olkin (KMO) measure (Kaiser, 1974) verified the sampling adequacy for the analysis, KMO = 0.97. Bartlett’s Test of Sphericity (Bartlett, 1954) was statistically significant ($\chi^2(105) = 47.061.51, p < .01$), supporting the factorability of the correlation matrix.

Principal components analysis revealed the presence of one main component with an eigenvalue exceeding 1, explaining 69.14% of the variance. Using Catell’s scree test it was decided to retain this component. The scale had good psychometric properties, with a full-scale coefficient alpha of .97.
The pattern matrix, the eigenvalue, and the percentage of variance explained by this component are shown in Table 5.2.

### Table 5.2.

*Pattern Matrix for One Factor PCA Solution of Supervisor Support*

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Item</th>
<th>Component matrix</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Pays attention to our workgroup efforts</td>
<td>.87</td>
<td>.76</td>
</tr>
<tr>
<td>3</td>
<td>Leads by example</td>
<td>.86</td>
<td>.74</td>
</tr>
<tr>
<td>1</td>
<td>Helps develop good relations among workgroup members</td>
<td>.85</td>
<td>.72</td>
</tr>
<tr>
<td>2</td>
<td>Provides help to workgroup members</td>
<td>.85</td>
<td>.73</td>
</tr>
<tr>
<td>9</td>
<td>Sets high standards by his/her own behaviour</td>
<td>.85</td>
<td>.72</td>
</tr>
<tr>
<td>12</td>
<td>Gives workgroup members honest and fair answers</td>
<td>.85</td>
<td>.73</td>
</tr>
<tr>
<td>11</td>
<td>Considers ideas suggested by members of the workgroup even when he/she disagrees with them</td>
<td>.84</td>
<td>.70</td>
</tr>
<tr>
<td>13</td>
<td>Encourages work group members to express ideas / suggestions</td>
<td>.84</td>
<td>.70</td>
</tr>
<tr>
<td>4</td>
<td>Uses suggestions by members of our workgroup to make decisions that affect us</td>
<td>.83</td>
<td>.69</td>
</tr>
<tr>
<td>5</td>
<td>Explains his/her decisions and actions to our workgroup</td>
<td>.82</td>
<td>.68</td>
</tr>
<tr>
<td>15</td>
<td>Shows concern for workgroup members’ well being</td>
<td>.82</td>
<td>.68</td>
</tr>
<tr>
<td>6</td>
<td>Works as hard as he/she can</td>
<td>.81</td>
<td>.66</td>
</tr>
<tr>
<td>14</td>
<td>Knows what work is being done in our workgroup</td>
<td>.81</td>
<td>.65</td>
</tr>
<tr>
<td>10</td>
<td>Explains rules and expectations to our workgroup</td>
<td>.79</td>
<td>.62</td>
</tr>
<tr>
<td>8</td>
<td>Explains how our workgroup fits into the unit</td>
<td>.77</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>Eigenvalue</td>
<td>10.37</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variance accounted for (percent)</td>
<td>69.14</td>
<td></td>
</tr>
</tbody>
</table>
5.5.2.2 Perceived Organisational Support (POS)

An 8-item measure developed by Eisenberger et al. (1986) was used to assess POS. Three changes to the original scale were made: the seven-point scale was reduced to a five-point Likert scale (1 = strongly disagree to 5 = strongly agree); the word ‘organisation’ was replaced with ‘unit’; and the wording of one item “the organization values my contribution to its well-being” was changed to “the unit values my contribution”. High mean scores indicate high POS.

The 8-item POS scale was subjected to PCA using SPSS version 20. Prior to performing the PCA, the suitability of the data for factor analysis was assessed. The KMO measure (Kaiser, 1974) verified the sampling adequacy for the analysis, KMO = 0.93\(^{12}\). Bartlett’s Test of Sphericity (Bartlett, 1954) was statistically significant ($\chi^2(28) = 17,882.84, p < .01$), supporting the factorability of the correlation matrix.

The PCA revealed the presence of one component with an eigenvalue exceeding 1, explaining 65.51% of the variance. Using Catell’s scree test, it was decided to retain this one component for further investigation. The interpretation of this component was consistent with previous research on the POS scale. That is, it is a one-factor measure of perceived support from an organisation (Eisenberger et al., 1997; Eisenberger et al., 1990; Eisenberger et al., 1986). Psychometric analysis revealed that the scale had good psychometric properties. The full-scale coefficient alpha was .92, similar to that reported by the scale’s authors (.90).

The pattern matrix, the eigenvalue, and the percentage of variance explained by this component are shown in Table 5.3.

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\(^{12}\)A value closer to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors (Field, 2013).
Table 5.3.

*Pattern Matrix for One Factor PCA Solution of Perceived Organisational Support*

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Item</th>
<th>Component matrix POS</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>My unit values my contribution</td>
<td>.87</td>
<td>.75</td>
</tr>
<tr>
<td>3</td>
<td>My unit cares about my well being</td>
<td>.84</td>
<td>.70</td>
</tr>
<tr>
<td>8</td>
<td>Even if I did the best possible job, my unit would fail to notice</td>
<td>.83</td>
<td>.70</td>
</tr>
<tr>
<td>2</td>
<td>My unit cares about my general satisfaction at work</td>
<td>.83</td>
<td>.69</td>
</tr>
<tr>
<td>6</td>
<td>My unit shows little concern for me</td>
<td>.82</td>
<td>.68</td>
</tr>
<tr>
<td>1</td>
<td>My unit does not appreciate any extra effort from me</td>
<td>.78</td>
<td>.61</td>
</tr>
<tr>
<td>7</td>
<td>My unit takes pride in my accomplishments at work</td>
<td>.77</td>
<td>.60</td>
</tr>
<tr>
<td>5</td>
<td>My unit would ignore a complaint from me</td>
<td>.73</td>
<td>.53</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Eigenvalue</th>
<th>Percent accounted for (Variance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.24</td>
<td>65.51</td>
</tr>
</tbody>
</table>

5.5.3 *Statistical Analyses*

To determine the associations of POS, supervisor support, and job control with affective commitment, job satisfaction, and psychological distress (Hypotheses 1, 2, 4, 5, 7, and 8), both Pearson’s product moment correlation coefficients and Spearman’s rho correlations were estimated.

Hierarchical moderated regressions were conducted to test the main and moderating effects of POS, supervisor support, and job control on job satisfaction, psychological distress, and affective commitment (Hypotheses 1–9). Before doing so, all independent variables were checked for multicollinearity. The Variance Inflation Factor (VIF) statistics were all under 2. All tolerance values were greater than 0.59\(^1\).

---

\(^1\)Cohen et al. (2003) suggest that VIF values greater than 10 and tolerance values less than .10 are evidence of a serious problem.
Whilst some variables were correlated, exploration of the correlation matrix of all independent variables showed no correlations greater than .60\textsuperscript{14}. Based on these findings it was determined that while there was evidence of multicollinearity, it was deemed not severe enough to invalidate the use of the regression analyses. Each independent variable had the potential to add unique variance to the prediction of the dependent variable (Cohen et al., 2003). There was no evidence of singularity.

In Step 1 of the hierarchical moderated regression, age, rank, and gender were the independent variables (IVs), with affective commitment, job satisfaction, or psychological distress as the dependent variable (DV). In Step 2, the moderator (POS, supervisor support, or job control) and workplace bullying were entered, and finally in Step 3, the interaction term (Bullying x Moderator) was entered. Mean centering of the continuous variables was not conducted. The final step in the regression analysis therefore tested the moderating effects. An example of each block of variables in the hierarchical moderated regression is shown in Table 5.4, using psychological distress as the dependent variable.

Table 5.4.

**Hierarchical Moderated Regression: Blocks of Variables Entered to Test Moderator Effects with Psychological Distress as Outcome**

<table>
<thead>
<tr>
<th>DV</th>
<th>Psychological distress (Model 1)</th>
<th>Psychological distress (Model 2)</th>
<th>Psychological distress (Model 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1</td>
<td>Age</td>
<td>Age</td>
<td>Age</td>
</tr>
<tr>
<td></td>
<td>Rank</td>
<td>Rank</td>
<td>Rank</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>Gender</td>
<td>Gender</td>
</tr>
<tr>
<td>Block 2</td>
<td>Bullying Supervisor Support (SS)</td>
<td>Bullying Job Control</td>
<td>Bullying Perceived Org Support (POS)</td>
</tr>
<tr>
<td>Block 3</td>
<td>SS x Bullying</td>
<td>Job Control x Bullying</td>
<td>POS x Bullying</td>
</tr>
</tbody>
</table>

\textsuperscript{14}Cohen et al. (2003) suggest correlations greater than .80 may pose a problem.
5.6 Results

5.6.1 RQ2a, H1, H2, H4, H5, H7, H8. Correlations and Descriptives

Table 5.5 details the descriptive statistics and correlations for all variables analysed in this chapter. Removing civilian respondents from the Study 2 sample did not have a substantial effect on the relationship between study variables, and the results were similar to those described in Chapter 4. Typically, respondents reported experiencing workplace bullying infrequently, with most types of behaviours experienced never or rarely. They were more likely to agree that they have control over their job, commitment to the ADF, and are satisfied with their work. Respondents also reported moderate supervisor support, which was rated a little higher than perceived organisational support.

The optimal K10 cut-offs to detect 30-day ICD-10 anxiety disorders in ADF personnel is 17, and to detect 30-day ICD-10 affective disorders is 19 (McFarlane et al., 2011). With a median score of 13, respondents typically reported a psychological distress score below these cut-offs.
Table 5.5.

*Descriptive Statistics, Reliabilities, and Correlations Among all Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. Workplace Bullying</td>
<td>7.82</td>
<td>3.51</td>
<td>6-30</td>
<td>.86</td>
</tr>
<tr>
<td>2. Job Control</td>
<td>3.69</td>
<td>.75</td>
<td>1-5</td>
<td>-.41</td>
</tr>
<tr>
<td>3. Supervisor Support</td>
<td>3.87</td>
<td>.81</td>
<td>1-5</td>
<td>-.33</td>
</tr>
<tr>
<td>4. Perceived Organisational Support</td>
<td>3.38</td>
<td>.80</td>
<td>1-5</td>
<td>-.43</td>
</tr>
<tr>
<td>5. Psychological Distress</td>
<td>15.28</td>
<td>6.34</td>
<td>10-50</td>
<td>.40</td>
</tr>
<tr>
<td>6. Affective Commitment</td>
<td>3.73</td>
<td>.85</td>
<td>1-5</td>
<td>-.22</td>
</tr>
<tr>
<td>7. Job Satisfaction</td>
<td>3.50</td>
<td>.95</td>
<td>1-5</td>
<td>-.28</td>
</tr>
</tbody>
</table>

*Note.* Spearman’s rho correlations are above the diagonal, Pearson’s correlations are below the diagonal. Cronbach’s alpha coefficients are on the diagonal. N range: 2,908–2,930.

All correlations significant at $p < .01$. 

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Chapter 5
Pearson’s product moment correlation coefficients are shown below the diagonal, with Spearman’s rho correlations reported above the diagonal of Table 5.5. There were little differences in the strength or significance of both the parametric and non-parametric correlations. All correlations were significant ($p < .01$). Similar to the associations of the same variables reported in Chapter 4, there was a moderate positive association between workplace bullying and psychological distress ($r = .40, p < .01$), and a moderate negative correlation between workplace bullying and job satisfaction ($r = -.28, p < .01$). There was a weaker, though still significant, negative relationship between workplace bullying and affective commitment ($r = -.22, p < .01$).

Support for Hypotheses 1 and 2 was shown. There was a negative relationship between POS and psychological distress ($r = -.39, p < .01$) (H1), and positive relationships between POS and affective commitment ($r = .43, p < .01$), and job satisfaction ($r = .57, p < .01$) (H2).

Hypotheses 4 and 5 were also supported. There was a negative relationship between supervisor support and psychological distress, ($r = -.24, p < .01$) (H4), and positive relationships between supervisor support and affective commitment ($r = .26, p < .01$), and job satisfaction ($r = .35, p < .01$) (H5).

Finally, Hypotheses 7 and 8 were supported. There was a negative relationship between job control and psychological distress ($r = -.35, p < .01$) (H7), and positive relationships between job control and affective commitment ($r = .35, p < .01$), and job satisfaction ($r = .49, p < .01$) (H8).

With the associations of job control, POS, and supervisor support with all outcomes examined, the next stage explored the buffering effects of each potential moderator.
5.6.2  *RQ2b, H3, H6, H9. Moderation Effects of POS, Supervisor Support, and Job Control*

Table 5.6 summarises the final model from the hierarchical moderated regression for each outcome (see Appendix C for the full regression outcomes). In each final model, there was a significant main effect between the potential moderator and the dependent variable. The beta weights were in the predicted direction, such that supervisor support, job control, and POS all had negative associations with psychological distress ($\beta = -.19, -.16, -.22$ respectively, all $p < .01$), and had positive associations with affective commitment ($\beta = .30, .33, .41$ respectively, all $p < .01$), and job satisfaction ($\beta = .35, .51, .54$ respectively, all $p < .01$). These findings are not surprising given the moderate to strong correlations between these variables reported earlier, and demonstrate further support for Hypotheses 1, 2, 4, 5, 7, and 8.

There were no significant interactions between exposure to workplace bullying and POS or job control. Therefore, Hypotheses 3 and 6 were not supported.
Table 5.6.
Summary of Hierarchical Regression Analyses Showing the Moderating Effects on the Relationships of Experiencing Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Moderator x Bullying</th>
<th>$F$ statistic for $\Delta R^2$ for 2-way interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Distress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td>Supervisor Support x Bullying</td>
<td>$F_{\Delta}(1, 2978) = 6.08, p &lt; .05$</td>
</tr>
<tr>
<td>Model 2</td>
<td>Job Control x Bullying</td>
<td>$F_{\Delta}(1, 2799) = 3.50, p = .06$</td>
</tr>
<tr>
<td>Model 3</td>
<td>Perceived Org Support x Bullying</td>
<td>$F_{\Delta}(1, 2801) = 1.78, p = .18$</td>
</tr>
<tr>
<td>Affective Commitment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td>Supervisor Support x Bullying</td>
<td>$F_{\Delta}(1, 2796) = 11.93, p &lt; .01$</td>
</tr>
<tr>
<td>Model 2</td>
<td>Job Control x Bullying</td>
<td>$F_{\Delta}(1, 2798) = 2.73, p = .10$</td>
</tr>
<tr>
<td>Model 3</td>
<td>Perceived Org Support x Bullying</td>
<td>$F_{\Delta}(1, 2809) = 0.31, p = .58$</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td>Supervisor Support x Bullying</td>
<td>$F_{\Delta}(1, 2806) = 4.48, p &lt; .05$</td>
</tr>
<tr>
<td>Model 2</td>
<td>Job Control x Bullying</td>
<td>$F_{\Delta}(1, 2806) = 3.48, p = .06$</td>
</tr>
<tr>
<td>Model 3</td>
<td>Perceived Org Support x Bullying</td>
<td>$F_{\Delta}(1, 2808) = 0.00, p = .99$</td>
</tr>
</tbody>
</table>

There was a significant interaction between supervisor support and exposure to workplace bullying across each outcome. Further analyses revealed that these interactions were not a reflection of the hypothesised buffering effect of supervisor support (i.e., no support for Hypothesis 9). For all respondents, having high supervisor support was associated with higher affective commitment and job satisfaction, and with lower psychological distress, regardless of the experience of workplace bullying. These associations were weakened when there was exposure to workplace bullying. Hence, the
The association between supervisor support and each outcome was stronger for those who had not been bullied, resulting in the significant interaction term.

It should be noted that while there was evidence of significant interactions, these results are unlikely to be of great practical importance given that the size of the moderator effect for each outcome was very small. As can be seen graphically in Figures 5.1 to 5.3, the interactions are not strong.

Figure 5.1. The relationship between affective commitment and workplace bullying across different levels of supervisor support
Figure 5.2. The relationship between psychological distress and workplace bullying across different levels of supervisor support.

Figure 5.3. The relationship between job satisfaction and workplace bullying across different levels of supervisor support.
5.6.2.1 Supervisor Support

The interactions in Figures 5.1 to 5.3 show that respondents who reported bullying may or may not report high supervisor support. Further analyses were conducted to demonstrate this. The average score for supervisor support was dummy-coded, with the lowest one-third coded ‘Low’ and the highest one-third coded ‘High’. Those who had experienced at least one bullying behaviour in the past six months were coded ‘Yes’, with the remaining sample coded ‘No’. Cross tabulation results are shown in Table 5.7.

Table 5.7.
Crosstabulation of Supervisor Support and Experiencing Workplace Bullying

<table>
<thead>
<tr>
<th>Supervisor Support</th>
<th>Experienced Bullying</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Low</td>
<td>411 (37.4%)</td>
<td>576 (68.2%)</td>
</tr>
<tr>
<td>High</td>
<td>687 (62.6%)</td>
<td>268 (31.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,098 (56.5%)</td>
<td>844 (43.5%)</td>
</tr>
</tbody>
</table>

There was a significant moderate association between experiencing workplace bullying and supervisor support ($\chi^2 (1) = 181.30, p < .01; \text{Cramer's V = .31}$). More respondents who experienced workplace bullying reported low supervisor support (68.2%), and more respondents who did not experience workplace bullying reported high supervisor support (62.6%). However, more than one in four employees (28.1%) who reported high supervisor support also reported being bullied in the workplace, and two in five employees (41.6%) who reported low supervisor support did not experience workplace bullying. These findings point to other sources in the workplace where these
negative behaviours may be coming from, which will be explored further in the next chapter.

5.7 Discussion

The first aim of this chapter was to explore the main effects of three measures—POS, supervisor support, and job control—on psychological distress, affective commitment, and job satisfaction (RQ2a). The chapter’s second aim sought to explore the moderating effects of these measures (RQ2b). Support for the buffering effects of these factors in previous research on workplace bullying has been mixed, and this chapter aimed to address some of the limitations of the existing research. Both aims will now be discussed in turn.

5.7.1 RQ2a. Main Effects of POS, Supervisor Support, and Job Control on Psychological Distress, Affective Commitment, and Job Satisfaction

Research findings that have tested the main effects of the JDC/S models have left little doubt as to the direct associations of POS, supervisor support, and job control with many positive work outcomes. Similarly, results of this study showed that high supervisor support, job control, and POS, were all associated with high affective commitment and job satisfaction, and with low psychological distress. Hypotheses 1, 2, 4, 5, 7 and 8 were all supported. Perceived organisational support was most strongly associated with all outcomes, with correlations ranging from -.39 (with psychological distress) to .57 (with job satisfaction). When an organisation is demonstrating to its employees that it values their contribution, that it is dedicated to offering favourable job conditions such as pay, promotions, and job enrichment, then employees are more likely to report satisfaction and commitment to their job, and high levels of wellbeing.

Similarly, the associations of job control and supervisor support with psychological
distress, affective commitment, and job satisfaction confirm the importance of designing jobs where employees have adequate decision-making authority and autonomy, and providing training and development opportunities for supervisors to ensure that they are adequately equipped to provide the necessary support to subordinates. Fostering support and control will create positive workplaces which are associated with better mental health and wellbeing, and with reduced risk factors for workplace bullying (Einarsen et al., 1994; Hauge et al., 2007; Skogstad et al., 2011).

5.7.2 RQ2b. Moderation Effects of POS, Job Control, and Supervisor Support

The second aim of this chapter was to explore any potential moderators of workplace bullying. Issues with previous studies exploring the buffering effects of job control, POS, and supervisor support were addressed by employing well-defined protective measures as well as a defined measure of workplace bullying. However, despite addressing some of the limitations in previous research, no moderation effects in the hypothesised direction were found in this study. Hypotheses 3, 6, and 9 were not supported. Possible reasons for these results will now be discussed for each potential moderator.

The measure of POS employed in this study was similar to that used by Gopalkrishnan (2011) in her study exploring the moderating effect of POS on incivility. In both studies, no moderating effects were found. Perhaps this form of perceived support is too remote from the situation that is occurring to an individual to have any substantial buffering effects. In addition, support from an organisation may not be specific enough to address workplace bullying, and hence not buffer the effects. That is, the items measuring POS in this study covered general caring and concern about employee satisfaction and wellbeing. These items may be too broad to enable a close
match with the stressor of experiencing workplace bullying, thereby reducing the likelihood of a buffering effect.

This lack of match is also prominent between the measure of job control and the measure of workplace bullying, and this lack of match is often the plausible explanation when job control does not buffer a stressor (Spector, 2002; Van der Doef & Maes, 1999). In this study, the job control measure focused predominantly on being autonomous and being able to make decisions. The measure did not specifically assess control over interpersonal interactions on the job, and that may explain why the buffering effects were not found.

Supervisors have more of a direct impact over being able to address the social stressors at work than other forms of support from family and friends, partners, and colleagues (Dormann & Zapf, 1999). Several items within the measure of supervisor support assessed emotional support (e.g., ‘Shows concern for workgroup members’ wellbeing’, ‘Provides help to workgroup members’). Emotional support is posited to produce a moderating effect even if the match is ‘loose’, possibly because this form of support could match a greater variety of potential stressors (Cohen & Wills, 1985; Dormann & Zapf, 1999). Despite assessing emotional support, there was no evidence of buffering against workplace bullying in this current study.

There are three plausible explanations for this finding. The first is that the measure of supervisor support did not directly assess whether the support was used, or the frequency of supervisor support in terms of intervening and/or addressing workplace conflict. In a review of the buffering effects of social support, Cohen and Wills (1985) found that in order for it to buffer the effects of a stressor, the support instrument must measure perceived availability of a support function, and the support also has to be perceived as adequate. Perhaps employees rated their supervisor as ‘supportive’
however they have not drawn upon this support, or the support offered was not focused on addressing workplace bullying.

Second, some studies that have shown supervisor support to buffer the effects of stressors have reported small effects sizes (Cooper, Dewe, & O’Driscoll, 2001; Parkes, Mendham, & von Rabenau, 1994). It could be that workplace bullying has such a detrimental effect on an individual that when support from one’s supervisor buffers the impact, it is of little practical significance.

Third, supervisor support may have an initial buffering impact but the effects could be eroded if the experience of bullying continues. Lepore, Evans, and Schneider (1991) observed that social support from roommates buffered the effects of household crowding on distress at a two-month time period, but that continued crowding led to a deterioration in perceptions of support and a corresponding increase in strain. The buffering role of social support may be ‘washed out’ in the presence of chronic stressors. The very nature of workplace bullying is that it is not a once-off experience. It could be possible that support may play a buffering role in acute stressors but not chronic stressors.

5.7.3 Supervisor Support

An important finding from this study for organisations was that employees who reported high levels of supervisor support also reported high levels of affective commitment, job satisfaction, and low levels of psychological distress. In fact, for those not bullied, these associations were particularly strong and resulted in significant interactions between supervisor support and workplace bullying across all three outcomes. High-performing supervisors are instrumental in ensuring effective individual and organisational performance, and as such, proper selection, and further
development and training opportunities are key to enabling the level of guidance and support required by subordinates.

Finally, results from this study showed that more than one in four employees who reported high levels of supervisor support also reported experiencing bullying at work. Some of these employees may have supervisors who bully them, and at the same time compensate to make amends by being overly supportive (Nahum-Shani, Henderson, Lim, & Vinokur, 2014). However, with such a high rate of employees reporting bullying at work and also having high supervisor support, it is likely that others in the workplace are inflicting the negative acts. Further exploration on sources of workplace bullying will be conducted in the next chapter.

5.8 Chapter Summary

High POS, supervisor support, and job control all had significant associations with high affective commitment and job satisfaction, and low psychological distress. Despite these factors not being able to buffer the detrimental effects of experiencing workplace bullying, these factors help to create a positive workplace climate which is likely to reduce the risk factors to workplace bullying. That said, there is still further work to be undertaken on exploring factors internal and external to the employee that could buffer the impact of bullying when it occurs.

The finding in this chapter that one in four employees who were bullied still reported high supervisor support indicates that bullying is occurring from various sources in the workplace (i.e., supervisor, subordinate, and/or coworker). The next chapter will examine these potential sources of bullying in more detail. This exploration will broaden our understanding of where workplace bullying comes from, and if there are differing experiences for an employee depending upon the source, the number of different sources, or the combination of sources.
CHAPTER 6. SOURCE OF WORKPLACE BULLYING: DOES IT MATTER WHERE IT COMES FROM?

6.1 Chapter Overview

Findings reported within the previous chapter show that the source of workplace bullying is not always superiors. The sources of workplace bullying can come from various layers within the organisation. Much of the research on workplace bullying has focused on its consequences, regardless of source. Concerns that many questionnaires exclude the source of bullying have been raised by researchers within the field for more than 15 years (Baillien, Neyens, De Witte, & De Cuyper, 2009; Frone, 2000; Heschovis & Barling, 2010; Heschovis & Reich, 2013; Heschovis et al., 2007; Neall & Tuckey, 2014). Due to this exclusion in the majority of studies, there are several gaps in our understanding of the effects that different sources within an organisation (i.e., superiors, coworkers, subordinates) may have on employees. First, it is not known if associations of workplace bullying with psychological distress, affective commitment, and job satisfaction differ depending on the level of the source/s within an organisation. Second, the effects of exposure to workplace bullying from multiple sources are unclear. There are potentially differing effects of experiencing workplace bullying from not just one, but sometimes up to three sources within an organisation.

A better understanding of the sources of workplace bullying will help organisations develop policies, interventions, and training. Anti-bullying policies and training programs have become a one-size-fits-all approach focused at the organisational-wide level (e.g., Defence Administrative Orders and Directives, 2017;)

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15 Throughout this chapter, the term ‘source’ refers to the ‘level of source’ within the organisation (i.e., from superiors, coworkers, or subordinates), not the individual perpetrator.
This chapter has six aims. The first aim is to determine the most prevalent sources of workplace bullying within the ADF. The second aim is to assess the perceived effects reported by targets. The third aim is to assess levels of psychological distress, affective commitment, and job satisfaction of those experiencing workplace bullying from superiors, subordinates, and coworkers, and a combination of these sources. The fourth aim is to explore the association of these outcomes with the number of sources of workplace bullying. The fifth aim is to determine if the probability of experiencing bullying differs across certain demographics of the target (i.e., gender, work status, Service, and rank). The final aim is to ascertain the most prevalent source or combination of sources depending upon the demographics of the target.

This chapter commences with a summary and critique of research on the sources of workplace bullying, including the prevalence and consequences from experiencing bullying from different sources within an organisation. Analyses will address the six aims, and practical implications for the workplace will be discussed.

6.2 Source of Workplace Bullying

6.2.1 Imbalance of Power

One of the core components of the definition of workplace bullying is an imbalance of power (Einarsen et al., 2011; Einarsen & Skogstad, 1996). It is generally accepted that if two parties have an equal balance of power then any hostile, aggressive situation between them would be considered an interpersonal conflict, not workplace bullying (Einarsen et al., 2011; Hoel & Cooper, 2000; Rayner & Keashly, 2005). When there is an imbalance of power, the target is in a position whereby they have difficulty
in responding or defending themselves (Einarsen & Skogstad, 1996). This inability could stem from either formal and/or informal power structures in which they work (Branch, Ramsay, & Barker, 2007), or it could come from the repetitive acts of bullying which wear down a target’s ability to defend him/herself. Personal factors or social circumstances can also make an individual more or less able to cope and defend (Einarsen, 1999).

Power imbalance within the workplace can be formal or informal, and therefore the source of bullying can come from subordinates (upwards bullying), coworkers (horizontal bullying), or superiors (downwards bullying). Superiors, who are often direct supervisors, hold legitimate positional power and can allocate work, control resources, conduct performance reviews that have career implications, and have authority over decision making. In some companies, supervisors can control pay, promotion opportunities, and terminate employees’ contracts with little justification. By abusing their positional power, supervisors have a number of avenues to bully their subordinates. For these reasons, the supervisor can have a greater influence on an employee’s attitudes and wellbeing than a colleague or subordinate (Hershcovis & Barling, 2010).

Coworkers have a great deal of social power, to the extent that they are able to affect the presence and quality of social interactions within work teams (Hershcovis & Barling, 2010). Gossip, rumours, and social exclusion are all ways in which a colleague can demonstrate bullying behaviours. Experiencing bullying from coworkers can send a signal to the target that he/she does not belong to the work group (Hershcovis & Barling, 2010). Interpersonal conflict with coworkers can undermine an employee’s sense of self and similarity with others (Frone, 2000). Social exclusion can result in a target’s lack of belongingness, social isolation, psychological distress, and social pain.
similar in magnitude to physical pain (Baumeister & Tice, 1990; Eisenberger, Lieberman, & Williams, 2003).

Subordinates can hold informal power, such as the control of access to information and equipment required to complete tasks, and the control of access to people with positional power. By wielding this control in an unfair way, subordinates can bully those in more senior positions, even those not officially in their chain of command. Through interviews with managers, Branch et al. (2007) explored upwards bullying from subordinates to superiors within Australian public and private sectors. The methods used by subordinates to bully upwards were either covert or overt. Covert behaviours included the failure to attend meetings, failure to inform the manager of meetings, gossip, and snide comments. More overt behaviours included yelling, confrontational emails, threats to disrupt work, and physical/verbal intimidation or threats. Bullying from subordinates tended to occur during organisational change, or when the work environment was conducive to the behaviour, or when it was perceived that the manager was reliant on the expertise of the subordinate. The latter reliance may generate feelings within subordinates of job security, and hence lessen inhibitions that the behaviours displayed would have negative personal consequences.

6.2.2 Prevalence of Workplace Bullying From Each Source

The most prevalent source of bullying in the workplace varies depending upon the nation or culture (Zapf et al., 2011). Overall, downwards bullying is the most prevalent form of bullying experienced in the workplace. Einarsen et al. (2011) conducted a meta-analysis of 40 studies across 19 European countries and found that 65.4% of employees reported that they were bullied by supervisors, 39.4% were bullied by colleagues, and 9.7% were bullied by subordinates. While there is individual variation, superiors appear to be the most common source of workplace bullying.
British and American studies have also consistently identified people in superior positions as perpetrators in the majority of cases (e.g., Hoel, Cooper, & Faragher, 2001; Martin & LaVan, 2010; Namie, 2007; Rayner, 2009; Workplace Bullying Institute, 2010). In contrast, Scandinavian studies as a whole identify people in superior positions as offenders in approximately equal numbers to colleagues, with only a small number bullied by subordinates (e.g., Einarsen & Skogstad, 1996; Mikkelsen & Einarsen, 2001).

Cross-cultural differences may explain the variations regarding the main sources of workplace bullying. Specifically, Scandinavian countries have low-power distances between superiors and subordinates. That is, power is more decentralized in Scandinavian countries and communication is more participative. These nations also have prevailing ‘feminine values’ that emphasise the wellbeing of the worker and condemn abuse of power (Einarsen, 2000b; Hofstede, 1980). An alternative explanation, posited by Ortega, Høgh, Pejtersen, and Olsen (2009), was that in Scandinavian workplaces, line managers are often regarded as colleagues, not as superiors. Therefore an employee’s conceptualisation of a ‘superior’ may be influencing findings regarding the most prevalent source of bullying in Scandinavian nations.

Research on sources of bullying within Australian organisations is scarce. Large-scale questionnaires and telephone interviews assessing the prevalence of bullying and harassment within Australian workplaces often do not assess the sources of these negative behaviours (Dollard et al., 2012). In 2016, respondents to the Australian Public Service Employee Census identified the sources of workplace bullying or harassment that they had experienced over the past 12 months. Similar to the trend found in US and UK studies, and in the meta-analysis by Einarsen and colleagues (2011) reported earlier, the most prevalent source of workplace bullying or harassment was superiors (reported by 67% of respondents), followed by co-workers (36%), and subordinates (9%) (Australian Public Service Commission, 2017b).
No published research reporting the sources of workplace bullying within Australian or international militaries could be found. This lack of published information is surprising given that the final report of the Defence Abuse Response Taskforce displayed almost 50 graphs outlining the number and types of abuse claims in the ADF dating back to 1940, broken down by many demographics. While the demographics of the complainants (e.g., gender and Service) were provided, there were no details provided of the alleged or convicted perpetrators.

6.3 Effects of Workplace Bullying from Superiors, Coworkers, and Subordinates

Due to the small number of studies that could be found that explored the effects of workplace bullying from different sources in the workplace, this literature review includes a meta-analysis by Hershcovis and Barling (2010) that assessed the associations of workplace aggression from various sources with attitudinal, behavioural, and health-related outcomes. The term ‘workplace aggression’ included aggression, bullying, incivility, workplace deviance, mobbing, mistreatment, tyranny, abusive supervision, undermining, interpersonal conflict, and victimization. This meta-analysis allowed the comparison of three attitudinal outcomes (i.e., job satisfaction, affective commitment, and turnover intention), three behavioural outcomes (i.e., interpersonal deviance, organisational deviance, and work performance), and four health-related outcomes (i.e., psychological distress, depression, emotional exhaustion, and physical wellbeing) of workplace aggression from three different sources. These sources were supervisors, coworkers, and organisation outsiders such as clients and members of the public. Combined results from 66 samples showed that supervisor aggression had the strongest associations with workplace attitudes and behaviours, followed by coworker aggression, with the weakest associations being with outsider aggression. There were no
significant differences between supervisor, coworker, and outsider aggression for the majority of the health-related outcomes; the exception being that supervisor aggression was associated with greater psychological distress compared to coworker aggression.

The large majority of studies within this meta-analysis assessed the effects of aggression from only one source, however combining these studies into a meta-analysis allowed for an examination of aggression from different sources. A feature of this approach was that many different types of workplace behaviours were compared under the concept of workplace aggression. In contrast to workplace bullying, there is no requirement for there to be power differentials or persistence of negative acts for a behaviour to qualify as aggression (Raver & Barling, 2008).

There was only one published journal article within the meta-analysis that explored the experience of workplace bullying from different sources. Fox and Stallworth (2005) assessed the associations of bullying from superiors and coworkers with the emotional responses and commitment of ethnic and racial minorities in the American workplace. Despite not testing for significant differences in the associations from different sources, analyses showed that there were significant associations between being bullied by a superior and negative emotional responses (e.g., depression, anxiety, stress) and decreased organisational commitment. There were no such associations when the source of the bullying was coworkers. The study’s design suffered from a restricted convenience sample, targeted due to the aim of exploring ethnic and racial bullying. There was also potential recall bias due to respondents having to rate emotional and attitudinal responses to ‘unfair, discriminatory, or emotionally abusive incidents…experienced within the last 5 years’.

Subsequent to this research included in the meta-analysis, three studies were found that compared being bullied by difference sources. The first study, by Van Schalkwyk et al. (2011), reported that bullying by superiors had a greater association
than bullying by coworkers with the targets’ intention to leave the organisation. While this comparison was not tested statistically, the authors made this conclusion based on the correlation between experiencing bullying from superiors and turnover intention ($r = .28, p < .01$) being greater than the correlation between experiencing bullying from coworkers and turnover intention ($r = .21, p < .01$). However, with a large sample size ($N = 13,911$), and the authors noting that the difference in correlations represented low practical significance, the difference should be treated with caution.

More recently, Abas and Otto (2016) reported that respondents’ commitment was lower and turnover intention was higher when there was interpersonal mistreatment by supervisors compared to colleagues. This study occurred in an experimental setting that presented vignettes to participants (psychology students with work experience in Study 1, and students and workers in Study 2) who were advised that they were the targets of bullying. The vignettes were manipulated systematically to examine the status and demographic characteristic of the perpetrator’s hierarchical position, gender, and age. A limitation of Abas and Otto’s (2016) study was the lack of workplace realism in a respondent’s experience of bullying.

The final study exploring different sources of workplace bullying analysed results from two nation-wide surveys in Denmark. This study found that bullying from ‘leaders’ was associated with severe depressive symptoms being reported by targets compared to those experiencing bullying from colleagues, subordinates, and clients. The effects from targets experiencing bullying from sources other than superiors were mixed across the two surveys, possibly due to different definitions of bullying included in each survey (Török et al., 2016).

In summary, the extant literature on the effects of experiencing bullying from different sources suggests that bullying from superiors has more significant associations with employees’ intentions to leave, low commitment, and poor mental health than
bullying from coworkers. Other health-related outcomes, such as emotional exhaustion and physical wellbeing, do not appear to be differentially effected by the source of bullying. There are several limitations to the previous research that the current study addresses. This study will compare the effects of workplace bullying from three sources internal to an organisation, utilising the same measure of bullying, thereby addressing two of the main criticisms of Hershcovis and Barling’s (2010) meta-analysis. It will address limitations arising from experimental settings and recall bias by collecting information on workplace bullying in an organisational setting, and assessing the experience of workplace bullying over the past six months. It will also statistically test for differences in the associations of psychological distress, affective commitment, and job satisfaction with workplace bullying from each source.

6.3.1 Workplace Bullying from Multiple Sources

Inside an organisation there are three main sources of workplace bullying—coworkers, subordinates, and superiors. Sometimes workplace bullying commences with one source, and will then escalate with colleagues, subordinates, and/or superiors joining in. The longer the duration of workplace bullying, the more likely that bullying will be perpetrated by more than one person (Zapf et al., 2011), and potentially more than one source.

No research could be found that explored the cumulative or differing effects of workplace bullying if experienced from more than one source. Given the findings reported in earlier chapters that as the frequency of workplace bullying increases, psychological distress increases and affective commitment and job satisfaction decrease, it is likely that similar trends will occur as the number of sources targeting an employee increases.
6.3.2 Subgroup Differences in Being a Target of Workplace Bullying

Research on the target of workplace bullying has predominantly focused on defining the characteristics of the target in terms of gender, personality, and role within the organisation. Similarly, research on the perpetrator has focused on identifying his/her individual characteristics and personal background that may assist in explaining the behaviour. No research could be located that explored the interaction between sources of bullying and demographic subgroups of targets. In this study, these demographics are gender, work status, Service, and rank.

A strength of this study is that it allows for the exploration of whether the probability of experiencing bullying from each source differs based on gender, work status, Service or rank. It also allows for analyses of whether the most prevalent source, or combination of sources, differ across demographic subgroups. These are both novel contributions to the literature that broaden the understanding of the bullying process in the workplace.

6.4 Research Questions and Hypotheses

This chapter addresses the third research question, and sub-questions, of this PhD. Hypotheses are presented under the corresponding sub-question:

**RQ3.** Does the source of workplace bullying, or the number of sources, matter to an employee’s psychological distress, affective commitment, and job satisfaction?

**RQ3a.** What are the most prevalent sources of workplace bullying in the ADF, as reported by targets?

**Hypothesis 1.** The most prevalent source of workplace bullying in the ADF will be superiors, followed by coworkers, and then by subordinates.
RQ3b. What are the reported perceived effects from experiencing workplace bullying from each source?

**Hypothesis 2.** Targets will report more negative effects from experiencing workplace bullying from superiors, followed by coworkers, then subordinates.

**Hypothesis 3.** Regardless of source, the more frequently a respondent experiences workplace bullying the more likely they will report negative effects, such as seeking medical and mental health care.

RQ3c. What are the associations of experiencing workplace bullying from each source with psychological distress, affective commitment, and job satisfaction?

**Hypothesis 4.** Bullying from superiors will have the strongest negative associations with affective commitment and job satisfaction and the strongest positive association with psychological distress, followed by coworkers, then subordinates.

RQ3d. Are there relationships between the number of sources of workplace bullying and the target's psychological distress, affective commitment, and job satisfaction?

**Hypothesis 5.** An increase in the number of sources of workplace bullying will be associated with a decrease in affective commitment and job satisfaction and an increase in psychological distress of the target.

RQ3e. Does the probability of experiencing bullying from each source differ depending upon the gender, work status, Service, or rank of the target?

No hypotheses were made.
RQ3f. Does the source, or combinations of sources, of workplace bullying differ depending upon the gender, work status, Service, or rank of the target?

No hypotheses were made.

6.5 Method

6.5.1 Sample

The Study 2 ADF sample was again used for the analyses in this chapter, and demographics have been detailed in Table 5.1, with a summary listed in Table 6.1 for ease of reference.

Table 6.1.
Demographic Characteristics of Sample

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>2,463 (83.2%)</td>
</tr>
<tr>
<td>Females</td>
<td>399 (13.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>98 (3.3%)</td>
</tr>
<tr>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>Royal Australian Navy</td>
<td>184 (6.2%)</td>
</tr>
<tr>
<td>Australian Regular Army</td>
<td>2,125 (71.8%)</td>
</tr>
<tr>
<td>Royal Australian Air Force</td>
<td>651 (22.0%)</td>
</tr>
<tr>
<td>Military Work Status</td>
<td></td>
</tr>
<tr>
<td>Permanent Force</td>
<td>2,371 (80.1%)</td>
</tr>
<tr>
<td>Reserve Force</td>
<td>585 (19.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>4 (0.1%)</td>
</tr>
<tr>
<td>Rank</td>
<td></td>
</tr>
<tr>
<td>Non-Commissioned Officers (NCO)</td>
<td>2,230 (76.1%)</td>
</tr>
<tr>
<td>Officers</td>
<td>700 (23.9%)</td>
</tr>
</tbody>
</table>

6.5.2 Procedure and Measures

The procedure and most measures for Study 2 are outlined in Chapters 3 and 4. Two new measures assessing (1) the frequency of experiencing and witnessing negative organisational behaviours, and (2) the effect from this experience, were analysed in this
chapter. These two questions were situated within the Negative Organisational Behaviours section of the questionnaire.

As described in more detail in Section 4.5.2.1, the Negative Organisational Behaviours section commenced with a list of nine types of behaviours, categorised as discrimination, sexual harassment, and workplace bullying (see Table 6.2). Respondents were first asked to rate the frequency of experiencing these behaviours. They were then presented with the same list of behaviours and asked to rate the frequency of witnessing these behaviours.

Table 6.2.
*Items Within the Measures Assessing the Experience of, and Witnessing of, Negative Organisational Behaviours*

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Item</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>discrimination on the basis of race, gender, or age</td>
<td>Discrimination</td>
</tr>
<tr>
<td>2</td>
<td>sexual harassment</td>
<td>Sexual Harassment</td>
</tr>
<tr>
<td>3</td>
<td>physical violence or threats of physical violence</td>
<td>Bullying</td>
</tr>
<tr>
<td>4</td>
<td>excessive criticism</td>
<td>Bullying</td>
</tr>
<tr>
<td>5</td>
<td>deliberate exclusion from social gatherings</td>
<td>Bullying</td>
</tr>
<tr>
<td>6</td>
<td>humiliating comments</td>
<td>Bullying</td>
</tr>
<tr>
<td>7</td>
<td>damaging rumours/gossip</td>
<td>Bullying</td>
</tr>
<tr>
<td>8</td>
<td>deliberate withholding of equipment, resources, or information</td>
<td>Bullying</td>
</tr>
<tr>
<td>9</td>
<td>hurtful behaviours not covered by any of the above categories</td>
<td>Other</td>
</tr>
</tbody>
</table>

Following this, respondents assessed the frequency of *experiencing or witnessing these sorts of behaviour* in their workplace in the last six months from (1) coworkers, (2) subordinates, and (3) superiors. They rated this frequency on a five-point Likert scale (*1 = never* to *5 = very often*) (see Table 6.3).
Table 6.3.

*Question on the Frequency of Experiencing or Witnessing Negative Organisational Behaviours From Each Source*

<table>
<thead>
<tr>
<th>In the last six months, how often have you experienced or witnessed these sorts of behaviours in your workplace:</th>
<th>Never (e.g., never)</th>
<th>Rarely (e.g., once or twice)</th>
<th>Sometimes (e.g., once a month)</th>
<th>Often (e.g., 4-5 times a month)</th>
<th>Very often (e.g., 2-3 times a week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>from coworkers to coworkers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>from subordinate to superior</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>from superior to subordinate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Finally, respondents were asked to rate the effect on themselves of experiencing these sorts of behaviour from (1) coworkers, (2) subordinates, and (3) superiors on a five-point Likert scale, with responses ranging from Not Experienced (1), No Effect at All (2), through to Caused Harm/Distress From Which I Sought Medical/Mental Health Care (5) (see Table 6.4).

Table 6.4.

*Question on the Effect From Experiencing Negative Organisational Behaviours From Each Source*

<table>
<thead>
<tr>
<th>If you have experienced these sorts of behaviours in the past 6 months, please indicate the effect that experience had on you:</th>
<th>Not experienced</th>
<th>No effect at all</th>
<th>Made me upset at the time</th>
<th>Caused me ongoing distress</th>
<th>Caused harm/distress from which I sought medical/mental health care</th>
</tr>
</thead>
<tbody>
<tr>
<td>from coworkers to coworkers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>from subordinate to superior</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>from superior to subordinate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Further information on the three sources of workplace bullying was not collected in the PULSE questionnaire for two main reasons. First, while the PULSE was anonymous, asking more details about sources of bullying, or questions about specific perpetrators may have given the impression that there would be potential for identification of the respondent or ramifications such as military investigations. Second, the PULSE questionnaire provides a short snapshot of unit climate and therefore only a high-level overview of sources of bullying was required.

Because more detailed information was not collected, there were two issues with the questions assessing each source. The first issue surrounded the use of the term ‘these sorts of behaviours’. Preliminary analyses were conducted to determine if respondents were referring to sexual harassment, discrimination, or workplace bullying, or a combination of these three, when responding.

The second issue surrounded the use of the terms ‘witnessed’ and ‘experienced’. Items assessing the frequency of negative organisational behaviours by each source referred to experienced or witnessed these behaviours. However, to address the research questions on experiencing workplace bullying, those respondents who only witnessed, and did not experience, workplace bullying needed to be identified and properly categorised as not having experienced the behaviours. The preliminary analyses to address these two issues will now be described.

6.5.3 Negative Organisational Behaviours versus Workplace Bullying: Preliminary Analysis

Preliminary analyses assessed if there was a predominant category of negative organisational behaviour that participants were referring to when rating the frequency and effect from each source.
Findings showed that 43.9% of participants who reported experiencing either sexual harassment or discrimination, but did not experience any of the six bullying behaviours went on to report ‘Not Experienced’ to the following question asked for each source:

*If you have experienced these sorts of behaviours in the past 6 months, please indicate the effect that experience had on you.*

That is, just over 4 in 10 respondents who reported only experiencing sexual harassment or discrimination, reported not experiencing these sorts of behaviours from all three sources. This response is in contrast to those respondents who experienced sexual harassment or discrimination, and at least one bullying behaviour. For this latter group, only 2 in 10 chose ‘Not Experienced’ from all three sources. The greater the number of bullying behaviours that respondents reported, the less likely they were to report ‘Not Experienced’ to all three questions assessing the effects from each source. For example, less than 1 in 10 (8.2%) respondents who reported a total bullying score of at least 16 (out of 30) went on to report not experiencing these sorts of behaviours from any source. Therefore, it can be inferred that respondents were more likely rating their experience of the bullying behaviours when assessing the frequency and effects from each source. While it is acknowledged that bullying in the workplace can be experienced in conjunction with other negative workplace behaviours, the term ‘bullying’ will be used throughout this chapter since it was mainly the bullying behaviours that respondents referred to when responding to the questions on frequency and effects from each source.
6.5.4 Witnessing versus Experiencing Workplace Bullying: Preliminary Analysis

The frequency of experiencing workplace bullying from each source was not asked directly, so derived variables (one for each source) were calculated from two existing questions, (Q1) the frequency of experiencing or witnessing these behaviours, and (Q2) the effects from experiencing these behaviours. Those respondents who indicated that they had ‘not experienced’ negative workplace behaviours (a response to Q2) were recoded as ‘never’ experiencing workplace bullying. The frequency to which all other respondents witnessed or experienced these behaviours from each source (Q1) was then applied to the new derived variables. Therefore, the frequency of experiencing workplace bullying from each source was on a five-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = very often).

6.5.5 Statistical Analyses

Several techniques were used to analyse each research question and are detailed under the corresponding research question.

RQ3a. What are the most prevalent sources of workplace bullying in the ADF, as reported by targets?

Descriptive analyses, including cross tabulations, determined the frequency of experiencing workplace bullying from coworkers, subordinates, and superiors.

RQ3b. What are the reported perceived effects from experiencing workplace bullying from each source?

Respondents were asked to report the perceived effects from experiencing negative workplace behaviours from each source. Descriptive analyses with chi-square tests assessed the significance of the relationship between the frequency of experiencing bullying and the reported effects from each source.
RQ3c. What are the associations of experiencing workplace bullying from each source with psychological distress, affective commitment, and job satisfaction?

Correlation analyses assessed the association between the frequency of experiencing workplace bullying and the standardised residual scores of psychological distress, affective commitment, and job satisfaction. As described in Chapter 4, by deriving residuals\(^{16}\) the covariates known to have a relationship with the DVs are already accounted for, and any systematic relationship between workplace bullying and the residuals can be shown. The standardised residuals are adjusted for age, gender, and rank. For simplicity throughout the Results section, reference to the standardised residuals of each outcome (e.g., standardised residuals of affective commitment) will be made once at the start, and thereafter the outcome (e.g., affective commitment) will be used to describe the adjusted measure.

The relationship between the frequency of experiencing workplace bullying and each outcome measure was graphed for each source. Each outcome was regressed on the frequency of workplace bullying from each source, allowing for the statistical comparison of unstandardised regression weights across the sources so as to compare the strength of association between the frequency of bullying and each outcome.

Multiple regression analyses determined which source of workplace bullying had the greatest association with each of the outcome variables. The frequency of experiencing workplace bullying from an individual source (i.e., coworkers, subordinates, or superiors) were the IVs.

Three-way analyses of variance (ANOVA) were conducted to assess if there were significant interactions of experiencing workplace bullying at least monthly from these sources with psychological distress, affective commitment, and job satisfaction as

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\(^{16}\) To obtain these standardised residuals, a multiple linear regression of age, gender, and rank with each of the three DVs was conducted. Results from these three regressions are shown in Appendix B.
the DVs. The three IVs of experiencing workplace bullying at least monthly from each
different source (i.e., coworker, subordinate, and superior) were dummy coded.

*RQ3d. Are there relationships between the number of sources of workplace bullying and
the target’s psychological distress, affective commitment, and job satisfaction?*

Odds ratios assessed the likelihood of experiencing bullying from one source at
least monthly, if the target reported experiencing it at this frequency from another
source. ANOVAs assessed if there were significant differences in outcomes across the
number of sources of bullying (i.e., none, 1, 2, 3 sources).

*RQ3e. Does the probability of experiencing bullying from each source differ depending
upon the gender, work status, Service, or rank of the target?*

Separate logistic regression analyses were conducted to predict the reported
experience of workplace bullying from each source, using gender, work status, Service,
and rank as predictors. The two categories within the three dichotomous source
variables were ‘experience of bullying at least sometimes’ and ‘experience of bullying
rarely or never’.

*RQ3f. Does the source, or combinations of sources, of workplace bullying differ
depending upon the gender, work status, Service, or rank of the target?*

Chi-square tests of independence assessed the relationships between reporting
bullying from each source/combination of sources and each demographic subgroup
(gender, work status, Service, rank). Respondents who reported the experience of
bullying at least monthly were included in the sample for these analyses. These
respondents were then coded into seven groups, bullied from:

1. Superiors only
2. Coworkers only
3. Subordinates only
4. Superiors and Coworkers
5. Superiors and Subordinates

6. Subordinates and Coworkers

7. Superiors and Coworkers and Subordinates.

Separate chi-square analyses assessed the difference in the proportion of respondents reporting bullying from each of these seven groups across gender, work status, Service, and rank.

6.6 Results

6.6.1 RQ3a, H1. Source of Workplace Bullying in the ADF

Just over two thirds of respondents did not experience workplace bullying from any source in the past six months (see Table 6.5). Of those who experienced bullying from only one source (N = 386, 13.0%), the majority experienced these behaviours from a superior (54.9%), followed by a coworker (38.9%) and a subordinate (6.2%).

Table 6.5.
Number of Sources of Workplace Bullying

<table>
<thead>
<tr>
<th>Number of sources</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Source</td>
<td>2,017 (68.1)</td>
</tr>
<tr>
<td>1 Source</td>
<td>386 (13.0)</td>
</tr>
<tr>
<td>2 Sources</td>
<td>239 (8.1)</td>
</tr>
<tr>
<td>3 Sources</td>
<td>318 (10.8)</td>
</tr>
<tr>
<td></td>
<td>2,960 (100.0)</td>
</tr>
</tbody>
</table>

For the smaller proportion of respondents who experienced bullying from two sources (N = 239, 8.1%), over two-thirds (71.6%) reported that these two sources were superiors and coworkers. A smaller proportion (14.2%) reported experiencing bullying
from superiors and subordinates. The same proportion (14.2%) reported the two sources as subordinates and coworkers (see Table 6.6).

Table 6.6.

*Combination of Two Sources of Workplace Bullying*

<table>
<thead>
<tr>
<th>Two sources</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior + Coworker</td>
<td>171 (71.6)</td>
</tr>
<tr>
<td>Superior + Subordinate</td>
<td>34 (14.2)</td>
</tr>
<tr>
<td>Subordinate + Coworker</td>
<td>34 (14.2)</td>
</tr>
<tr>
<td></td>
<td>239 (100.0)</td>
</tr>
</tbody>
</table>

Table 6.7 reports the frequency of workplace bullying from each source.

Workplace bullying from superiors was experienced at least monthly by a slightly higher proportion of personnel (12.4%) compared to bullying from coworkers (11.0%). Fewer personnel reported experiencing bullying from subordinates, with 5.1% reporting these behaviours at least monthly over the previous 6 months.

Table 6.7.

*Reported Frequency of Workplace Bullying by Source*

<table>
<thead>
<tr>
<th></th>
<th>Coworker to coworker</th>
<th>Subordinate to superior</th>
<th>Superior to subordinate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Never</td>
<td>2,287 (77.3)</td>
<td>2,550 (86.1)</td>
<td>2,225 (75.2)</td>
</tr>
<tr>
<td>Rarely (e.g., once or twice)</td>
<td>347 (11.7)</td>
<td>258 (8.7)</td>
<td>369 (12.5)</td>
</tr>
<tr>
<td>Sometimes (e.g., monthly)</td>
<td>195 (6.6)</td>
<td>103 (3.5)</td>
<td>187 (6.3)</td>
</tr>
<tr>
<td>Often (e.g., weekly)</td>
<td>83 (2.8)</td>
<td>36 (1.2)</td>
<td>106 (3.6)</td>
</tr>
<tr>
<td>Very often (e.g., 2-3 times a week)</td>
<td>48 (1.6)</td>
<td>13 (0.4)</td>
<td>73 (2.5)</td>
</tr>
<tr>
<td></td>
<td>2,960 (100.0)</td>
<td>2,960 (100.0)</td>
<td>2,960 (100.0)</td>
</tr>
</tbody>
</table>
It was hypothesised (H1) that the most common source of workplace bullying in the ADF would be superiors, followed by coworkers, and then by subordinates. There is support for this hypothesis. If a respondent only experienced bullying from one source, then that source was more likely to be superiors, than coworkers or subordinates. However, because of the nature of workplace bullying and the potential to experience these behaviours from more than one source, the difference in reported prevalence of experiencing bullying from coworkers and from superiors (Table 6.7) is not as large as expected given the positional power of superiors and the sample being from a Western nation.

6.6.2 RQ3b, H2, H3. Perceived Effects of Experiencing Workplace Bullying in the ADF

6.6.2.1 Perceived Effects of Experiencing Workplace Bullying in the ADF

The majority of personnel who experienced workplace bullying reported no effect at all from the experience, or reported only being upset at the time, regardless of the source of these behaviours (Figure 6.1).
Figure 6.1. Perceived effects on respondents from experiencing workplace bullying from coworkers, subordinates, and superiors

Overall, there were more detrimental perceived effects from experiencing workplace bullying from superiors, followed by coworkers, then subordinates. Approximately 17.0% of personnel who experienced workplace bullying from superiors reported ongoing distress or sought medical/mental health care. A smaller proportion of personnel (approximately 5%) reported ongoing distress or requiring medical/mental health care after experiencing bullying from subordinates or from coworkers. This finding demonstrates support for Hypotheses 2: targets reported more negative perceived effects from experiencing workplace bullying from superiors, followed by coworkers, then subordinates.
6.6.2.2 Relationships Between the Perceived Effects and Frequency of Workplace Bullying from Different Sources

As the frequency of experiencing workplace bullying increased, the severity of the perceived effects from this bullying also increased (see Table 6.8, Table 6.9, and Table 6.10). Those reporting workplace bullying often or very often were more likely to report that this bullying caused ongoing distress or that they sought medical or mental health care. Chi-Square results showed significant large associations between the frequency of experiencing bullying from each source and the subsequent perceived effects: coworkers ($\chi^2 (16) = 3169.31, p < .01$, Cramer’s $V = .52$), subordinates ($\chi^2 (16) = 3158.47, p < .01$, Cramer’s $V = .52$), and superiors ($\chi^2 (16) = 3397.64, p < .01$, Cramer’s $V = .54$). Hypothesis 3 was supported, regardless of the source, the more frequently a respondent experienced workplace bullying the more likely they reported negative effects, such as seeking medical and mental health care.
Table 6.8.
Coworker to Coworker: Experience of Workplace Bullying and the Subsequent Effect

<table>
<thead>
<tr>
<th>Frequency of experiencing bullying from coworker</th>
<th>Not experienced / No effect at all</th>
<th>Made me upset at the time</th>
<th>Caused me ongoing distress</th>
<th>Caused harm/distress from which I sought medical/mental health care</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>2,287 (77.3)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,287</td>
</tr>
<tr>
<td>Rarely</td>
<td>258 (8.7)</td>
<td>85 (2.9)</td>
<td>4 (0.1)</td>
<td>0</td>
<td>347</td>
</tr>
<tr>
<td>Sometimes</td>
<td>113 (3.8)</td>
<td>72 (2.4)</td>
<td>9 (0.3)</td>
<td>1 (0.03)</td>
<td>195</td>
</tr>
<tr>
<td>Often</td>
<td>37 (1.3)</td>
<td>33 (1.1)</td>
<td>11 (0.4)</td>
<td>2 (0.1)</td>
<td>83</td>
</tr>
<tr>
<td>Very Often</td>
<td>21 (0.7)</td>
<td>16 (0.5)</td>
<td>5 (0.2)</td>
<td>6 (0.2)</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>2,716</td>
<td>206</td>
<td>29</td>
<td>9</td>
<td>2,960</td>
</tr>
</tbody>
</table>

Table 6.9.
Subordinate to Superior: Experience of Workplace Bullying and the Subsequent Effect

<table>
<thead>
<tr>
<th>Frequency of experiencing bullying from subordinate</th>
<th>Not experienced / No effect at all</th>
<th>Made me upset at the time</th>
<th>Caused me ongoing distress</th>
<th>Caused harm/distress from which I sought medical/mental health care</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>2,550 (86.1)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,550</td>
</tr>
<tr>
<td>Rarely</td>
<td>197 (6.7)</td>
<td>56 (1.9)</td>
<td>5 (0.2)</td>
<td>0</td>
<td>258</td>
</tr>
<tr>
<td>Sometimes</td>
<td>62 (2.1)</td>
<td>33 (1.1)</td>
<td>6 (0.2)</td>
<td>2 (0.1)</td>
<td>103</td>
</tr>
<tr>
<td>Often</td>
<td>11 (0.4)</td>
<td>18 (0.6)</td>
<td>6 (0.2)</td>
<td>1 (0.03)</td>
<td>36</td>
</tr>
<tr>
<td>Very Often</td>
<td>4 (0.1)</td>
<td>4 (0.1)</td>
<td>1 (0.03)</td>
<td>4 (0.1)</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>2,824</td>
<td>111</td>
<td>18</td>
<td>7</td>
<td>2,960</td>
</tr>
</tbody>
</table>
Table 6.10.
Superior to Subordinate: Experience of Workplace Bullying and the Subsequent Effect

<table>
<thead>
<tr>
<th>Frequency of experiencing bullying from superior</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not experienced / No effect at all</td>
<td>2,225 (75.2)</td>
<td>208 (7.0)</td>
<td>68 (2.3)</td>
<td>25 (0.8)</td>
<td>12 (0.4)</td>
<td>2,960</td>
</tr>
<tr>
<td>Made me upset at the time</td>
<td>0</td>
<td>136 (4.6)</td>
<td>90 (3.0)</td>
<td>42 (1.4)</td>
<td>22 (0.7)</td>
<td></td>
</tr>
<tr>
<td>Caused me ongoing distress</td>
<td>0</td>
<td>20 (0.7)</td>
<td>26 (0.9)</td>
<td>34 (1.1)</td>
<td>23 (0.8)</td>
<td></td>
</tr>
<tr>
<td>Caused harm/distress from which I sought</td>
<td>0</td>
<td>5 (0.2)</td>
<td>3 (0.1)</td>
<td>5 (0.2)</td>
<td>16 (0.5)</td>
<td></td>
</tr>
<tr>
<td>medical/mental health care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,225</td>
<td>369</td>
<td>187</td>
<td>106</td>
<td>73</td>
<td>2,960</td>
</tr>
</tbody>
</table>

6.6.3 RQ3c, H4. Associations of Experiencing Workplace Bullying from each Source with Psychological Distress, Affective Commitment, and Job Satisfaction.

The associations of experiencing workplace bullying from each source with psychological distress, affective commitment, and job satisfaction will be reported separately for each outcome.

6.6.3.1 Psychological Distress

There were significant positive correlations between the standardised residuals of psychological distress and the frequency of bullying from coworkers ($r = .27, p < .01$), subordinates ($r = .23, p < .01$), and superiors ($r = .30, p < .01$). These relationships are shown diagrammatically in Figure 6.2. Across all three sources, as the frequency of experiencing workplace bullying increased, so too did reported psychological distress.
Figure 6.2. Associations between psychological distress and frequency of experiencing workplace bullying by source

Three regressions were conducted, with the frequency of experiencing workplace bullying from an individual source (coworkers, subordinates, or superiors) as the IV and psychological distress as the DV. These regressions resulted in three unstandardized beta ($B$) weights. Statistical testing of these $B$ weights showed no significant difference in the associations between psychological distress and the frequency of workplace bullying from coworkers ($B = -.44, SE = .05$), subordinates ($B = -.46, SE = .04$), or superiors ($B = -.46, SE = .03$).

That said, when independent associations between the different sources of workplace bullying and psychological distress were assessed using a simultaneous multiple regression, bullying from superiors had the greatest association ($B = .21$) with psychological distress, and bullying from subordinates had the weakest, yet still significant, association ($B = .08$) (see Table 6.11). Hypotheses 4 was therefore
supported: bullying from superiors had the strongest positive association with psychological distress, followed by coworkers, then subordinates.

Table 6.11.

*Multiple Regression for Predicting Psychological Distress From the Frequency of Experiencing Workplace Bullying From Superiors, Coworkers, and Subordinates (N = 2,807)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$ $B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience from coworker (frequency)</td>
<td>0.15</td>
<td>0.03</td>
<td>0.13**</td>
</tr>
<tr>
<td>Experience from subordinate (frequency)</td>
<td>0.08</td>
<td>0.04</td>
<td>0.05*</td>
</tr>
<tr>
<td>Experience from superior (frequency)</td>
<td>0.21</td>
<td>0.03</td>
<td>0.19**</td>
</tr>
<tr>
<td>$R^2$</td>
<td></td>
<td></td>
<td>.10</td>
</tr>
<tr>
<td>$F_{(3, 2804)}$</td>
<td></td>
<td></td>
<td>106.87**</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01.

6.6.3.2 Job Satisfaction

There were significant negative correlations between the standardised residuals of job satisfaction and the frequency of workplace bullying from coworkers ($r = -.17, p < .01$), subordinates ($r = -.14, p < .01$), and superiors ($r = -.25, p < .01$).

These relationships are shown diagrammatically in Figure 6.3. Across all three sources, as the frequency of experiencing workplace bullying increased, job satisfaction decreased.
Figure 6.3. Associations between job satisfaction and frequency of experiencing workplace bullying by source

Three regressions were conducted, as described earlier for psychological distress, with job satisfaction as the DV. Statistical testing that compared the unstandardised beta weights from these regressions showed no significant difference in the association between job satisfaction and the frequency of workplace bullying from coworkers ($B = .27, SE = .04$), subordinates ($B = .29, SE = .04$), or superiors ($B = .38, SE = .03$).

When all three sources were entered into a simultaneous multiple regression, with job satisfaction as the outcome, only bullying from superiors had a significant independent association ($B = -.25$) with job satisfaction (see Table 6.12). Taken together these results confirm support for Hypotheses 4: bullying from superiors had the strongest negative association with job satisfaction, followed by coworkers, then subordinates.
Table 6.12.

Multiple Regression for Predicting Job Satisfaction From the Frequency of Experiencing Workplace Bullying From Superiors, Coworkers, and Subordinates

\( N = 2,814 \)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Experience from coworker (frequency)</td>
<td>-0.03</td>
</tr>
<tr>
<td>Experience from subordinate (frequency)</td>
<td>0.00</td>
</tr>
<tr>
<td>Experience from superior (frequency)</td>
<td>-0.25</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>.06</td>
</tr>
<tr>
<td>( F_{(3, 2811)} )</td>
<td></td>
</tr>
</tbody>
</table>

*\( p < .05 \). **\( p < .01 \).

Affective Commitment

There were significant negative correlations between the standardised residuals of affective commitment and the frequency of workplace bullying from coworkers \( (r = -0.11, p < .01) \), subordinates \( (r = -0.12, p < .01) \), and superiors \( (r = -0.15, p < .01) \). These relationships are shown diagrammatically in Figure 6.4. Across all three sources, as the frequency of workplace bullying increased, affective commitment decreased.
Three regressions were conducted, as described earlier for psychological distress, with affective commitment as the DV. Statistical testing that compared the unstandardised beta weights from these regressions showed no significant difference in the association between affective commitment and the frequency of workplace bullying from coworkers ($B = .23, SE = .04$), subordinates ($B = .24, SE = .04$), or superiors ($B = .23, SE = .04$).

When associations between the different sources of workplace bullying and affective commitment were directly compared in a multiple regression, bullying from superiors had the strongest significant association ($B = -.11$) with affective commitment. There was a significant, albeit weak ($B = -.09$), association between bullying from subordinates and affective commitment (see Table 6.13).

Hypotheses 4 was only partially supported because experiencing bullying from coworkers did not have a stronger relationship with affective commitment, than experiencing bullying from subordinates.

Figure 6.4. Associations between affective commitment and frequency of experiencing workplace bullying by source
Table 6.13.
Multiple Regression for Predicting Affective Commitment From the Frequency of Experiencing Workplace Bullying From Superiors, Coworkers, and Subordinates (N = 2,805)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>Experience from coworker (frequency)</td>
<td>-0.02</td>
<td>0.03</td>
<td>-0.02</td>
</tr>
<tr>
<td>Experience from subordinate (frequency)</td>
<td>-0.09</td>
<td>0.04</td>
<td>-0.05*</td>
</tr>
<tr>
<td>Experience from superior (frequency)</td>
<td>-0.11</td>
<td>0.03</td>
<td>-0.11**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F_{(3, 2802)}$</td>
<td>22.68**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.

6.6.3.4 *Interaction of Frequency of Workplace Bullying From Each Source and Psychological Distress, Affective Commitment, and Job Satisfaction*

Three-way ANOVAs examined the effects of experiencing workplace bullying at least monthly from three different sources (coworker, subordinate, and superior) on three separate outcomes: psychological distress, affective commitment, and job satisfaction. There were no significant interactions between the sources of workplace bullying and these outcomes.
6.6.4  *RQ3d, H5. Relationships of the Number of Sources of Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction*

6.6.4.1  *Experiencing Workplace Bullying From Multiple Sources*

As the frequency of bullying increased, so too did the likelihood of experiencing bullying from more than one source. The odds of being bullied at least monthly from subordinates were 27.1 times greater for those bullied at least monthly from superiors compared to those not bullied. The odds of being bullied at least monthly from coworkers were 22.7 times greater for those bullied at least monthly from superiors compared to those not bullied. The odds of being bullied at least monthly from coworkers were 45.3 times greater for those bullied at least monthly from subordinates compared to those not bullied.

To determine the effects of workplace bullying from a cumulative number of sources (i.e., coworkers, subordinates, and superiors) the psychological distress levels of respondents who did not experience workplace bullying were compared to those experiencing it at least monthly from 1, 2, or 3 sources (see Figure 6.5). There was a significant difference in psychological distress across the number of sources \((F(3, 2804) = 87.95, p < .01, \eta^2 = .09)\). As the number of sources increased, so too did ratings of psychological distress. Post-hoc analyses showed that this increase plateaued once a respondent indicated experiencing workplace bullying from two different sources: there was no further significant increase in psychological distress when experiencing bullying from all three sources.
Figure 6.5. Reported psychological distress by the number of sources of workplace bullying experienced at least monthly

Figure 6.6 graphs the affective commitment and job satisfaction levels of respondents who experienced workplace bullying at least monthly from 1, 2, or 3 sources, compared to those who did not experience bullying. There were significant differences in job satisfaction and affective commitment across the number of sources ($F_{(3, 2811)} = 50.66, p < .01, \eta^2 = .05$; $F_{(3, 2802)} = 19.38, p < .01, \eta^2 = .02$, respectively). Post-hoc analyses confirmed a difference in job satisfaction between those who did not experience workplace bullying at least monthly, with those who experienced these behaviours from one or more sources. There were no significant differences in job satisfaction across one, two, or three sources.
Figure 6.6. Reported affective commitment and job satisfaction by the number of sources of workplace bullying experienced at least monthly

In regards to affective commitment, post-hoc analyses confirmed a significant difference in affective commitment between those who did not experience workplace bullying at least sometimes, with those who did. There was also a significant difference in affective commitment between experiencing workplace bullying from one source compared to experiencing it from three sources.

There is partial support for Hypothesis 5: as the number of sources increased, psychological distress increased and affective commitment decreased. However, job satisfaction levels did not significantly change as the number of sources of workplace bullying increased.
6.6.5  *RQ3e. Differences in the Probability of Experiencing Workplace Bullying From Each Source Depending on the Gender, Work Status, Service, and Rank of the Target*

### 6.6.5.1 Experiencing Workplace Bullying From Superiors

A logistic regression analysis was conducted to predict the reported experience of workplace bullying from superiors, using gender, work status, Service, and rank of the respondent as predictors (Table 6.14). A test of the full model against a constant-only model was statistically significant, indicating that the predictors, as a set, reliability distinguished between those experiencing workplace bullying from superiors at least monthly and those who did not ($\chi^2(5) = 76.55, p < .001$). The model explained 5.1% (Nagelkerke $R^2$) of the variance in experiencing workplace bullying from superiors. The Wald criterion demonstrated that all variables, except for gender, made a significant contribution to the prediction. Air Force members were 1.57 times more likely to report the experience of workplace bullying from superiors than Army members. There was no difference in reporting the experience of bullying between Army and Navy respondents. Enlisted personnel were 1.87 times more likely than Officer personnel to report experiencing workplace bullying from superiors. Permanent members were over three times (3.07) more likely than the Reserve Force members to report experiencing workplace bullying from superiors.
Table 6.14.

Logistics Regression Results for Predicting the Experience of Workplace Bullying From Superiors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experience bullying from superior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.56**</td>
</tr>
<tr>
<td>Service group</td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>-.13</td>
</tr>
<tr>
<td>Air Force</td>
<td>.45*</td>
</tr>
<tr>
<td>(base = Army)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>.04</td>
</tr>
<tr>
<td>(base = Male)</td>
<td></td>
</tr>
<tr>
<td>Work status</td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>1.12**</td>
</tr>
<tr>
<td>(base = Reserve)</td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td></td>
</tr>
<tr>
<td>Enlisted</td>
<td>.63**</td>
</tr>
<tr>
<td>(base = Officer)</td>
<td></td>
</tr>
<tr>
<td>$N$</td>
<td>2,838</td>
</tr>
<tr>
<td>Chi square $\chi^2 (5) = 76.55, p &lt; .001$</td>
<td></td>
</tr>
<tr>
<td>Nagelkerke $R^2$</td>
<td>5.1%</td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow test</td>
<td>$p = .07$</td>
</tr>
<tr>
<td>Classification accuracy</td>
<td>87.8%</td>
</tr>
</tbody>
</table>

6.6.5.2 Experiencing Workplace Bullying From Coworkers

A logistic regression analysis was conducted to predict the reported experience of workplace bullying from coworkers, using gender, work status, Service, and rank of the respondent as predictors (Table 6.15). A test of the full model against a constant-only model was statistically significant, indicating that the predictors, as a set, reliably distinguished between those experiencing bullying from coworkers at least monthly and those who did not ($\chi^2 (5) = 86.64, p < .001$). The model explained 6.0%
(Nagelkerke $R^2$) of the variance in experiencing workplace bullying from coworkers.

The Wald criterion demonstrated that all variables, except for gender, made a significant contribution to the prediction. The Hosmer and Lemeshow test was significant, however this test is sensitive to sample size (Kramer & Zimmerman, 2007), and a significant result may not suggest a poor fit for large samples such as this.

Table 6.15.
*Logistics Regression Results for Predicting the Experience of Workplace Bullying From Coworkers*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-3.81**</td>
<td>.26</td>
<td>.02</td>
<td>.</td>
</tr>
<tr>
<td><strong>Service group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>-.35</td>
<td>.31</td>
<td>.70</td>
<td>.38–1.30</td>
</tr>
<tr>
<td>Air Force</td>
<td>.48**</td>
<td>.13</td>
<td>1.62</td>
<td>1.25–2.10</td>
</tr>
<tr>
<td>(base = Army)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>-.04</td>
<td>.18</td>
<td>.96</td>
<td>.68–1.36</td>
</tr>
<tr>
<td>(base = Male)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Work status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>.99**</td>
<td>.21</td>
<td>2.68</td>
<td>1.78–4.04</td>
</tr>
<tr>
<td>(base = Reserve)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rank</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enlisted</td>
<td>.97**</td>
<td>.18</td>
<td>2.63</td>
<td>1.84–3.76</td>
</tr>
<tr>
<td>(base = Officer)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| $N$   | 2,838 |
| Chi square | $\chi^2(5) = 86.64, p < .001$ |
| Nagelkerke $R^2$ | 6.0% |
| Hosmer & Lemeshow test | $p = .01$ |
| Classification accuracy | 88.8% |

Air Force members were 1.62 times more likely to report the experience of bullying from coworkers than Army members. There was no difference in reporting the experience of bullying between Army and Navy respondents. Enlisted personnel were
2.63 times more likely than Officer personnel to report experiencing bullying. Permanent members were 2.68 times more likely than the Reserve Force members to report experiencing workplace bullying.

6.6.5.3 Experiencing Workplace Bullying From Subordinates

A logistic regression analysis was conducted to predict the reported experience of workplace bullying from subordinates, using gender, work status, Service, and rank as predictors (Table 6.16). A test of the full model against a constant-only model was statistically significant, indicating that the predictors as a set reliability distinguished between those experiencing bullying from subordinates at least monthly and those who did not ($\chi^2 (5) = 41.41, p < .001$). The model explained 4.3% (Nagelkerke $R^2$) of the variance in experiencing bullying from subordinates. The Wald criterion demonstrated that all variables, except for gender, made a significant contribution to the prediction. Air Force members were 1.88 times more likely to report the experience of bullying from subordinates than Army members. There was no difference in reporting the experience of bullying between Army and Navy respondents. Enlisted personnel were 2.48 times more likely than Officer personnel to report experiencing bullying from subordinates. Permanent members were 2.23 times more likely than the Reserve Force members to report experiencing workplace bullying from subordinates.
Table 6.16.
Logistics Regression Results for Predicting the Experience of Workplace Bullying From Subordinates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experience bullying from subordinate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
</tr>
<tr>
<td>Constant</td>
<td>-4.52**</td>
</tr>
<tr>
<td>Service group</td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>.12</td>
</tr>
<tr>
<td>Air Force (base = Army)</td>
<td>.63**</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female (base = Male)</td>
<td>.12</td>
</tr>
<tr>
<td>Work status</td>
<td></td>
</tr>
<tr>
<td>Permanent (base = Reserve)</td>
<td>.80**</td>
</tr>
<tr>
<td>Rank</td>
<td></td>
</tr>
<tr>
<td>Enlisted (base = Officer)</td>
<td>.91**</td>
</tr>
<tr>
<td>$N$</td>
<td></td>
</tr>
<tr>
<td>Chi square</td>
<td>$\chi^2 (5) = 41.41, p &lt; .001$</td>
</tr>
<tr>
<td>Nagelkerke $R^2$</td>
<td>4.3%</td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow test</td>
<td>$p = .65$</td>
</tr>
<tr>
<td>Classification accuracy</td>
<td>94.7%</td>
</tr>
</tbody>
</table>

Using the predicted probabilities from the logistic regressions, Table 6.17 provides a breakdown of the probability of experiencing workplace bullying at least monthly based on gender, work status, Service, and rank. Summarising the results shown above for each source, the probability of experiencing workplace bullying was higher for Permanent than for Reserve members, higher for Enlisted than for Officers, and higher for Air Force members (both Officer and Enlisted) than the other two Services (see the shaded portions of Table 6.17).
Table 6.17.

*Predicted Probability of Experiencing Workplace Bullying at Least Monthly by Source, Work Status, Rank, Service, and Gender*

**Predicted probability of experiencing bullying from superior to subordinate at least monthly**

<table>
<thead>
<tr>
<th>Service</th>
<th>Navy Enlisted</th>
<th>Navy Officer</th>
<th>Army Enlisted</th>
<th>Army Officer</th>
<th>Air Force Enlisted</th>
<th>Air Force Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>12.6 13.0</td>
<td>7.1 7.4</td>
<td>14.1 14.5</td>
<td>8.1 8.3</td>
<td>20.4 21.0</td>
<td>12.1 12.5</td>
</tr>
<tr>
<td>Reserve</td>
<td>4.5 4.6</td>
<td>2.4</td>
<td>5.1 5.3</td>
<td>2.8 2.9</td>
<td>7.7 8.0</td>
<td>4.3 4.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Predicted probability of experiencing bullying from subordinate to superior at least monthly**

<table>
<thead>
<tr>
<th>Service</th>
<th>Navy Enlisted</th>
<th>Navy Officer</th>
<th>Army Enlisted</th>
<th>Army Officer</th>
<th>Air Force Enlisted</th>
<th>Air Force Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>6.3 7.1</td>
<td>2.7 3.0</td>
<td>5.7 6.4</td>
<td>2.4 2.7</td>
<td>10.2 11.3</td>
<td>4.4 4.9</td>
</tr>
<tr>
<td>Reserve</td>
<td>2.9 3.3</td>
<td>1.2</td>
<td>2.6 3.0</td>
<td>1.1 1.2</td>
<td>4.8 5.4</td>
<td>2.0 2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Predicted probability of experiencing bullying from coworker to coworker at least monthly**

<table>
<thead>
<tr>
<th>Service</th>
<th>Navy Enlisted</th>
<th>Navy Officer</th>
<th>Army Enlisted</th>
<th>Army Officer</th>
<th>Air Force Enlisted</th>
<th>Air Force Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
<td>Male Female</td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>9.9 9.5</td>
<td>4.0 3.8</td>
<td>13.5 13.0</td>
<td>5.6 5.4</td>
<td>21.0 19.4</td>
<td>8.8 8.4</td>
</tr>
<tr>
<td>Reserve</td>
<td>3.9 3.8</td>
<td>1.5</td>
<td>5.5 5.3</td>
<td>2.2 2.1</td>
<td>8.6 8.3</td>
<td>3.5 3.3</td>
</tr>
</tbody>
</table>

*Note.* There were no female Navy Reserve Officers in the sample.
6.6.6  **RQ3f. Differences in the Source of Workplace Bullying Depending on the Gender, Work Status, Service, and Rank of the Target**

Chi-square tests of independence assessed if the source or combination of sources differed based on the gender, work status, Service, and rank of the target. Only those respondents who reported the experience of bullying at least monthly were included in these analyses. There were seven different sources/combination of sources:

1. Superiors only \((N = 147)\)
2. Coworkers only \((N = 99)\)
3. Subordinates only \((N = 12)\)
4. Superiors and Coworkers \((N = 108)\)
5. Superiors and Subordinates \((N = 21)\)
6. Subordinates and Coworkers \((N = 29)\)
7. Superiors and Coworkers and Subordinates \((N = 90)\).

Due to the large number of cells with an expected count of less than five, the chi-square test for Service reports the maximum likelihood ratio chi-square. All other chi-square tests report the Pearson’s chi-square.

There was no significant associations in the proportion of respondents experiencing bullying in each group by gender \((\chi^2 (6) = 7.9, p > .01)\), Service \((\chi^2 (12) = 11.7, p > .01)\), or work status \((\chi^2 (6) = 0.78, p > .01)\). There was a significant association in reporting across these groups and rank \((\chi^2 (6) = 25.4, p < .01)\). Further exploration revealed that Officers were more likely than NCOs to report only experiencing bullying from superiors. Given the large number of chi-square tests conducted, and only one significant finding, it can be concluded that there are no systematic differences in the source/combination of sources across demographic subgroups.
6.7 Discussion

Many studies on workplace bullying either do not refer to sources of bullying or only refer to one source (e.g., bullying from superiors), disregarding other sources within and outside the organisation. However, as was demonstrated in this study, the perceived effects from experiencing workplace bullying differ depending upon the source. This chapter had six aims addressing Research Question 3, and each will now be discussed in turn.

6.7.1 RQ3a, H1. Source of Workplace Bullying in the ADF

The first aim of this chapter was to determine the most prevalent sources of workplace bullying within the ADF. Overall, there were two common sources of bullying in the ADF: superiors and coworkers. There was a slightly higher proportion of employees who reported being bullied by superiors compared to coworkers, although just over one in ten respondents reported experiencing bullying at least monthly from both these sources. The first hypothesis, that the most prevalent source of bullying would be from superiors, followed by coworkers, then by subordinates, was supported, although the distinction between the frequency of exposure from superior and coworker was not strong.

The most prevalent source of bullying in Western nations such as Australia has been superiors (Australian Public Service Commission, 2016; Hoel et al., 2001; Martin & LaVan, 2010; Namie, 2007; Rayner, 2009). No research could be located on the source of bullying in the ADF or within international militaries to determine if the findings in this current study were to be expected. One explanation for this study’s finding is that the unique working and living environments within military bases foster closer interactions of coworkers than what would be experienced within many other
Australian organisations. It could be that these close working/living environments heighten the risk of bullying from coworkers simply due to the frequency of interactions, where there is more opportunity for conflict to escalate into workplace bullying.

The second explanation arises from the methodology of assessing the source of bullying. In this sample, most respondents who experienced bullying reported experiencing it from more than one source. If other studies only assess the main perceived source, a target may identify superiors because of the more negative, and therefore more salient, effects that bullying from superiors have on targets. The assessment of the source of workplace bullying should allow for the identification of multiple sources. As shown in this study, if workplace bullying occurs, there is likely to be more than one source.

As mentioned, there has been no published research on the most prevalent sources of bullying within a military context, and no civilian research could be located comparing the effects of workplace bullying from subordinates with other sources. Further research on the source of bullying in hierarchical organisations, such as the para-military and police organisations, should be conducted to determine if the findings on the frequency of workplace bullying from different sources are replicated.

It is acknowledged that this study was limited by the amount of information gathered on sources of workplace bullying. Limiting the number of items in the PULSE on sources of bullying reduced potential barriers to survey completion due to possible privacy and investigation concerns. Respondents were only asked to identify sources (i.e., superior, coworker, subordinate), not the number of perpetrators within each source. It remains unknown if there are large numbers of perpetrators at each level, or if only a small number of perpetrators exist, but manage to bully many people.
6.7.2 RQ3b, H2, H3. Relationship Between the Frequency and Perceived Effects of Experiencing Workplace Bullying

In regards to the subsequent perceived effects of workplace bullying (aim 2, RQ3b), respondents reported that workplace bullying from superiors had a greater detrimental effect than bullying from other sources. Over three times the proportion of employees sought medical and/or mental health care when experiencing bullying from superiors, compared to those experiencing these behaviours from subordinates or coworkers. Hypothesis 2 was supported.

As the frequency of experiencing workplace bullying increased, the perceived effects from this experience were more detrimental. At the lower levels of frequency, such as experiencing workplace bullying once or twice in the past six months, respondents were more likely to report no effect, or only being upset at the time. However, when bullying occurred at least weekly in the workplace over a six-month period, respondents were more likely to report that as a result they suffered ongoing distress and sought mental health care or medical attention. This pattern of results occurred regardless of the source of workplace bullying, and demonstrated support for Hypothesis 3.

6.7.3 RQ3c, H4. Associations of Experiencing Workplace Bullying from Different Sources with Psychological Distress, Affective Commitment, and Job Satisfaction

The third aim of this chapter was to assess if there were different associations with psychological distress, affective commitment, and job satisfaction based on where the source of bullying was coming from (RQ3c). Overall, experiencing workplace bullying from each source had positive associations with psychological distress and...
negative associations with affective commitment and job satisfaction (Hypothesis 4 supported). Across all three sources, as the frequency of bullying increased so too did psychological distress, and levels of affective commitment and job satisfaction decreased. These findings add to those reported earlier in the PhD that explored these associations without a breakdown of the source of workplace bullying.

When associations between the different sources of workplace bullying and each outcome were directly compared in multiple regressions, bullying from superiors had the strongest associations with psychological distress and job satisfaction, followed by coworkers, and then subordinates. The pattern changed slightly when comparing the associations of workplace bullying from all three sources with affective commitment. Bullying from superiors had the greatest association with affective commitment, followed by subordinates, and then coworkers. Hypothesis 4 was only partially supported due to the association between affective commitment and workplace bullying being stronger for subordinates than for coworkers. It should be noted that the association between workplace bullying from subordinates and affective commitment was statistically significant but weak.

The findings that bullying from superiors have stronger negative associations with job satisfaction and commitment, and a stronger positive association with psychological distress when compared to conflict among coworkers, align with those of previous studies (see Abas & Otto, 2016; Hershcovis & Barling, 2010; Török et al., 2016; Van Schalkwyk et al., 2011). Similarly, these findings are supported by those addressing the second aim of this chapter where respondents perceived more negative effects after experiencing workplace bullying from superiors compared to the other two sources.

In a military setting, the potential consequences of workplace bullying from superiors are wide reaching. A superior has an influence on a member’s future postings
and career through the performance review process, allocation of tasks, and support for attendance at training and promotion courses. This influence can subsequently impact on job satisfaction and commitment. In addition, due to the hierarchical nature of the military, superiors are in a positional power that could influence the behaviours of others within their command. That is, perhaps colleagues witness these bullying behaviours, and believe it to be acceptable to either join in the process, or commence bullying another member.

6.7.4 RQ3d, H5. Associations of the Number of Sources of Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction

The fourth aim of this chapter was to explore the associations of the number of sources of workplace bullying with psychological distress, affective commitment, and job satisfaction (RQ3d). Initial exploration found that if a military member was bullied from only one source, then it was more likely to be from superiors than from coworkers or subordinates. If bullied by two sources, then two-thirds of respondents reported the combination to be ‘superior and coworker’.

There were also greater odds of being bullied by another source if a respondent was already bullied by a source at least monthly. For example, the odds of being bullied at least monthly from coworkers were 45.3 times greater for those bullied at least monthly from subordinates compared to those not bullied. The associations of being bullied from different numbers of sources with psychological distress, affective commitment, and job satisfaction will now be discussed in turn.

As the number of sources of workplace bullying increased from zero through to two sources, so too did reported levels of psychological distress. There was no significant change in psychological distress levels from experiencing bullying from two sources versus three sources. It appears that once an employee is experiencing bullying
from at least two sources, more likely to be a combination of superiors and coworkers, bullying from another source, more likely to be a subordinate, does not significantly increase psychological distress. The multiple regression results (Table 6.11) support these findings, with superiors having a stronger association with psychological distress, followed by coworkers, then subordinates.

There was also a dose effect of experiencing workplace bullying from more than one source and the association with commitment. There was a significant drop in commitment when experiencing bullying from all three sources compared to one source, the one source more likely to be a superior. Again this reflects the multiple regressions for affective commitment (Table 6.13), where bullying from subordinates also had significant associations with affective commitment. Therefore, there was a further significant decrease in affective commitment when experiencing bullying from three sources because the prevalence of upwards bullying was high.

There was no dose effect of experiencing bullying from more than one source and the association with job satisfaction. As soon as an employee experiences workplace bullying there was a significant decrease in satisfaction, with no change if the number of sources increased. Multiple regressions (Table 6.12) showed that only bullying from superiors had a significant association with job satisfaction. Superiors were the most prevalent source if bullying was experienced from only one source. Therefore, it is not surprising that bullying from more than one source did not significantly reduce job satisfaction. There was only partial support for Hypothesis 5.

There were also no interactions between the different sources of workplace bullying in predicting the three outcomes. That is, across all outcomes, the association of experiencing workplace bullying from a source and each outcome was not influenced by experiencing bullying from another source.
6.7.5 *RQ3e and RQ3f. Differences in Predicted Probabilities and Sources of Workplace Bullying Based on Gender, Work Status, Service, and Rank of the Target*

The final aims of this chapter explored the relationships between sources of workplace bullying and the subgroup demographics of the target (i.e., gender, work status, Service, and rank). This was exploratory research to determine if (1) there were certain subgroups that had higher predictive probabilities of experiencing bullying from a particular source compared to others (aim 5, RQ3e), and (2) if the source or combination of sources differed based on the demographic subgroup of the target (aim 6, RQ3f).

The overall probability of experiencing workplace bullying differed based on the demographics of the targets (RQ3e). In this sample, those respondents working in the Air Force were at significantly higher risk of experiencing bullying from any of the three sources. Similarly, permanent personnel and NCO personnel had greater risks of bullying from any of the three sources compared to reservists and Officers respectively. Findings on the rates of exposure to workplace bullying reported earlier in Chapter 4 also showed higher exposure to workplace bullying from Air Force, NCO, or permanent personnel. It should be noted that the very small number of units that were mainly comprised of Air Force ($N = 4$), Navy ($N = 1$), or reserve ($N = 4$) respondents limits the generalisation of the prevalence findings to the broader ADF.

Experiencing workplace bullying from each source/combination of sources did not differ based on the subgroup demographic of the target (RQ3f). That is, the most prevalent source/combination of sources did not significantly vary based on the gender, work status, Service, or rank of the target. Any intervention or policy should be developed and focused at the organisation level.
6.8 Chapter Summary

Workplace bullying can occur from various sources in an organisation. Findings from this study showed the most prevalent sources of workplace bullying were superiors and coworkers, and that if bullying occurs, it is likely to occur from a combination of sources. Respondents perceive more negative effects, such as seeking medical attention and mental health care, from experiencing bullying from superiors. Bullying from this source also has stronger negative associations with affective commitment and job satisfaction and a stronger positive association with psychological distress than bullying from coworkers or subordinates. Investing in proper selection, training, and performance reviews of supervisors is warranted due to the associations found in this study between bullying from superiors and mental health and wellbeing.

Earlier findings in this thesis have shown that the associations of workplace bullying with psychological distress, affective commitment, and job satisfaction did not differ based on the demographic subgroup of the target. Results in this chapter have also shown that the most common source/s do not differ across these characteristics. Targeted policies or training for different demographic subgroups are not warranted.

The findings in this chapter point to climates of bullying in some workplaces where there is a high likelihood of experiencing bullying from more than one source. If a military member reported being bullied from one source at least once a month, they were far more likely to be bullied from another at this frequency (this ranged from 23 to 45 times more likely depending upon the combination of sources). Perhaps in these workplaces, those who initially witness these acts may believe that it is acceptable and tolerated to also participate in these behaviours, and this fosters an organisational climate of bullying.
Up until now, data have been analysed at the individual level, yet it is clear from the results in this chapter that there is an association between a workplace climate where bullying is occurring from multiple sources and the mental health and wellbeing of employees. The next chapter sets out to explore the group-level effects from the occurrence of bullying within the workplace. This exploration will help to build a better understanding of working in climates of high, and low, workplace bullying.
CHAPTER 7. INDIVIDUAL-LEVEL AND GROUP-LEVEL EFFECTS OF WORKPLACE BULLYING ON PSYCHOLOGICAL DISTRESS, AFFECTIVE COMMITMENT, AND JOB SATISFACTION

7.1 Chapter Overview

Workplace bullying has predominantly been conceptualised and investigated as an individual phenomenon (Ramsay et al., 2011). Throughout this dissertation, it has been demonstrated that employees exposed to bullying at work have lower organisational commitment, less job satisfaction, and poorer mental health, compared to those not bullied. The findings in the previous chapter show that if an employee experiences bullying then he/she is likely to experience it from more than one source. In some cases bullying is occurring from all three sources within an organisation (i.e., superiors, coworkers, and subordinates) and may indicate high-bullying climates. These climates could be reflective of broader negative workplace factors, such as poor leadership, lack of group cohesion, and unclear strategic direction. Being able to explore workplace bullying as an aspect of workplace climate contributes substantially to what is already known from research at the individual level.

Several researchers have identified the need to explore workplace bullying at more than just the individual level (e.g., Branch et al., 2013; Heames & Harvey, 2006; Neall & Tuckey, 2014; Ogunfowora, 2013; Rai & Agarwal, 2016; Ramsay et al., 2011; Skogstad et al., 2011), and to include interactions between levels, such as between individuals and the group or organisation in which they work (Heames & Harvey, 2006). Multilevel modelling allows for the assessment of the group-level effects of bullying at the same time that individual-level effects are explored. This type of analyses also allows for interactions to explore being the sole target of bullying within a
workplace, or alternatively being one of many targets in a workgroup with a climate high in workplace bullying.

The ADF is a structured hierarchical organisation, comprising individual military units. Units can range in size from very small (e.g., 15 members) to relatively large (e.g., 600 members). Military units can comprise members of the three Services—Navy, Army, and Air Force—in what are known as tri-Service establishments, although the majority of units comprise personnel from single Services. Information collected within formed units allows for modelling the relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction of ADF personnel at the individual and unit level.

This chapter commences with a discussion of workplace bullying at different levels within an organisation and provides a critique of the literature on the multilevel effects of workplace bullying. Data will be analysed to determine the associations between individual-level and group-level (unit) bullying with affective commitment, job satisfaction, and psychological distress. The interaction between individual- and group-level bullying will also be explored to assess the implications of working in a climate where workplace bullying is prevalent.

7.2 Exploring Workplace Bullying at Multiple Levels

Given that workplace bullying is a multifaceted phenomenon, influenced by individuals, workgroup, organisation, and society (Heames & Harvey, 2006), there is a need to examine the interaction between levels, rather than continuing to investigate them in isolation from each other (Branch et al., 2013). To assist in this exploration, a model of workplace bullying first proposed by Branch et al. (2013) and discussed briefly in Section 2.6, is presented again in Figure 7.1. While the authors claim that this model is a reflection of existing frameworks, it also seeks to make the processes of
workplace bullying more salient as depicted via individual responses, group dynamics within organisations, and the cyclical nature of interactions that ultimately lead to the label of workplace bullying.


The model brings to the forefront the importance of group characteristics and group responses, which other well-known workplace bullying models either mention in passing (Einarsen, 2000b; Einarsen et al., 2011) or not at all (e.g., Flores, Tovar, & Vilchis, 2014; Poilpot-Rocaboy, 2006).

The group level is an important structural conduit between the individual and the organisation. It is the individual’s immediate workgroup that is more likely to exert influence on the individual than the larger, more peripheral, groups such as the organisation (Hauge et al., 2011). Although individual workplace bullying has been
associated with deteriorating workgroup cohesion and communication (Heames & Harvey, 2006), theoretical and empirical studies of bullying at the group level of analysis are limited (Ramsay et al., 2011). Occupational stress models, such as the Job Demand-Control model, have been applied in a multilevel modelling approach to demonstrate the importance of both individual- and group-level factors in predicting employee health (de Jonge et al., 1999), and will be used as a framework again for analyses within this chapter.

7.3 Multilevel Effects of Workplace Bullying

The scarcity of workplace bullying research that includes more than just analysis at the individual level has been noted by researchers in the field (Branch et al., 2013; Einarsen et al., 2011; Heames & Harvey, 2006; Neall & Tuckey, 2014; Ogunfowora, 2013; Ramsay et al., 2011; Skogstad et al., 2011). While research has commenced on identifying variables that influence workplace bullying at the individual and group level (e.g., Escartín, Ullrich, Zapf, Schlüter, & van Dick, 2013; Hauge et al., 2011; Mageroy et al., 2009; Skogstad et al., 2011), the scarcity of research is still apparent in identifying group-level effects of workplace bullying. Therefore, broadening out the literature on workplace bullying to also include research on undermining and abusive supervision will assist in framing hypotheses for this current study.

7.3.1 Individual-level and Group-level Negative Organisational Behaviours

The premise behind exploring negative workplace behaviours beyond the individual level is that the pervasive nature of these behaviours often results in a climate of workplace bullying. The impact of working within these climates was explored in a longitudinal study of nurses working within 41 hospitals in a western Canadian city (Houshmand, O’Reilly, Robinson, & Wolff, 2012). In this study, working in an
environment characterised by high rates of bullying at Time 1 predicted an increase in employees’ turnover intentions two months later at Time 2. The positive relationship between group-level bullying and turnover intentions was stronger for those who infrequently experienced bullying, compared with those who were bullied often. The authors proposed that although individuals may experience moral indignation at witnessing other people being bullied, the added discrepancy between how they are treated compared to other’s poorer treatment can ‘fuel’ a sense of moral outrage or at least moral uneasiness. As a result, those who are not the direct target of bullying will seek to leave an organisation out of disgust and protest toward the perpetrators and toward the organisation which does not prevent the bullying or reprimand the perpetrators.

Ogunfowora (2013) assessed the relationships of ‘abusive supervision variability’ with affective commitment and employee satisfaction with the supervisor. The term *abusive supervision variability* described the unit-level phenomenon that occurred when a supervisor engaged in differential abusive treatment toward employees who belonged to the same work unit. High abusive-supervisor variability meant that, according to employee ratings, the supervisor would only abuse certain employees within the workgroup and not others. The interpersonal climate of the workgroup mediated the impact of this variability. In workgroups where supervisors would differentially abuse some employees, there were lower levels of reported affective commitment and supervisor satisfaction because of the overall negative climate of the workgroup. Non-targeted employees also displayed poor commitment and satisfaction because they were immersed in a climate where they regularly witnessed the unfair interpersonal treatment of others (Ogunfowora, 2013).

Work environments characterised by high rates of bullying are linked to high turnover intentions and low employee satisfaction for those who directly experience
these acts and for those who observe these behaviours (Houshmand et al., 2012; Ogunfowora, 2013). Where workplaces have low rates of bullying, Duffy, Ganster, Shaw, Johnson, and Pagon (2006) proposed that the effects of bullying are worse for those targets who are ‘singled out’. Duffy et al. (2006) explored this hypothesis in a study examining coworker and supervisor undermining across members of a police unit. Results showed that group-level supervisor undermining moderated the relationship between individual-level supervisor undermining and individual outcomes of job satisfaction, depression, counterproductive workplace behaviours, and intention to quit. The relationships between individual-level supervisor undermining and outcomes were stronger when group-level supervisor undermining was low than when group-level supervisor undermining was high. In addition, group-level coworker undermining moderated the relationship between individual-level coworker undermining and individual outcomes of depression and intention to quit. Again, the relationships between individual-level undermining and outcomes of depression and intention to quit were stronger when group-level coworker undermining was low rather than high. The authors concluded that this pattern supported a ‘singled out’ hypothesis in which the level of victimization within a group moderates the relationship between individual perceptions of victimization and outcomes. Being the sole target of bullying in the workplace is associated with more harm to an individual’s work satisfaction, commitment, and mental health because that individual knows that the perpetrator could act differently towards them.

A consistent finding across all these studies is that the work environment influences the occurrence and effects of bullying. The work-environment hypothesis proposed that workplace bullying is primarily a consequence of prevailing environmental conditions within organisations (Agervold & Mikkelsen, 2004). Environments high in bullying have been shown to have poor leadership, lack of role
clarity, high role ambiguity, and poor working conditions (Hauge et al., 2011; Samnani & Singh, 2012; Samnani & Singh, 2016; Spagnoli & Balducci, 2017). When working in these high-bullying climates there are links to poorer mental health and wellbeing on both those exposed to bullying and those observing the behaviours. Working in low-bullying climates, yet experiencing workplace bullying, is also associated with poorer outcomes for those targeted.

7.4 Research Questions and Hypotheses

The two main aims of this chapter are to:

1. assess the individual- and group-level effects of workplace bullying on psychological distress, affective commitment, and job satisfaction; and

2. explore the associations of experiencing bullying with psychological distress, affective commitment, and job satisfaction in high- and low-bullying climates.

This study will focus on two levels within the organisation: the individual and group level. The group level is defined as the ADF unit to which the military member has been posted. An ADF unit often has its own distinct sub-culture (Brown, 2013), with its own slogan (e.g., Special Air Services Regiment’s slogan is Who Dares Wins), insignia, and unit colour patch worn on the uniform by each member of that unit. These traditions are aimed at instilling a cohesive bond among members.

Individual-level analyses from Chapters 3 through 6 have confirmed the negative associations between experiencing workplace bullying and reported levels of affective commitment and job satisfaction, and the positive association between bullying and psychological distress. This chapter will also analyse individual-level factors, however the main focus will be to create and test group-level factors through
multilevel modelling, and to explore interactions between individual-level and group-level workplace bullying.

This chapter addresses the final two research questions of this PhD. Hypotheses are presented under the corresponding question:

**RQ4.** What are the relationships of group-level workplace bullying with psychological distress, affective commitment, and job satisfaction?

**Hypothesis 1.** Workplace bullying at the group level will be positively related to individual psychological distress, and negatively related to affective commitment and job satisfaction, after controlling for bullying at the individual level.

**RQ5.** What are the associations of experiencing bullying with psychological distress, affective commitment, and job satisfaction in high- and low-bullying climates?

**Hypothesis 2.** Compared to those working in low-bullying climates, those working in high-bullying climates yet not personally experiencing bullying will report higher psychological distress, and lower affective commitment and job satisfaction.

**Hypothesis 3.** The relationship between an individual experiencing workplace bullying and individual levels of psychological distress, affective commitment, and job satisfaction will be stronger when there is a low-bullying climate than when there is a high-bullying climate.
7.5 Method

7.5.1 Sample

The Study 2 ADF sample was again used for the analyses in this chapter, and demographics have been detailed in Section 5.5.2, with a summary listed in Table 7.1 for ease of reference. Also included are numbers of respondents within the group-level variables of Type, Purpose, and Size of Units.

Table 7.1.
Demographic Characteristics of Sample

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>2,463 (83.2%) Males</td>
</tr>
<tr>
<td>Females</td>
<td>399 (13.5%) Females</td>
</tr>
<tr>
<td>Unknown</td>
<td>98 (3.3%) Unknown</td>
</tr>
<tr>
<td>Service</td>
<td></td>
</tr>
<tr>
<td>Royal Australian Navy</td>
<td>184 (6.2%) Royal Australian Navy</td>
</tr>
<tr>
<td>Australian Regular Army</td>
<td>2,125 (71.8%) Australian Regular Army</td>
</tr>
<tr>
<td>Royal Australian Air Force</td>
<td>651 (22.0%) Royal Australian Air Force</td>
</tr>
<tr>
<td>Military Work Status</td>
<td></td>
</tr>
<tr>
<td>Permanent Force</td>
<td>2,371 (80.1%) Permanent Force</td>
</tr>
<tr>
<td>Reserve Force</td>
<td>585 (19.8%) Reserve Force</td>
</tr>
<tr>
<td>Unknown</td>
<td>4 (0.1%) Unknown</td>
</tr>
<tr>
<td>Rank</td>
<td></td>
</tr>
<tr>
<td>Non-Commissioned Officers (NCO)</td>
<td>2,230 (76.1%) Non-Commissioned Officers</td>
</tr>
<tr>
<td>Officers</td>
<td>700 (23.9%) Officers</td>
</tr>
<tr>
<td>Unit Type</td>
<td></td>
</tr>
<tr>
<td>Air Force units (N = 527)</td>
<td>4 Air Force units (N = 527)</td>
</tr>
<tr>
<td>Army units (N = 1,420)</td>
<td>8 Army units (N = 1,420)</td>
</tr>
<tr>
<td>Tri-Service units (N = 1,013)</td>
<td>9 Tri-Service units (N = 1,013)</td>
</tr>
<tr>
<td>Support units (N = 891)</td>
<td>7 Support units (N = 891)</td>
</tr>
<tr>
<td>HQ/Training units (N = 1,013)</td>
<td>9 HQ/Training units (N = 1,013)</td>
</tr>
<tr>
<td>Operational units (N = 1,056)</td>
<td>5 Operational units (N = 1,056)</td>
</tr>
<tr>
<td>Unit Purpose</td>
<td></td>
</tr>
<tr>
<td>Small units (N = 430)</td>
<td>7 Small units (N = 430)</td>
</tr>
<tr>
<td>Medium units (N = 873)</td>
<td>7 Medium units (N = 873)</td>
</tr>
<tr>
<td>Large units (N = 1,657)</td>
<td>7 Large units (N = 1,657)</td>
</tr>
</tbody>
</table>
7.5.2 Procedure and Measures

The procedure and most measures for Study 2 are outlined in Chapters 3 and 4. Seven group-level variables were analysed as part of the multilevel modelling. These variables are described in Table 7.2. A variable was also created to assess the interaction between the centered individual-level bullying (Individual Bullying) and the centered climate of bullying in the workplace (Group-level Experiencing Bullying) variables.
Table 7.2.

*Group-level Independent Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group-level experiencing bullying</td>
<td>The proportion of respondents experiencing bullying at least ‘sometimes’ was calculated for each unit. This proportion was divided by 10 and centered for ease of interpretation of the interaction. Centering was calculated by subtracting the mean of unit means from this proportion. The final value for a unit was assigned to all respondents within that unit.</td>
</tr>
<tr>
<td>Group-level witnessing bullying</td>
<td>The proportion of respondents within each unit witnessing bullying as least ‘sometimes’ was calculated and this number was assigned to all respondents within the respective units.</td>
</tr>
</tbody>
</table>
| Unit type                                      | **Tri-Service**: unit comprising Navy, Army, and Air Force personnel  
Air Force: unit comprising Air Force personnel  
Army: unit comprising Army personnel |
| Unit purpose                                   | **HQ/Training**: core role to generate policy or administration instructions, or to develop military personnel within academic/training institutions.  
**Support**: core function to support military members with medical/health, logistics or base security support.  
**Operational**: core function is combat, either in operationally deployed role or in front-line support to operations. |
| Unit size                                      | Actual size of the unit, not number of respondents.  
**Small** \( N < 120 \)  
**Medium** \( 120 \leq N \leq 200 \)  
**Large** \( N > 200 \) |
| Confidence in action                           | The proportion of respondents within each unit agreeing that reported bullying would be acted on was calculated, and this number was assigned to all respondents within the respective units. |
| Reporting climate                              | The proportion of respondents within each unit agreeing that they would report bullying was calculated, and this number was assigned to all respondents within the respective units. |
7.6 Statistical Analyses

Descriptive analyses and Spearman’s rho correlations were examined to explore the relationships between workplace bullying and each outcome measure at the group (unit) level.

The majority of the analyses in this chapter focused on multilevel modelling. Multilevel modelling incorporates both individual- and group-level variables into one statistical model. This technique was feasible in this study because employees were nested within military units. This form of modelling enables the division of the total variance into within-unit and between-unit variability and evaluates associations between variables at the individual (employee) and group (unit) levels separately.

Stata Statistical Software release 14 was used to conduct multilevel modelling. Each dependent variable was first assessed to determine if there was evidence of adequate variability at the group level to pursue multilevel modelling. The variance partition coefficient (VPC) was calculated to ascertain the variance that could be attributed to differences between units. Likelihood ratio tests compared a single-level regression model for the mean of each dependent variable with no explanatory variables (Outcome$_i = \beta_0 + \varepsilon_i$) with the simplest form of a multilevel model, which allowed for group differences in the mean of each dependent variable (Model 1).

Model 1 is an intercept-only model (null model) that identifies the two components of variation: between units (level 2 variance) and between individuals within a unit (level 1 variance). In this model, the outcome for individual $i$ in unit $j$ reflects the overall average outcome (intercept $\beta_0$), and the difference in the average outcome of unit $j$ from the overall average ($\mu_{0j}$), and the difference in individual $i$ within unit $j$ from the unit $j$ average ($\varepsilon_{ij}$).
Model 1.

\[ \text{Outcome}_{ij} = \beta_0 + \mu_{0j} + \varepsilon_{ij} \]

The subsequent models included in the model building process are presented below.

Model 2. A random intercept model with a fixed slope and one fixed level 1 factor (i.e., the individual-level predictor of bullying).

\[ \text{Outcome}_{ij} = \beta_0 + \mu_{0j} + \beta_1 \text{IndividualBullying}_{ij} + \varepsilon_{ij} \]

Model 3. A random intercept model with a fixed slope and four fixed level 1 factors of individual-level bullying, age, gender, and rank.

\[ \text{Outcome}_{ij} = \beta_0 + \mu_{0j} + \beta_1 \text{IndividualBullying}_{ij} + \beta_2 \text{Age}_{ij} + \beta_3 \text{Gender}_{ij} + \beta_4 \text{Rank}_{ij} + \varepsilon_{ij} \]

Model 4. A random intercept model with a fixed slope and fixed level 1 and level 2 factors. The number of level 2 covariates varied slightly across outcome.

\[ \text{Outcome}_{ij} = \beta_0 + \mu_{0j} + \beta_1 \text{IndividualBullying}_{ij} + \beta_2 \text{Age}_{ij} + \beta_3 \text{Gender}_{ij} + \beta_4 \text{Rank}_{ij} + \beta_5 \text{GrouplevelExperiencingBullying}_j + \beta_6 \text{AnyOtherCovariates}_j + \varepsilon_{ij} \]

Model 5. A random intercept model with a fixed slope and fixed level 1 and level 2 factors and an interaction between individual- and group-level bullying. Again, the final model varied slightly across level 2 covariates.

\[ \text{Outcome}_{ij} = \beta_0 + \mu_{0j} + \beta_1 \text{IndividualBullying}_{ij} + \beta_2 \text{Age}_{ij} + \beta_3 \text{Gender}_{ij} + \beta_4 \text{Rank}_{ij} + \beta_5 \text{GrouplevelExperiencingBullying}_j + \beta_6 \text{AnyOtherCovariates}_j + \beta_7 \text{GrouplevelExperiencingBullying}_j \times \text{IndividualBullying}_{ij} + \varepsilon_{ij} \]
Comparison was made between one model with a further model that added additional effects, by calculating and testing the difference of the likelihood ratio test statistics between the two models. If the difference between these two statistics was not significant then there was no significant change in the between-unit variation in the outcome measure after accounting for the variables in the first model. If the difference was significant, the model with the larger log likelihood statistic was deemed the model with better overall fit (Beauchamp, Bray, Fielding, & Eys, 2005). The degree to which the estimated level 2 variance decreased after entering additional variables indicated how well the model explained the between-unit variance.

All of the models entered predictors as fixed effects. Fixed effects assume that each factor is related to the dependent variable in the same way across units. To assess if there was a difference between individual-level bullying and each outcome across units, a test of random slopes and random intercepts was conducted and compared to Model 2. For each dependent variable, there was no significant difference between Model 2 and the random slopes model. Therefore, all future models were tested with fixed slopes.

7.7 Results

7.7.1 Explanatory Variables and Their Measurement

There was a great deal of variability between ADF units in the proportion of employees experiencing workplace bullying (Figure 7.2). In units where the bullying climate was low, fewer than one in ten employees reported experiencing workplace bullying at least monthly in their unit. When the bullying climate was high, over half of the unit reported experiencing these behaviours. There was no relationship between the proportion of the unit experiencing bullying and the unit’s size.
There was similar variability between ADF units in the proportion of employees witnessing workplace bullying (Figure 7.3). More employees reported witnessing bullying in their unit compared to the number experiencing these behaviours. This increase is to be expected given that a single negative event can be witnessed by many employees. Again, when the bullying climate was low, around one in ten employees reported witnessing a bullying behaviour at least monthly. However, when the bullying climate was high, over half the members of the unit were witnessing these events. There was no relationship between unit size and the proportion of employees witnessing workplace bullying.
Figure 7.3. ADF units by proportion witnessing one or more workplace bullying behaviours at least monthly

At the group level, the correlation between *Group-level Experiencing Bullying* and *Group-level Witnessing Bullying* was extremely high ($r = .97, p < .001$). To achieve a parsimonious fit, only one of these two variables was required during the building of multilevel models. Because of its inclusion in the interaction term in the final model, the variable *Group-level Experiencing Bullying* was chosen for inclusion in model development.

There was also variability across units on average scores on psychological distress (K10), job satisfaction, affective commitment, and the total score on the bullying measure. Spearman’s rho correlations confirmed the relationships that can be visually seen in Figure 7.4 and Figure 7.5. There was a significant, positive relationship between experiencing workplace bullying within a unit and the level of psychological distress ($r_s = .66, p < .01$). There were significant, negative associations of experiencing
workplace bullying within a unit with affective commitment and job satisfaction

\( r_s = -0.86 \) and \( r_s = -0.72 \) respectively, both \( p < .01 \).

**Figure 7.4.** Reported psychological distress and workplace bullying by ADF units

**Figure 7.5.** Average affective commitment and job satisfaction by ADF units
7.7.2 Multilevel Variables Influencing Psychological Distress

Variability at the group (unit) level was assessed to determine if multilevel analyses should be conducted. There was evidence of adequate variability at the group level for psychological distress. As shown in Table 7.3, 4.68% of the variance in psychological distress was attributed to differences between units.

Table 7.3.

Residual Variance Components and Variance Partition Coefficient for Psychological Distress

<table>
<thead>
<tr>
<th>Psychological distress</th>
<th>Variance between individuals $\sigma^2 (\varepsilon_i)$</th>
<th>36.39 (.95)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Variance between units $\sigma^2 (\mu_{ij})$</td>
<td>1.79 (.64)</td>
</tr>
<tr>
<td>Proportion of variance at the unit level (VPC)</td>
<td>.0468</td>
<td></td>
</tr>
</tbody>
</table>

*$N = 2,939.$

To test for the significance of these unit effects, a likelihood ratio test was conducted that compared the null single-level model with the null multilevel (intercept-only) model. Table 7.4 reports the results of this test. There was a significant improvement to the model fit when the random unit effects were added, providing justification for employing a multilevel model to explore group-level effects.

Table 7.4.

Likelihood Ratio Test Statistics for Psychological Distress

<table>
<thead>
<tr>
<th>Psychological Distress</th>
<th>Log likelihood value of unconditional model (with only the DV)</th>
<th>Log likelihood value of multilevel model (with random intercept added)</th>
<th>Likelihood ratio test statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Distress</td>
<td>-.9529.22</td>
<td>-.9472.43</td>
<td>113.59**</td>
</tr>
</tbody>
</table>

* $p < .05.$ ** $p < .01.$
Before building a multilevel model, each individual- and group-level factor was individually assessed against the null model for psychological distress. As shown in Table 7.5, three individual-level and three group-level variables significantly improved the fit against the null model. The individual-level variable, Gender, did not significantly improve model fit when tested against the null model. However, due to its possible relationship with each of the outcomes, it was retained and entered as a block with age and rank.
## Table 7.5.

**Multilevel Model Parameter Estimates for Individual and Group-level Predictors of Psychological Distress: Testing Against a Null Model (21 Units, N = 2,807)**

<table>
<thead>
<tr>
<th>Predictor of psychological distress</th>
<th>Model estimate (SE)</th>
<th>Residual ICC</th>
<th>LR test of individual predictor and null model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null model</td>
<td>36.31 (.97)</td>
<td>4.60%</td>
<td></td>
</tr>
<tr>
<td><strong>Level 1 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Bullying</td>
<td>.69 (.03)</td>
<td>2.36%</td>
<td>417.63**</td>
</tr>
<tr>
<td>Age</td>
<td>-.41 (.09)</td>
<td>3.97%</td>
<td>19.31**</td>
</tr>
<tr>
<td>Rank</td>
<td>-.66 (.32)</td>
<td>4.44%</td>
<td>4.22*</td>
</tr>
<tr>
<td>Gender</td>
<td>.24 (.34)</td>
<td>4.64%</td>
<td>.48 ns</td>
</tr>
<tr>
<td><strong>Level 2 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying</td>
<td>.78 (.18)</td>
<td>2.04%</td>
<td>13.46**</td>
</tr>
<tr>
<td>Group-level Witnessing Bullying</td>
<td>.07 (.02)</td>
<td>2.11%</td>
<td>12.54**</td>
</tr>
<tr>
<td>Reporting Climate</td>
<td>-.12 (.05)</td>
<td>3.48%</td>
<td>3.93*</td>
</tr>
<tr>
<td>Confidence in Action</td>
<td>-.11 (.06)</td>
<td>3.61%</td>
<td>3.12 ns</td>
</tr>
<tr>
<td>Unit Type (Base: Tri-service)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Army</td>
<td>.37 (.70)</td>
<td>4.41%</td>
<td>.66 ns</td>
</tr>
<tr>
<td>Air Force</td>
<td>.68 (.86)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Purpose (Base: Support)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HQ/Training</td>
<td>.00 (.70)</td>
<td>2.29%</td>
<td>2.44 ns</td>
</tr>
<tr>
<td>Operational</td>
<td>1.10 (.78)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Size (Base: Small)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>-.15 (.13)</td>
<td>6.89%</td>
<td>.23 ns</td>
</tr>
<tr>
<td>Large</td>
<td>-.16 (.13)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7.6 shows the results of testing each model described in Section 7.6. After introducing the individual-level experience of workplace bullying (Model 2), the percentage of total residual group-level variance in psychological distress was reduced by half.
Table 7.6.
**Multilevel Model Parameter Estimates for Individual- and Group-level Predictors of Psychological Distress (21 Units, N = 2,807)**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1 estimate (SE)</th>
<th>Model 2 estimate (SE)</th>
<th>Model 3 estimate (SE)</th>
<th>Model 4 estimate (SE)</th>
<th>Model 5 estimate (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>15.11 (.32)**</td>
<td>15.14 (.25)**</td>
<td>15.66 (.62)**</td>
<td>15.60 (.63)**</td>
<td>15.86 (.63)**</td>
</tr>
<tr>
<td><strong>Level 1 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Bullying</td>
<td>.69 (.03)**</td>
<td>.68 (.03)**</td>
<td>.68 (.03)**</td>
<td>.78 (.04)**</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-24 (.09)**</td>
<td>-23 (.09)**</td>
<td>-24 (.09)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td>-.05 (.30)</td>
<td>-.03 (.30)</td>
<td>-.03 (.30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.31 (.32)</td>
<td>.32 (.32)</td>
<td>.27 (.32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level 2 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying</td>
<td>.10 (.18)</td>
<td></td>
<td></td>
<td>.14 (.18)</td>
<td></td>
</tr>
<tr>
<td><strong>Cross level effect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying x Individual Bullying</td>
<td></td>
<td></td>
<td></td>
<td>-.11 (.02)**</td>
<td></td>
</tr>
<tr>
<td><strong>Random effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance (intercept)</td>
<td>1.75 (.64)</td>
<td>.76 (.32)</td>
<td>.76 (.33)</td>
<td>.74 (.32)</td>
<td>.72 (.32)</td>
</tr>
<tr>
<td>Variance (residual)</td>
<td>36.30 (.97)</td>
<td>31.41 (.84)</td>
<td>31.31 (.84)</td>
<td>31.31 (.84)</td>
<td>31.10 (.83)</td>
</tr>
<tr>
<td><strong>Model fit statistics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% group-level variance</td>
<td>4.60%</td>
<td>2.37%</td>
<td>2.36%</td>
<td>2.30%</td>
<td>2.27%</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-9046.96</td>
<td>-8838.04</td>
<td>-8833.56</td>
<td>-8833.40</td>
<td>-8823.59</td>
</tr>
<tr>
<td>LR Test</td>
<td>M1 vs M2 417.84**</td>
<td>M2 vs M3 8.96*</td>
<td>M3 vs M4 .32</td>
<td>M3 vs M5 19.94**</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Model 1: Intercept only.
Model 2: Introduced individual-level workplace bullying as a fixed effect.
Model 3: Introduced individual-level factors of age, gender, and rank as fixed effects.
Model 4: Introduced group-level experiencing workplace bullying as a fixed effect.
Model 5: Introduced the interaction of group-level and individual-level experiencing workplace bullying.
The addition of the remaining individual-level predictors of age, gender, and rank (Model 3), significantly improved model fit but only accounted for a very small proportion of residual group-level variance.

Several iterations of models were tested with the group-level variables previously found to be significant contributors: group-level experiencing and witnessing bullying, and reporting climate. The introduction of these group-level variables did not improve model fit and these group-level variables were therefore not included in subsequent models apart from the group-level measure of experiencing workplace bullying. Model 4 shows the non-significant group-level experience of workplace bullying introduced so that the interaction between individual- and group-level bullying could be tested (Model 5). As this measure was not significantly associated with psychological distress after controlling for bullying at the individual level, Hypothesis 1 was not supported. In the final Model 5, the combined effect of the individual- and group-level variables reduced the level 2 (group-level) variance component to 2.27%, half of the total residual group-level variability in psychological distress. Individual-level bullying also explained over half of the variability of psychological distress between individuals (displayed as the variance intercept). Other variables did not appear to account for much variability at this individual level.

The introduction of the interaction between individual- and group-level bullying was significant in the final model and improved overall fit. Figure 7.6 graphically shows this interaction between a unit where the proportion experiencing bullying is low (low climate of bullying) and a unit where the proportion experiencing bullying is high (high climate of bullying).
For those individuals who were not the direct target of being bullied, but who worked in units where workplace bullying was experienced by a large number of people, reported psychological distress levels were higher than for those individuals not bullied and who worked in units with low-bullying climates (Hypothesis 2 was supported). However, as the direct experience of bullying increased from never experiencing bullying (score of 6), there was a steeper increase in psychological distress for those working in units with low rates of bullying (Hypothesis 3 was supported). Ultimately, when experiencing ‘moderate’ levels of bullying (score of 18), for example, experiencing at least four of the six bullying behaviours at least monthly, similar levels of psychological distress were reported regardless of the climate of bullying in the workplace.

Figure 7.6. Individual experience of workplace bullying by psychological distress by bullying climate

<table>
<thead>
<tr>
<th>Individual-level Psychological Distress</th>
<th>Individual-level Bullying</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>22</td>
<td>12</td>
</tr>
<tr>
<td>24</td>
<td>13</td>
</tr>
<tr>
<td>26</td>
<td>14</td>
</tr>
<tr>
<td>28</td>
<td>15</td>
</tr>
<tr>
<td>30</td>
<td>16</td>
</tr>
</tbody>
</table>

Low Climate of Bullying

High Climate of Bullying
7.7.3 Multilevel Variables Influencing Affective Commitment

Variability of affective commitment at the group (unit) level was assessed to determine if multilevel analyses should be conducted. There was evidence of adequate variability. As shown in Table 7.7, 7.32% of the variance in affective commitment was attributed to differences between units.

Table 7.7.
Residual Variance Components and Variance Partition Coefficient for Affective Commitment

<table>
<thead>
<tr>
<th>Affective Commitmenta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between individuals $\sigma^2 (e_i)$</td>
</tr>
<tr>
<td>Variance between units $\sigma^2 (\mu_j)$</td>
</tr>
<tr>
<td>Proportion of variance at the unit level (VPC)</td>
</tr>
</tbody>
</table>

*N = 2,935.

To test for the significance of these unit effects, a likelihood ratio test was conducted that compared the null single-level model with the null multilevel model. Table 7.8 reports the results of this test. There was a significant improvement to the model fit when the random unit effects were added, providing justification for employing a multilevel model to explore group-level effects.

Table 7.8.
Likelihood Ratio Test Statistics for Affective Commitment

<table>
<thead>
<tr>
<th>Affective Commitment</th>
<th>Log likelihood value of unconditional model (with only the DV)</th>
<th>Log likelihood value of multilevel model (with random intercept added)</th>
<th>Likelihood ratio test statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-3691.33</td>
<td>-3555.97</td>
<td>270.72**</td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01.
Before building a multilevel model, each individual- and group-level factor was individually assessed against the null model for affective commitment. As shown in Table 7.9, three individual-level and five group-level variables significantly improved the fit against the null model.

The correlation between the two group-level variables, Reporting Climate and Confidence in Action, was very high ($r = .80, \ p < .001$). To achieve a parsimonious fit, the variable with the greatest unique individual contribution (i.e., largest model estimate and largest amount of residual group-level variance accounted for) was retained for subsequent model building. Based on this criterion, Reporting Climate was chosen.
Table 7.9.
Multilevel Model Parameter Estimates for Individual- and Group-level Predictors of Affective Commitment: Testing Against a Null Model (21 Units, N = 2,807)

<table>
<thead>
<tr>
<th>Predictor of affective commitment</th>
<th>Model estimate (SE)</th>
<th>Residual ICC</th>
<th>LR test of individual predictor and null model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null model</td>
<td>3.77 (.05)</td>
<td>7.42%</td>
<td></td>
</tr>
<tr>
<td><strong>Level 1 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Bullying</td>
<td>-.04 (.00)</td>
<td>5.87%</td>
<td>73.44**</td>
</tr>
<tr>
<td>Age</td>
<td>.08 (.01)</td>
<td>5.65%</td>
<td>43.90**</td>
</tr>
<tr>
<td>Rank</td>
<td>.28 (.04)</td>
<td>5.71%</td>
<td>44.35**</td>
</tr>
<tr>
<td>Gender</td>
<td>-.03 (.05)</td>
<td>7.46%</td>
<td>.53 ns</td>
</tr>
<tr>
<td><strong>Level 2 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying</td>
<td>-.13 (.03)</td>
<td>3.47%</td>
<td>14.57**</td>
</tr>
<tr>
<td>Group-level Witnessing Bullying</td>
<td>-.01 (.00)</td>
<td>4.16%</td>
<td>10.81**</td>
</tr>
<tr>
<td>Reporting Climate</td>
<td>.04 (.00)</td>
<td>2.67%</td>
<td>17.01**</td>
</tr>
<tr>
<td>Confidence in Action</td>
<td>.02 (.00)</td>
<td>4.51%</td>
<td>8.06**</td>
</tr>
<tr>
<td>Unit Type (Base: Tri-service)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Army</td>
<td>-.24 (.10)</td>
<td>5.87%</td>
<td>4.89 ns</td>
</tr>
<tr>
<td>Air Force</td>
<td>-.16 (.13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Purpose (Base: Support)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HQ/Training</td>
<td>.06 (.09)</td>
<td>3.45%</td>
<td>14.18**</td>
</tr>
<tr>
<td>Operational</td>
<td>-.35 (.10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Size (Base: Small)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>-.15 (.13)</td>
<td>6.89%</td>
<td>1.89 ns</td>
</tr>
<tr>
<td>Large</td>
<td>-.16 (.13)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7.10 shows the results of testing each model described in Section 7.6. After introducing the individual-level experience of workplace bullying (Model 2), the percentage of total residual group-level variance in affective commitment reduced by a fifth.

The addition of the remaining individual-level predictors of age, gender, and rank, (Model 3) significantly improved model fit, and further reduced the group-level variance by a third. Entering the group-level variables (Model 4) also significantly improved model fit and explained almost all of the residual variance in affective commitment at the unit level. The introduction of the interaction between individual- and group-level bullying (Model 5) did not improve model fit. However, group-level bullying was significantly associated with affective commitment after controlling for bullying at the individual level, demonstrating support for Hypothesis 1.

Almost all of the residual group-level variability in affective commitment was accounted for by the variables in Model 4. Many of these variables aligned with results reported earlier in this thesis (e.g., experiencing workplace bullying was associated with less affective commitment). Similarly, these variables explained all the variability of affective commitment between individuals.
Table 7.10.
Multilevel Model Parameter Estimates for Individual- and Group-level Predictors of Affective Commitment (21 Units, N = 2,807)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1 estimate (SE)</th>
<th>Model 2 estimate (SE)</th>
<th>Model 3 estimate (SE)</th>
<th>Model 4 estimate (SE)</th>
<th>Model 5 estimate (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.77 (.05)**</td>
<td>3.77 (.05)**</td>
<td>3.28 (.09)</td>
<td>2.34 (.42)**</td>
<td>2.30 (.40)**</td>
</tr>
<tr>
<td>Level 1 fixed effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Bullying</td>
<td>-.04 (.00)**</td>
<td>-.04 (.00)**</td>
<td>-.04 (.00)**</td>
<td>-.04 (.01)**</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.06 (.01)**</td>
<td>.06 (.01)**</td>
<td>.06 (.01)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td>.23 (.04)**</td>
<td>.25 (.04)**</td>
<td>.25 (.04)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.02 (.04)</td>
<td>-.05 (.04)</td>
<td>-.05 (.04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 2 fixed effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying</td>
<td></td>
<td></td>
<td>-.03 (.02)</td>
<td>-.04 (.02)*</td>
<td></td>
</tr>
<tr>
<td>Reporting Climate</td>
<td></td>
<td></td>
<td>.01 (.00)**</td>
<td>.01 (.00)**</td>
<td></td>
</tr>
<tr>
<td>Unit Purpose (Base: Support)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HQ/Training</td>
<td>-.21 (.04)**</td>
<td>-.21 (.04)**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td>-.28 (.05)**</td>
<td>-.27 (.05)**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross level effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying x Individual Bullying</td>
<td></td>
<td></td>
<td></td>
<td>.00 (.00)</td>
<td></td>
</tr>
<tr>
<td>Random effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance (intercept)</td>
<td>.05 (.02)</td>
<td>.04 (.00)</td>
<td>.03 (.01)</td>
<td>.00 (.00)</td>
<td>.00 (.00)</td>
</tr>
<tr>
<td>Variance (residual)</td>
<td>.64 (.02)</td>
<td>.62 (.02)</td>
<td>.61 (.02)</td>
<td>.61 (.02)</td>
<td>.61 (.02)</td>
</tr>
<tr>
<td>Model fit statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of group-level variance</td>
<td>7.44%</td>
<td>5.88%</td>
<td>4.02%</td>
<td>.08%</td>
<td>.01%</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-3371.30</td>
<td>-3334.54</td>
<td>-3301.54</td>
<td>-3286.96</td>
<td>-3286.04</td>
</tr>
<tr>
<td>LR Test</td>
<td>M1 vs M2</td>
<td>M2 vs M3</td>
<td>M3 vs M4</td>
<td>M4 vs M5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>73.52**</td>
<td>66.01**</td>
<td>29.15**</td>
<td>1.85</td>
<td></td>
</tr>
</tbody>
</table>

Note. Model 1: Intercept only.
Model 2: Introduced individual-level workplace bullying as a fixed effect.
Model 3: Introduced individual-level factors of age, gender, and rank as fixed effects.
Model 4: Introduced group-level experiencing workplace bullying, reporting climate, and unit purpose as fixed effects.
Model 5: Introduced the interaction of group-level and individual-level experiencing workplace bullying.
7.7.4 Multilevel Variables Influencing Job Satisfaction

Variability of job satisfaction at the group (unit) level was assessed to determine if multilevel analyses should be conducted. There was evidence of adequate variability. As shown in Table 7.11, 6.79% of the variance in job satisfaction was attributed to differences between units.

Table 7.11.
Residual Variance Components and Variance Partition Coefficient for Job Satisfaction

<table>
<thead>
<tr>
<th>Job Satisfaction*</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance between individuals $\sigma^2 (\epsilon_i)$</td>
<td>0.83 (.02)</td>
<td></td>
</tr>
<tr>
<td>Variance between units $\sigma^2 (\mu_{ij})$</td>
<td>0.06 (.02)</td>
<td></td>
</tr>
<tr>
<td>Proportion of variance at the unit level (VPC)</td>
<td>.0679</td>
<td></td>
</tr>
</tbody>
</table>

* $N = 2,947$

To test for the significance of these unit effects, a likelihood ratio test was conducted that compared the null single-level model with the null multilevel model.

Table 7.12 reports the results of this test. There was a significant improvement to the model fit when the random unit effects were added, providing justification for employing a multilevel model to explore group-level effects.

Table 7.12.
Likelihood Ratio Test Statistics for Job Satisfaction

<table>
<thead>
<tr>
<th>Job Satisfaction</th>
<th>Log likelihood value of unconditional model (with only the DV)</th>
<th>Log likelihood value of multilevel model (with random intercept added)</th>
<th>Likelihood ratio test statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-4033.66</td>
<td>3930.68</td>
<td>205.96**</td>
</tr>
</tbody>
</table>

* $p < .05$. ** $p < .01$. 
Before building a multilevel model, each individual- and group-level factor was individually assessed against the null model for job satisfaction. As shown in Table 7.13, three individual-level and three group-level variables significantly improved the fit against the null model.

Table 7.13.
Multilevel Model Parameter Estimates for Individual- and Group-level Predictors of Job Satisfaction: Testing Against a Null Model (21 Units, N = 2,815)

<table>
<thead>
<tr>
<th>Predictor of job satisfaction</th>
<th>Model estimate (SE)</th>
<th>Residual ICC</th>
<th>LR test of individual predictor and null model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null model</td>
<td>3.50 (.06)</td>
<td>6.76%</td>
<td></td>
</tr>
<tr>
<td><strong>Level 1 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Bullying</td>
<td>-.07 (.01)</td>
<td>4.66%</td>
<td>167.67**</td>
</tr>
<tr>
<td>Age</td>
<td>.07 (.01)</td>
<td>6.00%</td>
<td>22.89**</td>
</tr>
<tr>
<td>Rank</td>
<td>.18 (.05)</td>
<td>6.61%</td>
<td>13.08**</td>
</tr>
<tr>
<td>Gender</td>
<td>.04 (.05)</td>
<td>6.73%</td>
<td>.73 ns</td>
</tr>
<tr>
<td><strong>Level 2 fixed effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying</td>
<td>-.14 (.03)</td>
<td>3.55%</td>
<td>12.82**</td>
</tr>
<tr>
<td>Group-level Witnessing Bullying</td>
<td>-.01 (.00)</td>
<td>3.29%</td>
<td>14.17**</td>
</tr>
<tr>
<td>Reporting Climate</td>
<td>.02 (.01)</td>
<td>5.72%</td>
<td>2.93 ns</td>
</tr>
<tr>
<td>Confidence in Action</td>
<td>.02 (.01)</td>
<td>5.04%</td>
<td>5.03*</td>
</tr>
<tr>
<td>Unit Type (Base: Tri-service)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Army</td>
<td>-.09 (.13)</td>
<td>6.44%</td>
<td>.95 ns</td>
</tr>
<tr>
<td>Air Force</td>
<td>-.14 (.15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Purpose (Base: Support)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HQ/Training</td>
<td>.03 (.13)</td>
<td>3.80%</td>
<td>2.32 ns</td>
</tr>
<tr>
<td>Operational</td>
<td>-.17 (.14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Size (Base: Small)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>-.08 (.14)</td>
<td>6.60%</td>
<td>.50 ns</td>
</tr>
<tr>
<td>Large</td>
<td>.01 (.14)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7.14 shows the results of testing each model described in Section 7.6. After introducing the individual-level experience of workplace bullying (Model 2), the percentage of total residual group-level variance in job satisfaction reduced by a third. The addition of the remaining individual-level predictors of age, gender, and rank, (Model 3) significantly improved model fit but only accounted for a minimal proportion of variance between individuals and between units.

Several iterations of models were tested with the group-level variables previously found to be significant contributors: group-level experiencing and witnessing bullying, and confidence in action. The introduction of these group-level variables did not improve model fit and these variables were therefore not included in subsequent models apart from the group-level measure of experiencing workplace bullying. This measure was not significantly associated with job satisfaction after controlling for bullying at the individual level (Hypothesis 1 was not supported).

In the final model, the combined effect of the individual- and group-level variables reduced the level 2 (group-level) variance component to 3.99%, a reduction of two-fifths of the total residual group-level variability in job satisfaction. Individual-level bullying also explained a third of the variability of job satisfaction between individuals. Other variables did not account for as much variability at the individual level.
Table 7.14.

**Multilevel Model Parameter Estimates for Individual- and Group-level Predictors of Job Satisfaction (21 Units, N = 2,815)**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1 estimate ( (SE) )</th>
<th>Model 2 estimate ( (SE) )</th>
<th>Model 3 estimate ( (SE) )</th>
<th>Model 4 estimate ( (SE) )</th>
<th>Model 5 estimate ( (SE) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.50 (.06) **</td>
<td>3.50 (.05) **</td>
<td>3.14 (.10) **</td>
<td>3.16 (.10) **</td>
<td>3.14 (.10) **</td>
</tr>
<tr>
<td>Level 1 fixed effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Bullying</td>
<td>-.07 (.01)**</td>
<td>-.06 (.01) **</td>
<td>-.06 (.01) **</td>
<td>-.07 (.01) **</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>.05 (.01) **</td>
<td>.05 (.01) **</td>
<td>.05 (.01) **</td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td></td>
<td>.11 (.05) *</td>
<td>.10 (.05) *</td>
<td>.10 (.05) *</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>.05 (.05)</td>
<td>.04 (.05)</td>
<td>.04 (.05)</td>
<td></td>
</tr>
<tr>
<td>Level 2 fixed effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.06 (.04)</td>
</tr>
<tr>
<td>Cross level effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group-level Experiencing Bullying x Individual Bullying</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.01 (.00)*</td>
</tr>
<tr>
<td>Random effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance (intercept)</td>
<td>.06 (.02)</td>
<td>.04 (.01)</td>
<td>.04 (.01)</td>
<td>.03 (.01)</td>
<td>.03 (.01)</td>
</tr>
<tr>
<td>Variance (residual)</td>
<td>.83 (.02)</td>
<td>.78 (.02)</td>
<td>.78 (.02)</td>
<td>.78 (.02)</td>
<td>.78 (.02)</td>
</tr>
<tr>
<td>Model fit statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of group-level variance</td>
<td>6.76%</td>
<td>4.66%</td>
<td>4.64%</td>
<td>4.06%</td>
<td>3.99%</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-3757.02</td>
<td>-3673.13</td>
<td>-3662.81</td>
<td>-3661.54</td>
<td>-3659.05</td>
</tr>
<tr>
<td>LR Test</td>
<td>M1 vs M2 167.78***</td>
<td>M2 vs M3 20.65**</td>
<td>M3 vs M4 2.53 ns</td>
<td>M3 vs M5 7.51*</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Model 1: Intercept only.  
Model 2: Introduced individual-level workplace bullying as a fixed effect.  
Model 3: Introduced individual-level factors of age, gender, and rank as fixed effects.  
Model 4: Introduced group-level experiencing workplace bullying as a fixed effect.  
Model 5: Introduced the interaction of group-level and individual-level experiencing workplace bullying.
The introduction of the interaction between individual- and group-level bullying was significant in the final model and improved overall fit. Figure 7.7 graphically shows this interaction between a unit where the proportion experiencing bullying is low (low climate of bullying) and a unit where the proportion experiencing bullying is high (high climate of bullying).

![Figure 7.7. Individual experience of workplace bullying by job satisfaction by bullying climate](image)

For those individuals who were not direct targets of workplace bullying, but who worked in high-bullying climates, reported job satisfaction levels were lower than for those individuals not bullied and who worked in low-bullying climates (Hypothesis 2 was supported). However, as the direct experience of bullying increased, there was a steeper decline in job satisfaction for those working within low-level bullying climates (Hypothesis 3 was supported). Ultimately, at moderate levels of bullying, where exposure to at least four of the six bullying behaviours may have occurred at least monthly, the same level of job satisfaction was reported, regardless of the climate of workplace bullying.
7.8 Discussion

In previous chapters, the associations between experiencing workplace bullying and psychological distress, affective commitment, and job satisfaction have been demonstrated at the individual level. Initial inspection across units indicated a great deal of variability in the climate of workplace bullying. Some units had extremely high reported rates of experiencing and witnessing these negative behaviours, whereas other units had far fewer employees exposed to these acts. Furthermore, workplaces where rates of bullying were high were significantly associated with higher levels of psychological distress and lower levels of job satisfaction and affective commitment amongst employees. The variability at the group level enabled multilevel analyses to be conducted.

Exploring workplace bullying from a multilevel perspective allowed for a better understanding of the effects of individual- and group-level workplace bullying on psychological distress, affective commitment, and job satisfaction (aim 1, RQ4). It also enabled exploration of the associations of experiencing bullying with these three outcomes in high- and low-bullying climates (aim 2, RQ5).

The discussion of the findings will be presented against each research question.

7.8.1 RQ4, H1. Association of Group-level Workplace Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction.

The first aim of this chapter was to assess the individual- and group-level effects of workplace bullying on psychological distress, affective commitment, and job satisfaction. While there were several individual- and group-level variables that were associated with all three outcome measures, many of which at the individual level replicated findings from earlier analyses, the discussion will focus on workplace
bullying. Being the target of workplace bullying was positively associated with psychological distress, and negatively associated with affective commitment and job satisfaction. Overall, the variability at the individual level of reporting workplace bullying accounted for up to half of the variability in the outcome measures between units. This implies that variations between units in all three outcome measures can be explained by differences in individual experiences of workplace bullying.

Workplace bullying at the group level was also associated with psychological distress, affective commitment, and job satisfaction. Group-level workplace bullying explained more residual group-level variance in all outcomes than almost all other variables when tested individually against a null model. That is, when compared to all the individual- and group-level variables tested, the climate of workplace bullying explained the most variation between units in psychological distress, affective commitment, and job satisfaction. Findings from these analyses show the importance of addressing workplace climate of bullying through group-level interventions. These interventions will reduce the workplace bullying climate within units so that individuals are not exposed to these behaviours. This reduction will be associated with improvements to employees’ mental health, affective commitment, and job satisfaction. Even though group-level workplace bullying explained over half of the residual group-level variability, it did not consistently improve model fit after individual-level bullying was controlled. Therefore, Hypothesis 1, that workplace bullying at the group level would be associated with all three outcomes after controlling for bullying at the individual level, was not supported.

This study was limited by the number of group-level variables that characterised a military unit (e.g., size, type, purpose). This limitation could have prevented the identification of other significant group-level variables that may explain the variability in the outcomes between units. Categorising units on their operational tempo,
geographical location (units in the present study were too dispersed to meaningfully group on this variable), or on the number of members who lived and worked on the military establishment, may have provided other group-level predictors of variability in psychological distress, affective commitment, and job satisfaction. That said, a significant and substantial proportion of the residual variation was accounted for by the individual- and group-level variables that could be analysed.

There were significant interactions between individual- and group-level bullying for two of the outcomes, job satisfaction and psychological distress. These interactions will be discussed next.

7.8.2 RQ5, H2, H3. Associations of Experiencing Bullying with Psychological Distress, Affective Commitment, and Job Satisfaction in High- and Low-bullying Climates

The second aim of this chapter was to explore the associations of experiencing bullying with psychological distress, affective commitment, and job satisfaction in high- and low-bullying climates. There were significant interactions between individual- and group-level bullying when modelling psychological distress and job satisfaction. That is, bullying climate was associated with an employee’s psychological distress and job satisfaction even when not directly exposed to bullying. When working in a high-bullying climate, even when not directly bullied, employees’ levels of reported psychological distress were higher, and levels of job satisfaction were lower, than when working in low-bullying climates. As there was no significant interaction between individual- and group-level bullying in modelling affective commitment, Hypothesis 2 was only partially supported.

There are several possible reasons for these interactions. The first explanation is provided by the work-environment hypothesis (Agervold & Mikkelsen, 2004). In
workplaces where bullying occurs, there is often poor leadership, low role clarity, and a large number of workplace stressors. Workplace morale is also lower in environments where bullying is occurring (Hills, 2012). These variables in combination could be negatively influencing an employee’s mental health and job satisfaction, regardless of the direct experience of workplace bullying. Group-level workplace bullying is therefore a potential marker for other poor workplace climate factors.

The second explanation is that employees who are not personally experiencing bullying, yet are working in high-bullying climates, could be showing signs of moral unease referred to by Houshmand et al. (2012). This moral unease may be associated with the higher levels of reported psychological distress and lower levels of job satisfaction.

A third explanation is that the mere observation of these negative acts, made more prominent by the prevalence within the workgroup, could be raising the psychological distress levels and lowering the job satisfaction of these bystanders. This explanation is supported by research demonstrating the negative effects of witnessing bullying behaviours (Cooper-Thomas et al., 2011; Lutgen-Sandvik et al., 2007; Vartia, 2001). Bystanders could fear being targeted, or fear making the situation worse by not having the skills or resources to act (Báez-León, Moreno-Jiménez, Aguirre-Camacho, & Olmos, 2016; Hoel et al., 2011; MacCurtain, Murphy, O'Sullivan, MacMahon, & Turner, 2017), and therefore may not intervene to stop the behaviours. Findings from this study showed that working in these climates, even if not bullied, is linked to poorer mental health and wellbeing. This finding brings to the fore the importance of bystander training.

There was no interaction between individual- and group-level bullying with affective commitment. Further analysis revealed that when an employee was not bullied, there was no difference in their commitment levels when working in units with
high versus low levels of bullying. This finding may be explained by the type of commitment assessed in this study. Affective commitment measures employees’ commitment to their Service and to the ADF. It is likely that an employee’s commitment to his/her unit decreases when workplace bullying is more prevalent, but there may be no shift in an employee’s commitment to the broader organisation. Employees may have been posted previously to other military units where the prevalence of workplace bullying was substantially lower, and therefore may perceive the current negative work environment as unique and not widespread. The employees may not generalise experiences of working in one unit to the whole ADF. The high rates of bullying that occur around them could affect their satisfaction for the work they currently perform, and their mental health may also suffer, but they may still be proud to work in the ADF.

The final hypothesis (H3) in this chapter was that the relationship between an individual experiencing workplace bullying and all outcomes would be stronger in low-bullying climates. Results partially support this hypothesis. In low-bullying climates, there were stronger associations of experiencing workplace bullying and an employee’s psychological distress and job satisfaction when compared with working in a unit where the climate of bullying was high. A similar, yet not significant, pattern was shown for affective commitment: there was a stronger relationship between exposure to workplace bullying and affective commitment when an employee worked in a unit with low levels of bullying. As the relationship of climate and affective commitment was not significant, Hypotheses 3 was only partially supported.

It should be noted that at moderate levels of workplace bullying, the same level of psychological distress, affective commitment, and job satisfaction is reported by employees targeted by bullying, regardless of the level of bullying being experienced by others in the workgroup.
The ‘singled out’ hypothesis (Duffy et al., 2006) was supported by the findings of this study. The experience of bullying was linked to poorer mental health and wellbeing for all who experienced these behaviours. As the frequency of bullying increased, so too did psychological distress, while job satisfaction and commitment decreased. These associations however were not as strong for those employees surrounded by others who were also being targeted. When targeted employees were alone in their experiences, there was a stronger association between the frequency of bullying and each outcome. This finding suggests that knowing others are being targeted ‘softens the blow’ to an extent. There may also be relief that the cause of bullying can easily be attributed to external factors. It is more difficult to attribute the cause of bullying to external factors when an employee is the sole target, and this may create further internal psychological distress.

When the experience of workplace bullying reaches a moderate frequency, represented in this study as experiencing two-thirds of the behaviours at least once a month, the climate of bullying in the workgroup no longer has an influence on reported psychological distress, affective commitment, and job satisfaction. Regardless of the surrounding climate, for those experiencing workplace bullying the reported levels of psychological distress and job satisfaction are the same.

It is acknowledged that there was a restriction of range in the individual experience of workplace bullying for those working in units with low-bullying climates. That is, the scores on the bullying measure for these individuals did not reach beyond the moderate level. Therefore, interactions between experiencing workplace bullying and each outcome were restricted to this moderate level of bullying to allow for comparisons between units. The question still remains as to the associations between experiencing workplace bullying more frequently and outcomes when in a workplace.
where the climate of bullying is low. However, it may be unlikely that workplace bullying reaches this high frequency when the overall climate of bullying is low.

7.8.3 Associations at the Individual and Group Level

Analyses conducted in previous chapters assess the associations between workplace bullying and psychological distress, affective commitment, and job satisfaction at the individual level. Similarly, the meta-analyses that have been reviewed in this thesis report on the associations/correlations of workplace bullying with these outcomes measures (chapter 2), including differences in associations across source (chapter 6). There is a lack of empirical studies showing the impact of workplace bullying, with most studies discussing the correlations or links between workplace bullying and outcome measures.

As mentioned in Chapter 4, the significant associations at the individual level between workplace bullying and each outcome do not imply the existence or direction of a cause-and-effect relationship. There are several possible interpretations of any relationship between two variables, including direct causation, reverse causation, or correlation due to a third variable. There may also be measurement error or reporting bias influencing the relationship.

This chapter showed the significant relationships of workplace bullying with each outcome measure at the unit level and the findings were stark. For example, in a unit where half (54%) of the employees reported workplace bullying at least monthly, one in three members (33%) reported at risk of psychological distress. This result is compared to a unit where a very small proportion of employees (<4%) reported being bullied at least monthly. In this unit, a similarly small proportion of employees (5%) reported above the cut-off for being at risk of psychological distress. Spearman’s rho correlations between workplace bullying at the group level with psychological distress,
affective commitment, and job satisfaction were very strong (0.66, -0.86, and -0.72 respectively, all \( p < .01 \)). These associations are in the same direction and significance at the individual level and at the group level. It is difficult to identify a third variable that would have the same influence both at the individual level and at the group level that could explain these consistent findings.

In addition, the association between workplace bullying and each outcome measure is significant after adjusting for known confounding variables (such as gender, age, rank, job control, and role overload). Any potential unmeasured variable would need to be very strong to explain the significant associations reported at the individual and group level. It is possible that a third variable exists, and a limitation of this study was that the data did not allow for testing other potential confounding variables that may explain these associations.

It is doubtful that measurement error would result in such high correlations between workplace bullying and outcomes measures between units. Reporting bias may influence the findings at the individual level, where both the experience of workplace bullying and individual outcomes can be inflated by an employee’s perceptions. However, it is less feasible for reporting bias to affect the findings at the group level. For example, psychological distress levels of a unit (not just the distress of each individual) would have to influence the reporting of bullying by individual employees within that unit. Similarly, for response bias to be occurring at the group level, an individual’s report of a high bullying score would have to be influenced by the work experiences reported by other employees within the same unit. Due to the low possibility of this occurring, there is a less likelihood that reporting bias would explain the similar strong associations found at the individual and group level.

In regards to reverse causation, the results from multilevel modelling showed that group-level workplace bullying predicted variance in mental health and wellbeing.
outcomes between units. A unit’s climate of bullying causing job dissatisfaction is more feasible that the reverse direction of an individual’s job dissatisfaction causing a unit level (climate) of workplace bullying. Similarly, it is less feasible that an individual’s high psychological distress or low affective commitment would cause others in the unit to bully. It is more feasible that the climate of workplace bullying is having a negative impact on individuals within the unit. Therefore, while reverse causation may explain the findings at the individual level of analysis, the multilevel analysis findings lend weight to the interpretation that experiencing workplace bullying is causing a detrimental impact on the mental health and wellbeing of employees.

Addressing the workplace bullying climate will be significantly associated with improvements to employee mental health and wellbeing. Interventions from the top down and from the bottom up are required to address workplace bullying. These interventions will be discussed in the next chapter.

7.9 Chapter Summary

This study demonstrated that there was extreme variability in psychological distress, affective commitment, and job satisfaction between units. This variability was significantly reduced after accounting for characteristics of the individual and of the unit. A climate of workplace bullying explained a substantial proportion of the variability between units in psychological distress, affective commitment, and job satisfaction. Therefore, interventions focused on reducing the bullying climate will be linked to improvements in mental health and wellbeing of employees.

The findings also provide evidence to support the notion that the costs of workplace bullying can extend to those who are not the direct target. When working in high-bullying climates, even those not targeted report more negative attitudes and behaviours. These reactions may then lead to greater turnover and productivity loss,
presenting still more compelling reasons for management to take protective action against the mistreatment of employees.

Taking into consideration the various levels within an organisation is important when developing effective interventions, policies, and programs to address the negative consequences of workplace bullying (Heames & Harvey, 2006). Further discussion on interventions, training, and remediation strategies to address workplace bullying will be presented in the next chapter. This final chapter will also present recommendations for future research.
8.1 Thesis Summary

Workplace bullying comprises some of the most harmful behaviours an employee will experience at work. Conservative rates suggest at least one in ten employees are experiencing workplace bullying at any given point in time (Nielsen et al., 2009), with other studies suggesting that prevalence could be as high as one in two (Lutgen-Sandvik et al., 2007). Similar variability in reported prevalence was shown in this study, with some military units having rates of exposure as low as 1 in 20 employees, with others showing high rates of one in two employees reporting bullying behaviours. The average duration of workplace bullying, often lasting one to two years (Einarsen & Nielsen, 2015), and the repetitive nature of the behaviours, make it one of the most pervasive stressors to be experienced.

There has been a significant lack of empirical research into workplace bullying within the ADF. Far more research has been conducted and published on defining and understanding the impact of operational stressors, such as those witnessed on deployment, than there has been on occupational stressors experienced in a garrison workplace. This lack of empirical research is surprising given that rates of mental disorder are similar in deployed versus non-deployed ADF personnel, and over a third of the ADF have not deployed (McFarlane et al., 2011). Understanding the stressors that military personnel face at work on bases across Australia, and the implications for workforce capability, is critical. This thesis provides the ADF with empirical evidence into the nature of workplace bullying that to date has not been known.

There were four research aims of this thesis. Each will be outlined below along with the four key research findings. The implications arising from the findings will then
be presented, both for all workplaces as well as for the ADF-specific environment. Limitations and the future directions of the research are then discussed.

8.2 Research Aim 1

The first research aim was to contribute to the scientific literature by applying a well-validated occupational stress model to investigate the associations of workplace bullying with psychological distress, affective commitment, and job satisfaction. This included protective factors affecting these relationships.

This thesis synthesized two occupational stress models—Job Demand-Control and the Job Demand-Control-Support—to explore the relationships of workplace bullying with mental health and wellbeing in the ADF. These models have been theoretically applied and validated when exploring job demands such as role overload and low job control. Most of the previous applications of these models treated workplace bullying as an outcome measure. This thesis proposed that workplace bullying was a social stressor that could be explored alongside other occupational stressors to provide a better understanding of the relative impact of different job demands on mental health and wellbeing. Therefore, in this thesis workplace bullying was treated as a job demand.

Also introduced into these models were factors of support: support from supervisors and support from the organisation. Support and job control were hypothesised to have positive associations with affective commitment and job satisfaction, and a negative association with psychological distress. Through these associations, organisations could foster positive work environments that could minimise the risk factors to workplace bullying. These factors were also assessed for their ability to buffer the effects of workplace bullying should it occur. There were two key findings from this research aim. The first comes from the application of occupational stressor-
strain models and the second surrounds the benefits of job control and support. These two key findings will now be discussed.

8.2.1 Key Findings: Application of Occupational Stressor-Strain Models

Findings showed that workplace bullying can, and should, be treated as a job demand that employees face at work. Bullying had significant negative associations with affective commitment and job satisfaction, and a significant positive association with psychological distress. When compared alongside two other job stressors, the associations between experiencing workplace bullying and outcomes were similar in magnitude, and for some consequences even stronger, than the reported associations of experiencing the other job demands. Even after adjusting for other job demands, workplace bullying explained significant variance in each outcome. Similarly, when looking at the residuals of each outcome after removing variance accounted for by role overload, job control, age, gender, and rank, workplace bullying had significantly strong associations with psychological distress, affective commitment, and job satisfaction. For example, members who often reported the experience of workplace bullying were up to five times more likely to report high psychological distress compared to those never experiencing bullying. Similar patterns of results were found for affective commitment and job satisfaction, across both Study 1 (an Australian Army sample, Chapter 3) and Study 2 (an ADF sample, Chapter 4).

These results support the research conclusion of Hauge et al. (2010), that workplace bullying is an extreme form of stressor and requires the same attention as given to traditional work stressors when developing workforce strategies, plans, training and interventions.
Evidence from this study indicates that the experience of negative workplace behaviours is linked to poorer mental health and wellbeing in employees, regardless of subgroup demographics. There were minimal differences in the relationships between experiencing workplace bullying and outcomes measures across the subgroups of rank, Service, work status (permanent/reserve), and gender. The implications of this finding for primary, secondary, and tertiary prevention will be discussed shortly.

Up until now, the effects of workplace bullying in the military have been anecdotal (Coetzee et al., 2012; Defence Abuse Response Taskforce, 2016; Finnegan et al., 2014). This was the first empirical study to quantify the associations of workplace bullying in the ADF with mental health and wellbeing. Given the prevalence indicated within this military sample, where some units have half of their members reporting the experience of bullying, the findings demonstrate the importance of addressing both work-focused and social-focused occupational stressors in garrison, similar to the importance and resources placed on addressing deployment-related stressors on operations. More details on addressing occupational stressors will be provided in the Implications section.

8.2.2 Key Findings: Benefits of Job Control and Workplace Support

From the occupational stress-strain literature, three factors were theorised to have associations with mental health and wellbeing, and an ability to buffer the effects of workplace bullying. These factors were organisational support, supervisor support, and job control. These three factors did show significant main effects with affective commitment, job satisfaction, and psychological distress, but not the interaction terms expected under a stress-buffering model (Chapter 5).

In particular, perceived organisational support demonstrated strong associations (with correlations ranging from .39 to .57) with all three outcomes, and this confirms
previous research on the importance of this form of support from an organisation to employees (Bradley & Cartwright, 2002; Dobreva-Martinova et al., 2002; Eisenberger et al., 1986; Gopalkrishnan, 2011; Rhoades & Eisenberger, 2002). When an organisation is demonstrating to its employees that it cares about their wellbeing and satisfaction at work, and that it not only notices, but values their contribution, then employees are more likely to be satisfied and committed to their job, and report better wellbeing. Organisations that are fostering these positive work environments are minimising the risks to workplace bullying occurring.

Supervisor support has also been associated in previous studies with low psychological distress (Noblet, 2003), high affective commitment (Rousseau, 2010), and high job satisfaction (Cummins, 1989; Noblet, 2003). Results within this current study supported these findings.

There was no evidence of these factors minimising the effects of workplace bullying. The only interaction that was significant, between supervisor support and workplace bullying, was not in the predicted direction of a stress-buffering effect. Employees reporting high levels of supervisor support also reported high levels of affective commitment, job satisfaction, and low levels of psychological distress; however the strength of these relationships was stronger for those people who did not report being bullied. The importance of supervisor support will be discussed in the Implications section.

8.3 Research Aim 2

The second research aim was to determine whether the relationships of workplace bullying with psychological distress, affective commitment, and job satisfaction varied according to sources of workplace bullying. Three sources of workplace bullying internal to an organisation were examined—superiors, coworkers,
and subordinates. This PhD explored the most prevalent sources of workplace bullying in the ADF, and the perceived effects from each source, as reported by targets. The relationships between the number of sources of workplace bullying and the target’s psychological distress, affective commitment, and job satisfaction were examined. The probability of experiencing bullying from each source was explored to see if it differed depending upon the gender, work status, Service, or rank of the target. Finally, any differences in the source or combinations of sources of workplace bullying based on these subgroup demographics were examined.

8.3.1 Key Findings: Sources of Workplace Bullying

Due to the legitimate positional power of superiors and the prevalence of workplace bullying from superiors in Western nations (Hoel et al., 2001; Martin & LaVan, 2010; Namie, 2007; Rayner, 2009; Workplace Bullying Institute, 2010), it was hypothesised that the most prevalent source of workplace bullying would be superiors. Findings showed that similar proportions of respondents reported being bullied either by coworkers (22.7%) or superiors (24.8%) (Chapter 6).

The working and living environment of military personnel, resulting in more frequent contact with colleagues, may help explain the higher than expected prevalence of experiencing bullying from coworkers. Military personnel quite often work in close confines (e.g., onboard ships) with people who also live nearby within the military base. This increased contact can result in escalation of negative interactions if not resolved.

Even though there were similar reported prevalence rates of experiencing bullying from coworkers and superiors, the experience of workplace bullying from superiors had far more negative perceived effects. Over three times the proportion of employees sought medical and/or mental health care when experiencing bullying from superiors, compared to those experiencing these behaviours from subordinates or
coworkers. Similarly, there were stronger associations between experiencing bullying from superiors and an employee’s psychological distress, affective commitment, and job satisfaction, than experiencing it from the other two sources. Research from other studies have shown stronger associations between conflicts with superiors and intentions to leave, commitment, and mental health when compared to conflicts among coworkers (e.g., Abas & Otto, 2016; Van Schalkwyk et al., 2011). The importance of proper selection, training, and development of supervisors will be discussed in the Implications section.

For this sample, there were specific demographic subgroups that had higher probabilities of experiencing workplace bullying from any source. These subgroups were NCOs, permanent personnel, and Air Force members, however no generalisation to the broader ADF can be made. The most prevalent source/combination of sources of workplace bullying did not differ across the demographic subgroup of the target. That is, various sources—superiors, subordinates, and coworkers, and combinations of these sources—were not consistently distinguishing targets based on the demographic subgroup employees identified with (i.e., gender, work status, Service, or rank).

There has been very little research on experiencing workplace bullying from multiple sources at different levels of an organisation. Findings from this study demonstrated that as the number of sources of workplace bullying increases, targets report greater psychological distress, and lower affective commitment and job satisfaction. The increase in the number of sources generally reflected a pattern: from one source (a superior in 55% of cases), to two sources (a combination of superior and coworker in just over 70% of cases), to all three sources. Carrying out bullying behaviours can spread across teams. People who are witnessing these behaviours may see workplaces tolerating them and over time these behaviours can become acceptable as the ‘way things are around here’. Those witnessing the behaviours may then start to
enact similar behaviours. This flow-on effect is reflected in the findings that employees experiencing workplace bullying are likely to report that the behaviours are coming from more than one source; 64% of respondents experiencing bullying reported experiencing it from more than one source. If an employee was already experiencing workplace bullying from one source at least monthly, there were greater odds of experiencing bullying from another source at this frequency. These odds were high. For example, the odds of being bullied at least monthly from coworkers were 45.3 times greater for those bullied at least monthly from subordinates compared to those not bullied. Multiple sources of workplace bullying are an indication of a climate of bullying in the workplace that is explored in Research Aims 3 and 4, discussed in the next section.

8.4 Research Aims 3 and 4

Being able to explore workplace bullying as an aspect of workplace climate contributes substantially to what is already known from research at the individual level. The third aim of this PhD was to assess the individual- and group-level effects of workplace bullying on psychological distress, affective commitment, and job satisfaction. The fourth and final research aim also looked at workplace bullying through a multilevel lens to understand the associations of experiencing bullying with psychological distress, affective commitment, and job satisfaction in high- and low-bullying climates.

8.4.1 Key Findings: Workplace Bullying Climate

The variability in terms of reported exposure to workplace bullying was clearly evident across the military units in this study. Some workplaces were far superior to others in terms of the (low) proportion of employees experiencing workplace bullying.
In these workplaces, where reported bullying was low, there were also lower reports of psychological distress, and higher commitment and job satisfaction (Chapter 7). The relationships between all these variables when looking across the units were startling. For example, in a unit where half (54%) of the employees reported workplace bullying at least monthly, one in three members (33%) reported being at risk of psychological distress. This finding is compared to a unit where a very small proportion of employees (< 4%) reported being bullied at least monthly. In this unit, a similar small proportion of employees (5%) reported above the cut-off for being at risk of psychological distress.

Group-level workplace bullying also explained a significant proportion of variance in each outcome measure between units. There were also similar significant associations at the individual and group level between bullying and each outcome that suggest a causal impact of workplace bullying on mental health and wellbeing. If so, the potential for improvement in outcomes by reducing workplace bullying at the unit level are considerable, not just for those experiencing bullying but for bystanders too.

When working within a high-bullying climate, there were significant negative associations with an employee’s commitment and satisfaction, and a significant positive association with psychological distress even if that employee did not experience workplace bullying. Workplaces where bullying is prevalent may tolerate these behaviours, and they may be accepted as the norm. These workplaces also tend to have poor leadership, low role clarity, high role ambiguity, and poor working conditions (Hauge et al., 2011; Samnani & Singh, 2016). Therefore, working in this climate could affect an employee’s mental health and wellbeing. Being a bystander to workplace bullying can also cause negative effects on an individual (Cooper-Thomas et al., 2011; Lutgen-Sandvik et al., 2007; Vartia, 2001).

When working in low-bullying climates there was a stronger negative association between experiencing bullying and reported job satisfaction and a stronger
positive association between bullying and psychological distress than found in high-bullying climates. These results supports the ‘singled out’ hypothesis proposed by Duffy et al. (2006), that being the sole target of bullying is associated with more harm because the target knows and witnesses the perpetrator/s acting differently to all others at work. It is also more difficult to attribute the cause of bullying to external factors (e.g., workplace culture) when an employee is the sole target. Internally attributing the causes of bullying may create further psychological distress for the target.

In summary, there are significant associations of workplace bullying with psychological distress, affective commitment, and job satisfaction whether working in high-bullying climates, or being the sole target working in low-bullying climates. Understanding the practices within those workplaces where the prevalence of workplace bullying is very low should be a priority for any organisation. The factors that may be influencing the low levels of workplace bullying need to be determined. Further implications for the military and other organisations will now be discussed.

8.5 Implications

The implications from the key findings are grouped below under a framework of primary, secondary, and tertiary interventions. The first to be discussed are primary interventions focused on preventing the occurrence of bullying in the workplace.

8.5.1 Primary Prevention: Workplace Design and Workforce Strategies to Address Occupational Stressors

It was evident from the findings in this study that workplace bullying should not be addressed in isolation from other occupational stressors. All three occupational stressors explored in this study—role overload, low job control, and workplace bullying—had significant associations with low affective commitment, low job
satisfaction, and high psychological distress. Workplace design, planning, and strategies have tended to focus on traditional job stressors, but as shown in this dissertation they also need to address the social stressors that arise from workplace interactions. These social stressors, such as workplace bullying, were shown to have equal or stronger negative associations with mental health and wellbeing than other well-researched job demands.

The best job design developed to reduce psychosocial hazards, such as role overload or low autonomy, will fail if consideration is not given to workplace bullying. Addressing the broad range of occupational stressors in job design will reduce the situational factors that foster workplace bullying, and this will be associated with an improvement in the mental health, satisfaction, and commitment of employees.

Workforce planning strategies aimed to address employee-job fit, appropriate skilling of the workforce for the future, and the optimum management structure under which to operate, also need to consider the workplace climate. Bringing in the right employees to meet the strategic goals of an organisation is important, but so too is ensuring that these employees remain engaged, productive, and satisfied. As shown in this study, workplace bullying has a significant association with these outcomes. Therefore, a fundamental component of workforce planning is to identify and address the occupational stressors in the workplace climate, which include workplace bullying.

8.5.1.1 ADF-Specific Implications

As the name suggests, the Workforce Planning Branch in Defence has oversight of the workforce planning component of military units. This Branch is also responsible for the administration and collection of the ADF YourSay (attitude and opinion) survey and the ADF Unacceptable Behaviour survey. Despite this, no attempt is made to integrate the workforce planning and design function with information on the work
climate of the unit. Better synergies and information sharing across teams are required to prevent or minimise occupational stressors within the military unit as part of workforce planning and job design.

There must be more consideration given to occupational stressors within Defence’s mental health strategies and action plans. At the time of conducting this research, there was no mention of workplace bullying and prevention in the ADF Mental Health and Wellbeing Strategy (Department of Defence, 2011), or subsequent ADF Mental Health and Wellbeing Plan 2012–2015 (Vice Chief of the Defence Force, 2012). In fact, there was no mention of addressing any occupational stressors in order to improve mental health.

More recently, an integrated civilian and military Defence Mental Health and Wellbeing Strategy 2018-2023 was released (Department of Defence, 2017b). This Strategy is an improvement in terms of recognising the impact of workplace culture on mental health, but is narrowly focused on reducing the stigma to mental health and the barriers to help seeking. That is, the strategy suggests that “Each of the Services has a plan to drive cultural change, opening the conversation around mental health and wellbeing and supporting appropriate help-seeking behaviour throughout the organisation” (Department of Defence, 2017b, p. 29).

More work is required in future strategies to reduce the risk to mental health by addressing occupational stressors, such as workplace bullying. This work would include building upon what is already mentioned, albeit very briefly, about the Strategy’s foundation strengths of leadership behaviours, cohesion, and job fit. It would shift the focus from only discussing the “unique occupational risks associated with military service” (Department of Defence, 2017b, p. 33) to recognising the risks faced daily by members working in the garrison environment in Australia. As this study shows, these
risks are similar to those found in civilian settings and occupational stressors have significant associations with members’ mental health and wellbeing.

8.5.2 Primary Prevention: Policy, Training, and Procedures

Employers have a duty of care to ensure the health and safety of workers. In Australia, this duty is legislated (Work Health and Safety Act 2011 (Cth)) and includes ensuring both the physical and psychological health of employees are protected from workplace harassment or bullying. This protection is often achieved through policies, training, and continual reviews of the workplace.

8.5.2.1 Policy

All organisations should have a policy that defines workplace bullying, outlines the reporting procedures, responsibilities, and accountabilities, and details the informal and formal process of handling complaints and incidents of workplace bullying. The obligation of developing an organisational policy differs between countries. For example, in Belgium and Finland laws oblige employers to develop policies that address abusive workplace behaviours (Vartia & Leka, 2011). No such law exists in Australia, where a recent study indicated that less than half of Australian workplaces have a workplace bullying policy (Neall, 2017). Templates for anti-bullying policies are available online from organisations such as Safe Work Australia and the Australian Human Rights Commission. Such a simple yet important prevention factor must be a priority for all organisations.

The development and implementation of a policy are as important as its contents. Anti-bullying policies require collaboration in preparation, and must be embedded in training, induction, websites, and written publications (Rayner & Lewis,
2011). Policies should be continually reviewed to ensure they remain current with best practices and legal changes.

8.5.2.2 Training

Policy addresses workplace bullying at the organisational level, yet it is not enough. Training needs to occur at the individual level. Organisations should introduce bystander training, conflict resolution skill training, and awareness sessions on workplace policies and procedures to improve the confidence and capability, and to increase the awareness of all employees.

Interpersonal skills training is effective. A randomised control trial designed to improve Civility, Respect, and Engagement in the Workforce (CREW) showed significant improvements in the interpersonal climate of the workplace, sustained across a year. Not only were there improvements in civility from superiors, respondents receiving CREW training also reported increased job satisfaction, organisational commitment, trust in management, and lower job burnout a year later (Leiter, Day, Gilin Oore, & Spence Laschinger, 2012; Osatuke, Moore, Ward, Dyrenforth, & Belton, 2009). Several other training interventions, aimed at increasing employees’ awareness and knowledge of bullying, including conflict prevention and management training, have been effective in reducing workplace bullying over time (Escartín, 2016; Keashly & Neuman, 2009; Mikkelsen, Hogh, & Puggaard, 2011).

This thesis showed the associations of workplace bullying with mental health and wellbeing when working in climates with high, or low, occurrences of workplace bullying. Introducing training that improves workplace climate, and empowers bystanders by providing them with the skills to step in and prevent the escalation of negative interactions, not only reduces workplace bullying but minimises the harmful effects of working in poor climates.
As indicated throughout this thesis, a supportive supervisor plays a key role to an employee’s health and wellbeing. Managers who remain/become fair and supportive empower employees to report the negative behaviours experienced (Hershcovis, Reich, & Niven, 2015). Interpersonal skills training for supervisors will help to ensure that supervisors are equipped to deal with negative workplace behaviours as soon as they become aware of them. Early intervention will prevent an escalation both in terms of frequency and number of sources, which as indicated in this study are associated with poorer mental health, commitment, and satisfaction.

8.5.2.3 Procedures

Addressing and improving interpersonal interactions in the workplace will reduce the likelihood of escalation into workplace bullying. Interpersonal skills can be assessed at recruitment, during performance reviews, and through ongoing development. Companies invest a lot of time and money in the selection and development of employees. These procedures need to include a component on interpersonal interactions. Selection of employees may include the assessment of interpersonal ability through interviews or assessment centres, and evaluating prior interpersonal performance through referee reports. Ongoing education and development should include interpersonal communication, undertaking performance management reviews, receiving feedback, and dealing with change and conflict. Performance appraisals should assess not only achievements against key performance indicators, but also the ability to interact with others to achieve tasks. Thought should be given to introducing 360-degree feedback as part of the performance appraisal approach.

Respondents perceived more negative effects, such as seeking medical attention and mental health care, from experiencing bullying from superiors. Bullying from this source also had stronger negative associations with affective commitment and job
satisfaction, and a stronger positive association with psychological distress than bullying from coworkers or subordinates. There is justification for organisations to focus on this layer of the organisation. However, this study also showed workplace bullying occurred from various sources in an organisation, and that if bullying occurs, it is likely to occur from a combination of sources. These procedures discussed in this section should therefore be introduced across all layers of an organisation.

8.5.2.4 ADF-Specific Implications

The ADF has a comprehensive Unacceptable Behaviour policy that defines the behaviours and the processes for reporting incidents (Department of Defence, 2009). From 1 December 2016, the Defence Force Ombudsman’s functions were expanded to provide an independent mechanism to report serious abuse in Defence. ‘Serious abuse’ is defined as sexual abuse, serious physical abuse, and serious bullying and harassment.

Defence is required by legislation to provide mandatory annual awareness training on Equity and Diversity. This training includes briefings on what is acceptable and unacceptable behaviour (harassment, discrimination, bullying, sexual harassment, abuse of power and sexual offences), how to make a complaint, and options for resolving a complaint.

The ADF has well-validated selection processes that assess an applicant’s ability to interact and liaise with others. Practical assessments, as well as interview-based procedures are implemented for all three Services.

There is still work to be done. In regards to performance appraisals, key business deliverables and observable work behaviours should be rated, with preference given to 360-degree ratings, for all levels in the organisation. Defence would benefit from investing in bystander training for all employees. Bystander training is being implemented by the US military (Marine Corps, Navy, and Air Force) to target the
prevention and response to sexual assault and harassment (Ballard, 2010), providing employees with practical tools to intervene proactively. This form of training could be tailored to address workplace bullying. All training should be continual and progressive. Furthermore, discussing workplace bullying at leadership courses for all ranks will create more awareness of the potential for escalation of conflict when instructing and delivering commands.

The findings throughout this thesis indicate that there are no systemic differences across the demographic subgroups of gender, work status, Service, and rank regarding the associations of bullying with mental health and wellbeing. The source or combination of source also did not vary across demographic subgroups. Defence should not expend effort and resources on tailoring educational programs or targeting anti-bullying strategies towards a particular demographic within the organisation. Instead, a standardised platform of training that can be delivered across the ADF is warranted.

8.5.3 Primary Prevention: Strategies to Monitor and Shape Workplace Climate

Addressing workplace climate should occur from the bottom up and from the top down. Already discussed in the previous section, at the individual level (bottom-up approach), the awareness and training sessions will ensure bystanders and targets have the capability to address low-level interpersonal conflict before it escalates to workplace bullying.

From the top down, clear messages and modelling of the appropriate behaviours from the senior leadership of the organisation are essential to change the workplace climate. This study showed that a high climate of workplace bullying explained a significant proportion of the variability in psychological distress, affective commitment, and job satisfaction between units. Therefore, unit-level interventions to reduce workplace bullying will be significantly associated with better mental health and
wellbeing of employees. Climate can change very quickly with new leadership (Ledlow & Coppola, 2014), and leading from the top sends a message that behaviours will not be tolerated and will be dealt with quickly.

Monitoring workgroup climate will provide an early indicator of workplaces where workplace bullying may occur if left undetected. Short climate surveys should be conducted on a regular basis, especially for those workgroups that are showing increased turnover, signs of poor productivity, higher unscheduled absence rates, or increased attendance at mental health providers. All of these indicators have been associated with the occurrence of workplace bullying (Ertureten et al., 2013; Hauge et al., 2010; Hoel & Cooper, 2000; Mathisen et al., 2008; McCormack et al., 2006; O'Driscoll et al., 2011; ur Rehman et al., 2015; Yuksel & Tunçsiper, 2011). Monitoring will enable the quick deployment of interventions.

This thesis compared two methods of measuring workplace bullying. Findings indicate that utilising an inventory of negative organisational behaviours will minimise any cultural or personal issues impacting upon identifying oneself as a target of bullying. A climate tool utilising this method will provide a more reliable estimate of workplace bullying.

8.5.3.1 ADF-Specific Implications

The ADF is heavily invested in improving upon the culture of its workforce (Department of Defence, 2012b). In the early stages of this PhD, the ADF was undergoing several cultural reviews. These cultural reviews included investigating alcohol misuse, personal conduct, sexual harassment, and other forms of abuse such as bullying. It is encouraging that in 2012, a strategy for cultural change titled Pathway to Change: Evolving Defence Culture was launched that incorporated the recommendations made in these reviews.
At June 2016, Defence stated that “98 per cent of the 175 Pathway to Change key actions and recommendations from the six culture reviews have been finalized” (Department of Defence, 2016b, p. 110). According to Defence survey data, leadership is delivering on the ‘zero tolerance’ message, with Defence personnel better equipped to report unacceptable behaviour than they were in previous years. Confidence in the prevention and effective management of unacceptable behaviour has also improved in the last three years, although it was acknowledged that “Defence needs to make more substantial progress” (Department of Defence, 2016b, p. 110). Trends from attitude and opinion surveys show that there has been demonstrable change at Defence’s training establishments, with a reduction in incidents of unacceptable behaviour experienced by trainees and cadets (Department of Defence, 2016b). Hence, improvements are occurring, but there are still areas within Defence that remain disjointed and there is still work to be done.

One area noted by the Pathway to Change strategy where more work is needed is data integration. As noted in the strategy, “We are skilled at gathering data in Defence but need to use our people data to our strategic advantage, as we do with data on operations” (Department of Defence, 2012b, p. 26). As discussed in this PhD, there has been concerted effort in Australian and international militaries to understand the stressors and subsequent impact from exposure to these stressors when members deploy on operations. There has been no empirical research on understanding the associations of workplace bullying with mental health and wellbeing for military employees. The intent of the strategy in 2012 was to “establish databases and importantly, improve our approach to using the data so that we have a strong evidence base” (Department of Defence, 2012b, p. 26). The findings within this dissertation are a start to building this evidence base. However, within Defence the collection and reporting of data are still dispersed, and need to be better integrated. For example, data are collected on a unit’s
climate at the request of a commander (via the PULSE), workplace bullying and harassment (via the annual UBS), and misconduct investigations (by the Inspector-General of ADF), and are not integrated. Often the different areas of Defence collecting this information are unaware that there are other sources of information that could be used to explain or improve on the unit’s workplace climate.

This thesis demonstrated that there are some military workgroups that are far superior than others in regards to their low-bullying climates. Research within these units, conducting focus groups to assess possible reasons for low reported rates, will help form strategies to be transferred to those units where the prevalence of bullying is high.

Training to prevent workplace bullying at the group level may be more effective and less victim-blaming than focusing on individual-level interventions (Saam, 2010). Anti-bullying awareness and training should be offered to all work groups. However, there will be workgroups, identified for example through the data collection activities described above, or through reporting on HR information systems, where the prevalence of workplace bullying is high. For those workplaces, targeted interventions, such as interpersonal skills training or bystander awareness sessions, are warranted.

8.5.4 Secondary Prevention to Address Workplace Bullying

Secondary interventions aim to reverse and stop the bullying process, prevent recurrence, or provide employees with the necessary skills and/or coping resources to deal with workplace bullying (Henschovis et al., 2015; Vartia & Leka, 2011). Some responses to workplace bullying, such as suppressing emotion and ruminative thinking, are maladaptive and have been found to exacerbate negative consequences (Niven, Sprigg, Armitage, & Satchwell, 2013). Offering employee training in adaptive coping skills will better prepare employees should they be faced with the experience of
workplace bullying, and will assist to minimise the impact on their health and wellbeing.

It is also important to ensure there are no perceived barriers or stigma to reporting workplace bullying. Through reporting, bullying can be addressed, and employees can see the commitment and visible action from the organisation to actively address bullying when it occurs.

Although not reported as part of the aims of the thesis, Study 2 data allowed for exploration of the main reasons of not reporting the behaviour in the ADF. In the sample from 2012, just over half (54%) of those who witnessed or experienced unacceptable behaviour did not report these behaviours. Possible reasons for not reporting were presented, and respondents could indicate all responses that applied to their situation. Of those who did not report, almost 70% indicated that they had either dealt with the behaviour themselves or did not think the behaviour was serious enough to report. A third of those not reporting indicated that they feared victimisation or reprisal, or thought that no action would be taken. A small number (6%, \( N = 20 \)) indicated that they did not report the inappropriate behaviour because they were unaware of the process or thought that it would be too time consuming. This finding suggests that work practices and policies need to instil confidence in employees that their experiences, or those of others, will be taken seriously, and dealt with swiftly without reprisal. Reporting processes need to be simple to follow. Clear messages of encouragement to report unacceptable behaviour have to be made from the senior level of management. Companies should also make visible the aggregate data showing annual rates of reporting and action. Over time, as the barriers to reporting are removed, and the stigma lessens, a reporting culture will be fostered that will ensure workplace bullying can be immediately addressed.
8.5.4.1 ADF-Specific Implications

The Defence Mental Health and Wellbeing Strategy 2018-2023 outlines a comprehensive mental health literacy and resilience training continuum for military members (Department of Defence, 2017b). Two components of this training should be expanded to address workplace bullying. The first is the Self-Management and Resilience Training (SMART) that is currently focused on preparing members for the stressors of operations. Referred to as BattleSMART, this training teaches various adaptive coping skills and stress relief training that equips a member before operations. Individuals “are taught to ‘test’ their initial reactions in four domains—physical, thoughts, emotion and behaviour—and to ‘adjust’ if the initial response is unhelpful, or is not going to achieve optimal performance” (Department of Defence, 2011, p. 22). These same techniques could be taught to members in garrison when dealing with occupational stressors, such as exposure to workplace bullying. Similar to the expansion of BattleSMART to LifeSMART (assisting personnel transitioning from the ADF) and FamilySMART (for ADF families), thought should be given to WorkSMART (for dealing with stressors within the garrison environment).

The second training program that could be expanded is referred to as Keep Your Mates Safe (KYMS). This modular training program equips members to look for early warning signs in their peers to indicate they may be suffering from mental health problems, and to encourage those suffering mental health problems to seek help early. This training is tailored so that different modules are delivered for leaders, mentors, and peers. Modules include KYMS–Suicide Prevention Program and KYMS–Alcohol Tobacco and Other Drugs. It is recommended that the principles could be applied for another module, KYMS–Occupational Stressors, that would educate members about occupational stressors in garrison, including workplace bullying.
Expanding the current mental health continuum training would provide employees with the skills to cope with occupational stressors and to regulate their emotions in the workplace, to reduce the chance of bullying occurring, and to promote more adaptive responses to conflict should it occur.

8.5.5 *Tertiary Prevention to Address Workplace Bullying*

Tertiary interventions focus on reducing negative impacts and restoring the health and wellbeing of the target of workplace bullying (Crimp, 2017). As this study showed, not all employees who experienced workplace bullying reported ongoing distress. However, a greater proportion of those that were bullied by superiors reported having to seek medical and/or mental health care after experiencing these behaviours. Similarly, findings showed that targets singled out in workplaces where the climate of bullying was low, or employees working in high-bullying climates, may require extra support to remain committed and satisfied at work, and mentally healthy. Supervisors are often the first to notice and offer this support, and as discussed, may require appropriate training to do so. However, organisations should also offer alternative avenues for support, in particular if workplace bullying is being perpetrated by a supervisor.

The services of mental health professionals, such as those within Employee Assistance Programs, should be made available to all employees. These providers would also benefit from understanding the unique impact that climate and multiple sources of bullying have on individuals that may be seeking care, especially given claims by Meglich-Sespico, Faley, and Knapp (2007) that “many EAP professionals are not very aware of the etiology and consequences of workplace bullying” (p. 36).

In a Danish two-year rehabilitation program for targets of workplace bullying who had been unemployed or on long-term sick leave due to the behaviours experienced...
at work, psychological counselling, physiotherapy, and physical exercise resulted in a significant decrease in their psychological and psychosomatic symptoms (Mikkelsen & Einarsen, 2006, cited in Vartia & Leka, 2011). Having this support made available to employees before they leave the organisation will also reduce long-term workers compensation and unemployment benefit costs.

Organisations should also consider administering sanctions to perpetrators (e.g., moving them to a different department, demoting, or even terminating their employment), using breaches of internal policies or codes of conduct to do so. Doing so signals to others that the behaviours will not be tolerated. It may also lessen the high number of employees, such as reported in this study, who experience bullying from more than one source. When multiple sources of bullying are found in organisations this perhaps indicates a culture that tolerates the behaviours associated with workplace bullying. Visible sanctions send a message that workplace bullying will not be tolerated and these sanctions may prevent recurrence.

Workplace bullying is an issue that impacts on family and friends, and the broader community. During the course of this PhD there was nation-wide progress towards addressing workplace bullying. On 1 January 2014, new workplace bullying laws formed part of the *Fair Work Act 2009* (Cth). For the first time, there was an all-encompassing law that made bullying conduct unlawful with a right to redress workplace bullying through the Fair Work Commission in Australia. The new laws followed the House of Representatives Standing Committee on Education and Employment Report of October 2012, *Workplace Bullying, We just want it to stop*.

The Australian Government agencies such as Comcare and Safe Work Australia, as well as the Fair Work Commission and Australian Human Rights Commission are active in developing templated policies and drafting best practice guidelines for workplaces and no doubt would benefit from the Australian Government funding
evidence-based interventions. Organisations would benefit from these interventions targeting primary, secondary, and tertiary prevention. Long term, these interventions will reduce the financial costs associated with workers compensation claims and pensions for people who are unable to return to work due to psychological illness as a result of experiencing workplace bullying.

Friends and family need access to resources to support targets of bullying. These resources include online information guides on the impact of bullying and how to support those going through the experience, as well as details of support services for targets and their families/friends to access. Schools also need to focus on raising the awareness of bullying within the educational curriculum from an early age. Therefore, Governments, schools, families and communities need to partner in workplace bullying prevention if Australia is to minimise this problem in the workplace.

8.5.5.1 ADF-Specific Implications

There are several avenues of support already available to members of Defence who have experienced workplace bullying. These include the Early Intervention and Support Team, the ADF Alternative Dispute Resolution, and the Defence Equity Advice Line, all of whom provide information and referral service for all Defence personnel in regards to negative workplace behaviour and equity issues.

The ADF established the Sexual Misconduct Prevention and Response Office (SeMPRO) in July 2013 that is responsible for:

a. providing a timely response and support to victims;

b. providing advice and guidance to commanders and managers;

c. implementing education and prevention strategies;

d. being the single point of contact for reporting, to analyse prevalence data and trends; and
e. developing policies, practices and procedures, and monitoring compliance.

SeMPRO focuses on sexual misconduct. These behaviours however often occur in conjunction with workplace bullying or discrimination. For example, in this study almost 9 in 10 respondents who reported experiencing sexual harassment also reported experiencing workplace bullying. It is therefore recommended that SeMPRO expand its responsibilities to cover all types of workplace abuse, including discrimination, bullying, and harassment.

Counsellors, psychologists, medical staff, and chaplains work together in a multi-disciplinary framework to assist targets of workplace bullying. The ADF also started collaborating with the Australian Human Rights Commission in 2015 to better understand any negative workplace behaviours that may be occurring within units. ADF members are not covered under the *Fair Work Act 2009* (Cth), however DoD civilians operating alongside the military come under the Act’s remit. Therefore, better alignment of workplace bullying policies and procedures with the *Fair Work Act 2009* (Cth), taking into consideration frameworks developed by SWA and the FWC, will ensure a strategic approach to addressing workplace bullying prevention that is consistent with what is being taught in schools and being delivered in other sectors and community settings.

8.6 **Limitations of the Research**

While each analysis chapter (Chapters 3-7) noted limitations specific to the method and analyses reported within, the major limitations to this thesis are summarised below.
8.6.1 Study Design

8.6.1.1 Observational Study Design

This study was cross-sectional and did not use an experimental design, and as a result no cause-and-effect findings can be made.

As discussed in Chapter 7, a limitation of this study was that not all possible variables could be tested, and as such a third variable may exist that would explain these findings. However, these associations were significant after adjusting for known confounding variables, and were of a substantial strength to minimise the possibility of measurement error. The consistent findings at the individual and group level across all three outcome measures minimise the effects from any reporting bias. Findings from multilevel modelling showed that group-level workplace bullying explained variation between units in reported psychological distress, affective commitment, and job satisfaction. It would be less feasible for an alternate direction in this study (e.g., an individual’s job satisfaction, affective commitment, or psychological distress levels affecting group-level workplace bullying). Taken together, these findings lend weight to a cause-and-effect explanation.

8.6.1.2 Subjective Data

Poor record keeping practices of formal complaints of workplace bullying in the ADF (Rumble et al., 2011) at the time this PhD commenced made it difficult to obtain other sources of information on workplace bullying. It is acknowledged therefore that this thesis is limited to only targets’ perception of its occurrence. However, due to stigma and other barriers, targets of workplace bullying may not come forward to formalise complaints of workplace bullying. As previously mentioned, over half of the Study 2 sample who witnessed or experienced workplace bullying did not report it.
While a substantial proportion of those experiencing these behaviours may be missed if only formal complaint data is analysed, complementing this with other sources of information, such as through surveys or interviews with targets, assists in building up the picture of workplace bullying in the ADF.

8.6.1.3 Selective Process of Participating in the Research

Administration of the PULSE questionnaire was upon request from a unit commander. Reasons for a request varied. Sometimes requests were generated because the commander became aware of workplace issues that he/she wanted quantified, some requests were initiated by a commander upon commencement of taking over the command of a unit and therefore wanting to understand the current workplace climate. The selection of units for inclusion in this study was limited to those units whose commanders requested the PULSE questionnaire. The number of units who requested a PULSE annually also restricted the power of the multilevel analyses.

Opting in to the process may also have restricted the range of results for some variables, although findings indicated that there was wide variability in workplace climates, especially in the reported workplace bullying, and health and wellbeing outcomes. Units with potential issues and units with better workplace climates all participated in the research.

8.6.2 Selection of Workplace Bullying Behaviours and Potential Moderators

Ideally, any new study commences with the development of qualitative and/or quantitative tools to address the research questions. However, at times there are constraints within organisations that must be addressed before any form of data collection is possible. The ADF is one such organisation. For over a decade, Western militaries have suffered from over-surveying and hence survey fatigue and the situation,
especially for the ADF, has not improved (Crane et al., 2012). The process to gain access to ADF members for research purposes is rigorous, with the push for new research to be aligned with pre-existing tools and research programs (Department of Defence, 2007). Against this backdrop the ADF PULSE questionnaire was selected for this PhD because it covers a wide range of factors, although it is limited in the depth of assessing each factor. The questionnaire did not allow for assessing a high number of workplace bullying behaviours that some surveys, such as the Negative Acts Questionnaire-Revised (Einarsen et al., 2009) are able to do. That is, the PULSE did not include a broad range of bullying behaviours and therefore the data did not permit research into the types of workplace bullying that are the most damaging (e.g., personal, work-related, physical). From a practical standpoint, it was evident that organisations such as the ADF should be addressing all negative workplace behaviours irrespective of the category these behaviours fall in to.

The factors assessed as potential moderators did not closely match the stressor of experiencing workplace bullying. For example, the job control measure focused predominantly on being autonomous and being able to make decisions. The measure did not specifically assess control over interpersonal interactions on the job. It is known that potential moderators should match the stressor in order to buffer it (Häusser et al., 2010; Spector, 2002; Van der Doef & Maes, 1999), and this may have resulted in these potential moderators not acting as buffers to the negative effects of workplace bullying. Suggestions for future research to address these limitations will be presented in the Future Directions section.

8.6.3 Generalisation and Representativeness of Findings

It is acknowledged that the thesis sample is not representative of the ADF, and is especially under-represented in Navy and Air Force participants relative to Army
participants. The main focus of this thesis was on the relationships between workplace bullying and outcomes for employees. Where prevalence of workplace bullying or differences across Services and rank and work status, were discussed, care was taken to mention that results were not indicative of the broader ADF. It is worth reiterating that no generalisation of prevalence to the broader ADF should or can be made.

When setting out on this research, it was noted that there may be some limitations in generalising the research findings to all organisations. The military has a predominantly hierarchical culture, comprising a majority of male ‘employees’. It was thought that the findings reported within this thesis would easily transfer to similar organisations, such as the police force, law enforcement, emergency service organisations, and religious affiliations such as the Catholic church. Noting now the very small differences across subgroups such as rank, work status, gender, and age, it is likely that findings will also apply to other organisations without the defining characteristics of a military organisation. ADF personnel are also exposed to very similar stressors that occur in civilian workplaces, including exposure to workplace bullying, making the application of the findings relevant to many other workplaces. It is only the unique context of the military work environment that may impact on the delivery of strategies and prevention measures, and therefore implications were discussed earlier in separate sections for the ADF-specific environment.

8.7 Future Directions

8.7.1 Improved / Alternate Study Designs

To address some of the limitations raised in the previous section, future studies would be strengthened if the subjective data collected through questionnaires were coupled with (1) interview data from targets and if possible from sources, and (2) with
formal complaint data gained through records of formal investigations into workplace bullying. This approach needs to be cautioned with the knowledge from this research that targets of bullying do not always report the occurrence.

The number of employees participating in this thesis was relatively large, however the number of units ($N = 21$) within Study 2 restricted the power of the multilevel analyses. Small numbers at this level can lead to bias within the Level 2 standard error estimates (Maas & Hox, 2005; McNeish, 2017), making it difficult to interpret the models. The recommended number of Level 2 variables for multilevel models ranges from 15 to 30 (McNeish, 2017), although some researchers have suggested a minimum number of 50 (Maas & Hox, 2005). Therefore, future research undertaking multilevel modelling should increase the number of Level 2 groups so that models can be confidently reported, and other group-level variables to categorise these units can be determined. Obtaining data from more units across the three Services would also enable a greater breakdown of the rank structure, and therefore a better understanding of the rank differences between the NCO and Officer streams that appeared at times throughout this thesis.

There is a need for more studies designed to assess the effectiveness of interventions. Assessment and evaluation of different strategies in relation to their effectiveness are scarce (Crimp, 2017; Escartín, 2016; Gillen et al., 2017; Salin, 2009; Vartia & Leka, 2011; Woodrow & Guest, 2014). Organisations would benefit from understanding the practical procedures that have been successful in minimising bullying or its effects, as well as understanding why the procedures have had success in reducing these behaviours (Gardner et al., 2017).

As discussed earlier, there was a great deal of variability between units in the proportion of employees experiencing workplace bullying. Studies designed to ‘deep dive’ into workplaces that report high or low bullying will assist in understanding the
internal and external factors at play that are associated with these environments. A deep dive could include:

a. focus groups with different layers of the workgroup;
b. reviewing objective human resource records summarising metrics known to be related to poor work environments, such as leave absences and separation rates;
c. interviews with members of the senior leadership team; and
d. case studies of reported incidents.

These study designs will tease out nuances that may be impacting on, or resulting from, the interpersonal interactions within the workgroup.

8.7.2 Understand the Contextual Nature of the Working Environment

The working environment influences interactions amongst employees. Completing work tasks that require a great deal of interdependence creates a heightened risk of exposure to workplace bullying compared to tasks that can be completed autonomously. This study found that a large number of members reported the experience of bullying from coworkers, which was not hypothesised for an organisation in a Western nation. Understanding the dynamics and interactions between employees at all levels within an organisation may explain the frequency and consequences of workplace bullying. Future research that assesses the nature of the work and the physical working environments of the respondents is needed to also enable best practice work designs.

Similarly, the physical location of the working/living environments has an impact on respondents’ interactions with each other. Participants within this study were Navy, Army, and Air Force personnel who would have variability in their living and working arrangements depending upon Service, marital status, rank (i.e., junior, single
members will often reside on a military base). This variability in turn will impact on the frequency and duration of interpersonal interactions. For example, if onboard a ship, members are likely to have closer contact with each other than if working in a battalion on an Army base. One avenue of further study would be to capture the work and social context of employees, both during and outside work hours, when assessing workplace bullying.

8.7.3 Investigate the Types of Workplace Bullying Behaviours

Research into workplace bullying has grown substantially in the last three decades. This growth includes a better understanding of the different types of workplace bullying behaviours. Due to the surge in usage of technology, one behaviour receiving more recent attention is cyber bullying. Long associated with bullying among school-aged children (Bonanno & Hymel, 2013; Sticca & Perren, 2013), cyber bullying in the workplace has recently received more attention as being harmful due to the public and anonymous nature of the behaviours (Gardner et al., 2016; Lawrence, 2015; Zhang & Leidner, 2018).

In the 2016 Australian Public Service (APS) Employee Census, one of the largest attitude and opinion surveys administered in Australian workplaces (N = 96,768), approximately 8% of employees reported experiencing cyber-bullying at work in the past 12 months (APSC, 2016). There is scope for future research exploring this and other types of workplace bullying to identify and then address different behaviours that are associated with poorer health and wellbeing of employees at work.

8.7.4 Explore Alternate Sources of Workplace Bullying

This thesis was the first known study to directly compare workplace bullying from three source types within an organisation, and more research needed in this area.
For example, sources external to the organisation were not included in this study. In the 2016 APS Employee Census, approximately 5% of workplace bullying or harassment was perpetrated from people outside the organisation (i.e., customers, clients, and stakeholders). This proportion is averaged across different public service agencies, and may be higher for those agencies specifically employed in work that has a social service or support role, such as health, education, and human services. Different interventions may be required to protect employees against bullying from those outside the organisation. Future research aimed to assess workplace bullying from both internal and external sources will provide a more comprehensive understanding of the links to mental health and wellbeing and potential measures required to assist employees experiencing these behaviours.

8.7.5 Translate Research into Practice

Research into workplace bullying is growing, however there are still occupational groups where the applied literature is scarce. The military is one of these occupations. The limited published research on workplace bullying in the military, or similar, hierarchical male-dominated workplaces, hindered the comparison of results from this study.

One of the benefits of publishing empirical findings on workplace bullying is that it allows researchers, practitioners, and policy makers to share and build upon methods to address this stressor. It is acknowledged that measures need to be in place when publishing this research to ensure the privacy of organisations so as to avoid the potential damage to an institution’s reputation of having their internal research made public. In particular, applied research (e.g., from intervention-based studies) should be undertaken and published where the application of research is translated into practice.
Companies would then benefit from understanding interventions and practices that have shown to be successful in minimizing or preventing workplace bullying.

8.8 Concluding Comments

This thesis offers the ADF the first empirical research exploring the associations of workplace bullying with psychological distress, affective commitment, and job satisfaction. Findings demonstrated the significant negative associations of workplace bullying with affective commitment and job satisfaction, as well as the significant positive association of workplace bullying with psychological distress. These associations were similar across demographics subgroups of gender, work status, Service, and rank.

When workplace bullying occurs, it is likely to occur from more than one source and as the number of sources increases there is poorer mental health and wellbeing. In this study, superiors and coworkers were the most prevalent sources. However, a larger proportion of respondents reported seeking medical and/or mental health care when experiencing bullying from superiors than from the other sources.

The relationships across units between exposure to workplace bullying and mental health and wellbeing were stark. When reported bullying within a unit was low, there was also lower psychological distress, and higher commitment and job satisfaction. Climates high in workplace bullying were associated with reports of poorer mental health and wellbeing, even when respondents did not personally experience the negative behaviours. These climates explain a substantial proportion of variance in psychological distress, affective commitment, and job satisfaction between units. The consistent and strong findings at the individual and group level, after adjusting for potentially confounding variables, provide a more comprehensive explanation of the relationships of bullying with each outcome. There is little doubt that workplace
bullying is linked to reduced workforce capability, and the argument for causation is compelling. Interventions at the group level will have a significant impact on addressing workplace bullying, which will be associated with improving the mental health and wellbeing of employees.

This dissertation demonstrated the importance of addressing all occupational stressors in workforce plans and strategies, as well the importance of fostering positive work climates. Implementing interpersonal training to empower bystanders and equip supervisors will reduce the escalation of negative interactions. Having anti-bullying policies and clear messages and modelling of appropriate behaviours by senior management will assist in preventing workplace bullying. Monitoring workgroup climate will provide an early indicator of workplaces where workplace bullying may occur if left undetected.

Published research on workplace bullying in militaries or similar hierarchical organisations is still scarce and presents an opportunity to engage and share within this community. Workplace interventions successful in preventing or minimising workplace bullying are also scarce, and present a critical area for future research.
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Multiple regression to obtain standardised residuals of psychological distress, affective commitment, and job satisfaction for Study 1

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<td>Age</td>
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<td>0.01</td>
<td>-0.10**</td>
</tr>
<tr>
<td>Role Overload</td>
<td>2.33</td>
<td>0.15</td>
<td>0.28**</td>
</tr>
<tr>
<td>Job Control</td>
<td>-2.24</td>
<td>0.14</td>
<td>-0.28**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.17</td>
<td>.25</td>
<td>.16</td>
</tr>
</tbody>
</table>

$F(4, 2876) = 150.99^{**}$  $F(4, 2889) = 245.25^{**}$  $F(4, 2866) = 133.17^{**}$

* $p < .05$. ** $p < .01$. 

Appendix A 367
APPENDIX B

Multiple regression to obtain standardised residuals of psychological distress, affective commitment, and job satisfaction for Study 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Psychological distress</th>
<th></th>
<th>Job satisfaction</th>
<th></th>
<th>Affective commitment</th>
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<td>$B$</td>
<td>$SE_B$</td>
<td>$\beta$</td>
<td>$B$</td>
<td>$SE_B$</td>
<td>$\beta$</td>
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<td>Constant</td>
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<td>-0.09**</td>
<td>0.04</td>
<td>0.01</td>
<td>0.07</td>
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<td>-0.04</td>
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<td>Job Control</td>
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<td>$R^2$</td>
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<tr>
<td>$F_{(4, 3015)} = 175.54^{**}$</td>
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<td></td>
<td>$F_{(4, 3024)} = 270.24^{**}$</td>
<td></td>
<td>$F_{(4, 3012)} = 107.29^{**}$</td>
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</tbody>
</table>

*p < .05  **p < .01
APPENDIX C

Hierarchical Regressions for Psychological Distress, Affective Commitment, and Job Satisfaction

Table C-1
*Hierarchical Regression for Psychological Distress, with Job Control as a Moderator (N = 2,799)*

<table>
<thead>
<tr>
<th>Variable</th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th>Model 3</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
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<td>.00</td>
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<td>-0.03</td>
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<td>0.04</td>
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<td>.20</td>
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<td>ΔR²</td>
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<td>F for change in R²</td>
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<td>323.99**</td>
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*p < .05. **p < .01.
Table C-2
Hierarchical Regression for Psychological Distress, with POS as a Moderator (N = 2,801)

<table>
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<th>Variable</th>
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<th>Model 2</th>
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<th></th>
<th>Model 3</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
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<td>SE B</td>
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<td>0.57</td>
<td>0.30</td>
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<tr>
<td>Age</td>
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<td>0.06</td>
<td>.00</td>
<td>0.02</td>
<td>0.06</td>
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<td>-0.22**</td>
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<td>0.35**</td>
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<td>0.04</td>
<td>-0.07</td>
<td>.00</td>
<td></td>
<td></td>
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<td>.22</td>
<td></td>
<td>.22</td>
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<td></td>
<td></td>
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<td>.00</td>
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</table>

*p < .05. **p < .01.
Table C-3
Hierarchical Regression for Psychological Distress, with Supervisor Support as a Moderator (N = 2,978)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
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<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.02</td>
<td>0.34</td>
<td>-0.00</td>
</tr>
<tr>
<td>Age</td>
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<td>Rank</td>
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<tr>
<td>Supervisor Support (SS)</td>
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<tr>
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<td>0.36**</td>
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<tr>
<td>ΔR^2</td>
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<tr>
<td>F for change in R^2</td>
<td>15.11**</td>
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*p < .05.  **p < .01.
Table C-4

Hierarchical Regression for Affective Commitment, with Job Control as a Moderator (N = 2,798)

<table>
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<tr>
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<th></th>
<th>Model 2</th>
<th></th>
<th></th>
<th>Model 3</th>
<th></th>
</tr>
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<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
<td>B</td>
<td>SE B</td>
<td>β</td>
<td>sr²</td>
</tr>
<tr>
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<td>0.05</td>
<td>0.00</td>
<td>.00</td>
<td>-0.01</td>
<td>0.04</td>
<td>0.00</td>
<td>.00</td>
</tr>
<tr>
<td>Age</td>
<td>0.09</td>
<td>0.01</td>
<td>0.15**</td>
<td>.01</td>
<td>0.05</td>
<td>0.01</td>
<td>0.08**</td>
<td>.00</td>
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<tr>
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<td>0.01</td>
<td>0.14**</td>
<td>.01</td>
<td>0.04</td>
<td>0.01</td>
<td>0.10**</td>
<td>.00</td>
</tr>
<tr>
<td>Job Control (JC)</td>
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<td></td>
<td></td>
<td></td>
<td>0.31</td>
<td>0.02</td>
<td>0.28**</td>
<td>.06</td>
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<tr>
<td>Bullying</td>
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<td>-0.02</td>
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<td>-0.07**</td>
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<td>R²</td>
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<td>.15</td>
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<tr>
<td>ΔR²</td>
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*p < .05, **p < .01.
Table C-5
Hierarchical Regression for Affective Commitment, with POS as a Moderator (N = 2,809)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>Gender</td>
<td>0.03</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td>Age</td>
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<td>0.01</td>
<td>0.15**</td>
</tr>
<tr>
<td>Rank</td>
<td>0.06</td>
<td>0.01</td>
<td>0.14**</td>
</tr>
<tr>
<td>Perceived Org Support (POS)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bullying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POS x Bullying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( R^2 )</td>
<td>.06</td>
<td></td>
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<tr>
<td>( \Delta R^2 )</td>
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<tr>
<td>( F ) for change in ( R^2 )</td>
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*p < .05. **p < .01.
## Table C-6

**Hierarchical Regression for Affective Commitment, with Supervisor Support as a Moderator (N = 2,796)**

<table>
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<th>Model 3</th>
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<tbody>
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<td>$SE$ $B$</td>
<td>$\beta$</td>
<td>$sr^2$</td>
<td>$B$</td>
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<td>$sr^2$</td>
<td>$B$</td>
<td>$SE$ $B$</td>
<td>$\beta$</td>
<td>$sr^2$</td>
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<td>0.02</td>
<td>0.04</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
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<td>0.14**</td>
<td>0.01</td>
<td>0.04</td>
<td>0.01</td>
<td>0.10**</td>
<td>0.01</td>
<td>0.04</td>
<td>0.01</td>
<td>0.10**</td>
<td>0.01</td>
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<tr>
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<td>0.31</td>
<td>0.04</td>
<td>0.30**</td>
<td>0.02</td>
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<td>0.01</td>
<td>-0.12**</td>
<td>0.01</td>
<td>0.02</td>
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<td>0.08</td>
<td>0.00</td>
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<td></td>
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<td>-0.21**</td>
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<td></td>
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<td>.12</td>
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</tr>
<tr>
<td>$\Delta R^2$</td>
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<td></td>
<td></td>
<td>.00</td>
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<td></td>
<td></td>
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<td>$F$ for change in $R^2$</td>
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<td>90.06**</td>
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<td>11.93**</td>
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*p < .05. **p < .01.
### Table C-7

*Hierarchical Regression for Job Satisfaction, with Job Control as a Moderator (N = 2,806)*

<table>
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*p < .05. **p < .01.
Table C-8
Hierarchical Regression for Job Satisfaction, with POS as a Moderator (N = 2,808)

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<td>B</td>
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*p < .05.  **p < .01.
Table C-9
Hierarchical Regression for Job Satisfaction, with Supervisor Support as a Moderator (N = 2,806)

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*p < .05.  **p < .01.