STAFF KNOWLEDGE, EXPERIENCE AND BELIEFS ABOUT
MECHANICAL RESTRAINT USE ON
PEOPLE WITH AN INTELLECTUAL DISABILITY:
AN INVESTIGATION INTO THE POTENTIAL FACILITATORS AND BARRIERS
TO IMPLEMENTATION OF MECHANICAL RESTRAINT REDUCTION
IN DISABILITY SERVICES.

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Abstract

Introduction
Mechanical restraint is used on people with an intellectual disability, commonly in response to behaviours of concern involving harm to self or others. These types of restraint not only have limited effect in changing behaviour, they can prevent a person’s engagement in activities and opportunities to build skills, adversely affect their health and well-being, and the well-being of staff using restrictive interventions. They can represent a breach of a person’s human rights and, in some jurisdictions, a breach of criminal law.

Methods
A systematic review of the literature regarding disability support staff views on the use of mechanical restraint unveiled two previous papers. Broadly, the papers suggested that staff feel negative emotions such as guilt and sadness towards the use of mechanical restraint.

Subsequent to these limited findings, a two-phase study was undertaken. First, an on-line survey was used to establish an understanding of the knowledge and values of disability support staff in respect of the use of mechanical restraint on people with intellectual disabilities across Australian disability services. Secondly, a focus group consisting of experienced disability support staff discussed the main findings of the on-line survey and their perception of the barriers and facilitators to reducing the use of mechanical restraints.

Results
The survey highlighted, unexpectedly, there may be a positive emotional association for staff who use mechanical restraint. Moreover, the data showed that staff have mixed beliefs in whether restraint use could be eliminated. The focus group discussed topics regarding the practical implications of staff’s emotional responses and their understanding of behaviour theories.

Conclusions
Disability staffs’ views on the use on mechanical restraint may be both a barrier and facilitator to the reduction and elimination of its use. The positive emotional association to mechanical restraint may be a barrier for staff to initiate change in practice. However, the notion that staff may merely be following the guidance of
families or professionals could be a facilitator to mechanical restraint reduction as staff may follow positive behaviour support plans confidently when developed by professionals. Regulation and staff development might provide some solutions for reducing the use of mechanical restraints in disability services. However, organisational culture and operational expectations expressed in agencies local policies and procedures are also factors that need to be addressed. Working with, and importantly, listening to front-line staff could be an important source of information when developing strategies to address issues of organisational culture, policy and procedure. It was also evident that family members and professionals can be persons of influence in the use of mechanical restraint, and strategies to work with these groups appear important.
Declaration

I declare that this thesis and the research reported in it are original. It contains no material which has been submitted or the award of any other degree in any other university, and that to the best of my knowledge the thesis contains no copy or paraphrase of material previous published or written by another person, except where due reference is made in the text of the thesis. This thesis is fewer that the maximum word limit in length, at 29,915 words, excluding tables, reference lists and appendices.

Kathryn Louisa White
Preface

Content from this thesis was presented at three public seminars.


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Chapter One: Introduction

This thesis constitutes the work of a Master of Arts Research degree. The thesis will present the background context and relevant research literature regarding the issue of mechanical restraint use on people with an intellectual disability within disability services. In addition to a systematic literature review, the thesis includes an original two-phase study, describing the methodology and results, and presents interpretation of findings to highlight organisational facilitators and barriers to mechanical restraint reduction within disability services.

Situating the researcher in the research process

Prior to presenting the research, the author would like to state here personal and professional interest in the topic of the use of mechanical restraints within disability services, and highlight where such interests had the potential to bring bias to the research process. Regularly reflecting on these issues, and raising them in discussion with the supervisory team was one means by which they were managed in the conduct of the research.

As an Occupational Therapist, the author is interested in the way people with a disability are supported by the disability service sector to lead engaged and meaningful lives. As presented throughout this thesis, the use of mechanical restraint has been an area of interest to the author as its use can have many detrimental effects on personal health and well-being and, equally as important, people’s interaction with their environment and their opportunity to be involved in daily activities.

During the development of this thesis the author has worked at a state government level, providing practice and policy advice to disability services regarding the use (and reduction of use) of restrictive practices, and the monitoring and evaluation
of their use. Through this position the author has worked on projects investigating the prevalence and use of mechanical restraints within disability services, mainly focusing on the person with a disability and individual factors, such as diagnosis or adaptive functioning and communication skills that may have contributed to the continued use of mechanical restraint. The author therefore acknowledges that their values and beliefs have been influenced through the interaction of personal, professional and policy contexts, and that care has been necessary when framing and conducting the research, interpreting data and presenting findings.

**The purpose and key theories informing the thesis**

The purpose of the study was to investigate and explore one part of the disability practice environment with the potential to give rise to barriers to the reduction (and possible elimination) of mechanical restraint; that is disability staff’s knowledge and beliefs about the use of mechanical restraint. The ideal of reducing the use of mechanical restraint in disability services is viewed as a *wicked* problem as defined by Batie (2008). A wicked problem is a complex and dynamic issue which occurs in a social context, where there are many differing perceptions of the issue. This thesis focuses on one perspective of the issue, that is exploring the institutional and service setting where mechanical restraint is used. Furthermore, while the literature informing the study drew on what is known internationally, the participants involved in the studies were staff in Australian disability services. The Australian legislative and policy context therefore feature heavily in the research framework.

Theories underpinning the research included the Attributional Theory of Helping Behaviour (ATHB) (Weiner, 1986) and the Theory of Achievement Motivation (TAM) (Weiner, 1974). The application of these theories was purely to inform the research. The studies presented in this thesis do not aim to formally test these theories.
Key terms and definitions

For the purpose of this thesis, the terms ‘restraint’ and ‘restrictive interventions’ will be used interchangeably. This reflects their use in both the scientific literature and contemporary policy. They are defined as any intervention that is used to restrict the rights of freedom of movement of a person with disability including, chemical restraint, mechanical restraint, physical restraint and seclusion (Disability Act, 2006).

Mechanical restraint, which is the primary focus of the thesis, has been defined in various ways but is most commonly understood to involve the use of a device to control a person’s movement (Bethel & Beail, 2013). Relevant to Victoria, Australia, mechanical restraint is defined in the Disability Act (2006) as “the use, for the primary purpose of the behavioural control of a person with a disability, of devices to prevent, restraint or subdue a person’s movement” (pp.7). In practice, common types of mechanical restraint include restrictive clothing such as body suits, arm splints and gloves, helmets, belts and straps.

Intellectual Disability is defined according to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000); which consists of three components: a) significant sub-average intellectual functioning: an IQ of approximately 70 or below on an individually administered IQ test; b) concurrent deficits or impairments in present adaptive functioning in at least two of the following areas - communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, health and safety; and c) the onset is during the developmental period. It is acknowledged that since 2013 the DSM-5 has been in publication however, given the timing of this research and the associated review of
literature, most of the research to date (and policy development in disability services) has been conducted using the DSM-IV-TR system, which places the age limit for diagnosis at 18 years and the emphasis on IQ rather than adaptive behaviour for the purposes of classification.

**Procedures**

A systematic literature review was conducted to inform the research (Chapter 3). Following the review of the literature, the two-phase study recruited disability support staff who had experience working with people with a disability who were subjected to mechanical restraint. The phase one study (Chapter 4) utilised an on-line survey which included four psychometric scales to elicit information about how staff felt about using mechanical restraint and why they thought it was used in response to challenging behaviour. The survey also prompted participants to answer questions about their personal use of mechanical restraint with one person that they supported. The phase two study (Chapter 5) was conducted as a focus group, in which participants (experienced disability support staff in front-line leadership roles) were informed about key findings of the first study and were asked for their reflections, and their thoughts on whether the use of mechanical restraint could be reduced or eliminated.

**Significance**

A number of possible barriers to the reduction or elimination of mechanical restraint use within disability services, regarding staff knowledge, beliefs and experiences were revealed. Findings showed that the group of staff in the first study (i.e., the on-line survey) felt confident about using mechanical restraint. These findings were at odds with previous findings reported in the literature. Moreover, participants believed that the client behaviour that led to the use of mechanical restraint was most likely an emotional response or a learned behaviour of their clients with disability.
However, their subsequent reflections on whether mechanical restraint could be reduced or eliminated did not mention the need to address the functions of behaviour. Findings showed that the group of staff in the second phase of the study (i.e., the expert focus group) were surprised by some results from phase one, although they were able to provide plausible explanations for those results. Furthermore, the staff in the second phase provided insight to practices within disability services which act as barriers to the reduction of mechanical restraint.

Overall, these findings provide alternative perspectives to those currently represented in the research literature. The findings point to issues that need to be further investigated by policy makers and service providers seeking to reduce or eliminate the use of mechanical restraints in disability services. The results suggest a need for more than simply ‘restraint policy’ and education for front-line staff. Rather there is a need to address issues of organisational culture and to work closely with key people of influence, namely family members and health / allied health professionals.

**Limitations of the study**

The key limitation of the two studies presented in this thesis was the relatively low number of participants in each study. Generalisation of the findings is therefore problematic without further research. In stating this, the findings of the studies add to the knowledge base focused on staff knowledge and beliefs regarding mechanical restraint use and will be useful when designing larger studies.

**Organisation of the thesis**

The following chapter of the thesis, Chapter two, will present a background to the use of restrictive interventions within human services; examining specific examples of historical movements that have led to the reduction, and sometimes elimination of the
use of certain types of restraint in different human service settings internationally. This historical review will then lead into a description of the current use of restrictive interventions within disability services in Victoria, Australia (the first jurisdiction in Australia to enact legislation to regulate restrictive practices in disability services), highlighting that the use of restrictive interventions, specifically the use of mechanical restraint, remains problematic and seemingly resistant to current restraint reduction policies and strategies.

In Chapter three a systematic literature review is presented, describing previous research into the impact of mechanical restraint use within disability services. The review also addresses research concerning staff knowledge and perspectives on the use of mechanical restraint.

Chapter four outlines the research methodology and presents the results of the first phase of the study, conducted by means of an online survey. This phase investigated some primary social environmental factors which may present as barriers to the reduction of mechanical restraint use.

Chapter five details the methodology and results of the second phase of the study which utilised a focus group to reflect on and interpret findings from the first phase. This chapter concludes the investigation into direct support staff perspectives, knowledge and values on mechanical restraint use within disability services.

Chapter six provides a discussion and interpretation of the results from both phases of the study; highlighting the implications for practice, and future research ideas. In addition, the author provides personal reflections on the findings relating to their experience with the topic and issues of mechanical restraint use in disability services, and of working with disability service staff. In closing the thesis, the author details how
this piece of research integrates with other research to influence the wider practice of
disability services, safeguarding the rights of people with a disability to be free from the
inappropriate use of mechanical restraints.
Chapter Two: Mechanical Restraint Use within Disability Services

2.1 Overview

This chapter provides background information regarding the use of restrictive practices within human service settings, with a focus on disability service settings. More specifically, the use of mechanical restraints will be examined and its impact on people with an intellectual disability. The use of mechanical restraint will then be discussed within a human rights framework, highlighting key international charters as well as national and local legislation and policies which are in place to safeguard the rights of people with intellectual disabilities. A review of historic restraint reduction movements and interventions will be presented, highlighting the work to reduce the use of restrictive practices which has been ongoing for over 200 years. More recent human rights movements, which established new positions and legal documents on the use of restrictive practices are noted. Finally, current restraint reduction strategies and gaps in knowledge regarding barriers to the implementation of these strategies are explored.

When considering these issues, research literature is drawn from what is available internationally. However, specific reference will be made to the Disability Act (Victoria), 2006 and data gathered by the Office of Senior the Practitioner in Victoria. Together, these represent the first attempt in Australia to regulate the use of restrictive practices and collect a comprehensive data set on the use of these practices, under a legislative regime and across an entire jurisdiction. This model has since been adopted in several other Australian jurisdictions and is currently being used as the basis for a national quality and safeguarding framework to cover all of Australia (Department of Social Services, 2016).
2.2 Restraint and seclusion use in disability services

Restrictive practices, including restraint and seclusion, are defined as interventions that have the effect of restricting the rights or freedom of movement of a person with disability (Australian Law Reform Commission, 2014). Within legislation and literature there are many views about the use of such practices on people with intellectual disability, most commonly, that it should be used only as an intervention of last resort to provide for people’s safety, and never as a punishment. In Victoria, Australia, the Disability Act 2006 provides specific direction of when restrictive interventions are to be used within government funded disability services. It states that restrictive interventions are only to be used when there is the strong possibility of physical harm to self, harm to others, or the destruction of property which could lead to injury of the person or others (Disability Act, 2006; S140).

The Disability Act 2006 defines different categories of restrictive interventions: chemical restraint, physical restraint, seclusion and mechanical restraint. Chemical restraint means the use, “for the primary purpose of the behavioural control of a person with a disability, of a chemical substance to control or subdue the person” but not those prescribed for physical or mental illness (Disability Act, 2006; S3). Seclusion is defined as the sole confinement of a person with a disability at any hour of the day or night (Disability Act, 2006; S3). Physical restraint is described as “the use of physical force to prevent, restrict or subdue movement of that person’s body or part of their body, and which is not physical assistance or physical guidance” (Senior Practitioner, 2011; S3). Finally, as stated in the introductory chapter, mechanical restraint is defined in the Disability Act 2006 as “the use, for the primary purpose of the behavioural control of a person with a disability, of devices to prevent, restrict or subdue a person's movement” (Disability Act, 2006; S3).
Mechanical Restraint is currently used in Australian disability services, where the majority of service users have an intellectual disability (AIHW, 2008). This is foremost evidenced by the annual reporting regarding the use of restrictive practices in Victoria, Australia presented by the Office of the Senior Practitioner. In 2011, Webber, McVilly and Chan reported that out of all people with an intellectual disability who were reported to the Office of the Senior Practitioner, 9% of them had been mechanically restrained.

Subsequently, data have shown that the number of people subjected to mechanical restraint increased by 19% in Victoria from 2011-2012 to 2012-2013, and has stayed stable through to 2016-2017. This is in contrast to data concerning the use of other forms of restrictive practices, such as physical restraint and seclusion, which have decreased (Department of Human Services, 2014; Department of Health and Human Services, 2018). Any possible interaction among changes in the reporting of restrictive interventions is yet to be investigated.

Furthermore, studies in other jurisdictions investigating the prevalence of restraint use in disability services suggest that many people using disability services are frequently subject to restraint (Emerson et al., 2000; Sturmey, 2009). Emerson et al. (2000) examined 500 people who lived in residential service settings in the United Kingdom and found that 3% of adults with intellectual disabilities were mechanically restrained. McGill, Murphy and Kelly-Pike (2009) found that 12% were mechanically restrained in a similar population in the United Kingdom. Pilling, McGill, and Cooper (2007) found in nine residential special schools that 22% of pupils, all of whom had a disability, were mechanically restrained. Moreover, Sturmey (2009) discovered in an audit of National Health Service residential units in the UK, that 8% of units used mechanical restraint. What is known about the incidence of restraint use appears to be
influenced by the service setting in which the investigation is conducted, and the methods used to gather data.

2.3 Impact of Mechanical Restraint use on people with an Intellectual Disability

Mechanical restraints are often used in response to a range of challenging behaviours, mainly behaviours that result in self-injury or put the person at a high risk of self-injury (McGill, Murphy & Kelly-Pike, 2009). Examples of behaviours include hand to head behaviours such as hitting, mouth and eye gouging, finger biting and access to faeces which can produce a high risk of infection to the person and those within their environment.

While in Victoria, Australia, the number of people subject to such restraints might be considered relatively small compared to the number of people in receipt of services (Webber, McVilly, Chan, 2011), the impacts of mechanical restraint on these individuals, and the resources required to provide their longer-term support in the context of support strategies that fail to address the function of their behaviour are considerable. Furthermore, data from the Office of the Senior Practitioner in Victoria indicate that mechanical restraint is being used as a frequent and long-term intervention (Chan & Webber, 2013).

The use of mechanical restraint can amount to a breach of people’s human rights and result in physical and/or psychological harm to the person (Tumeinski, 2005). It can also hinder opportunities for comprehensive assessment and therapeutic intervention which can have implications for the person’s health and wellbeing. Consequently, health issues may not be diagnosed or appropriately treated in a timely way by professionals. Mechanical restraints can also cause health concerns such as pressure ulcers and skin irritation as well as bone-density loss and muscle atrophy from lack of
movement and weight bearing activities (Gastmans & Milisen, 2006). This may have a continuing detrimental effect on the person’s independence. In some jurisdictions, the inappropriate (and unauthorised) use of mechanical restraint can represent a breach of criminal law.

This type of restraint limits adaptive functioning and engagement in daily activities. Furthermore, it can limit people’s participation in a range of programmes and activities that could more effectively address their challenging behaviour. Importantly, its use impedes opportunities to complete functional behaviour assessments to determine other alternative intervention strategies to reduce challenging behaviour. The use of mechanical restraint fails to address the function of the person’s behaviour, and in the long term fails to address the person’s underlying support needs (Sturmey, 2009). Mechanical restraint may also inhibit a person’s ability to communicate effectively, especially when the person uses non-verbal means to communicate, such as pointing to a communication device, or predominately uses their body language to communicate.

Research from Victoria, Australia has highlighted that people with certain disability traits are more likely to be mechanically restrained (Webber, Richardson, White, Fitzpatrick, McVilly, Forster, 2017). Webber et al. study found that people with impairments which may impact on their ability to communicate (e.g. hearing, vision, Autism) were more likely to be mechanical restrained (Webber et al., 2017). These findings are consistent with the long-established “communications hypothesis” for challenging behaviour, which proposes that self-injurious behaviour may be used as a form of functional communication (Durand, 1986).

Mechanical restraint use can also have a psycho-social impact. Studies have highlighted the negative emotional impact that mechanical restraint use can have on a
person with a disability (Merineau-Cote & Morin, 2014; Hawkins, Allen & Jenkins, 2005). There may also be differences in service provision, as staff may react differently to people who are restrained. Staff may engage less in positive interactions and be more fearful of the person with a disability.

Furthermore, there is a risk of mechanical restraints being used inappropriately, constituting abuse. In recent years critical incidents involving the use (or mis-use) of mechanical restraint have been documented in the media; for example, “the story of the chair”, where a seventeen-year-old male was inappropriately strapped into a restraint chair for prolonged periods (Four Corners, ABC Online, 2016).

2.4 Restraint Reduction: Historical Review

Reduction of Restrictive Interventions in Human Services

Actions to reduce the use of restrictive interventions, and in particular mechanical restraint in human services, can be traced back to over 200 years ago to institutional reforms progressed in both the United Kingdom and in France (Ferleger, 2008). Pioneers in the movement of reducing and eliminating restraints at this time included William Tuke, Edward Parker Charlesworth, Robert Gardiner Hill, John Conolly and Vernon Briggs (Ferleger, 2008).

William Tuke’s work fuelled the start of the “moral treatment movement” after he began teaching self-control techniques and using meaningful and productive work as a therapeutic means within a psychiatric institution in 1792 (Ferleger, 2008). Tuke indicated that moral treatment consisted of treating a person kindly and respectfully, which included removing restraints. His model of moral treatment also assumed that persons with a mental illness had at least some capacity to control their own behaviour (Sturmey, 2015).
Tuke described three components of moral treatment: “(a) strengthening and assisting the patient to control their disorder, (b) using restraint and coercion appropriately, and (c) providing general comfort to the patient” (Sturmey, 2015, p.69). Although this model did not commit to eliminating restrictive and coercive practices, a reduction in restraint use was reported using informal data systems (Sturmey, 2015).

Charlesworth and Hill eliminated the use of mechanical restraint and coercion in an institution by 1838, utilising a ‘social mode of treatment’ similar to that of Tuke’s ‘moral treatment’ model (Ferleger, 2008). After acknowledging the views and practices put in place by Charlesworth and Hill, John Conolly was successful in eliminating the use of mechanical restraint, specifically the use of shackles, in 1839 in Middlesex County asylum at Hanwell in England. Many facilities in the United Kingdom followed in the successful reduction of restraints which spurred on the “moral treatment” movement of the 1800s (Ferleger, 2008).

The United States of America was slow to follow the non-restraint movement as psychiatric hospital superintendents were divided in their view of the use of restraints (Ferleger, 2008). In some institutions, the use of physical restraint was viewed as a form of therapeutic treatment and was an accepted practice to manage violent patients (Ferleger, 2008).

Restrictive interventions remained a common part of treatment in the United States until 1911 when Dr. Vernon Briggs pursued restraint legislation in Massachusetts to eliminate patient abuse that he had witnessed in psychiatric facilities (Ferleger, 2008). The new law was passed and required state institutions to provide training to nurses, attendants and patients in many different occupations that were appropriate and necessary for patients to do (Ferleger, 2008).
Although these positive moves to reduce and eliminate the use of restrictive practices first appeared in legislation over a century ago, these practices are still used today. Many clients who access human services such as those with a mental illness and/or intellectual disability are still subjected to many forms of restrictive interventions. It is the misuse of such practices and the subsequent abuse of people with disability that is soon to be the subject of a Royal Commission in Australia (Department of Social Services, 2019).

**Human Rights Movement**

The social and political impetus to reduce the use of restrictive intervention rose again with the development and implementation of key legal mechanisms globally, such as the Declaration of Rights of Disabled Persons (United Nations, 1975), and later the Convention on the Rights of Persons with Disabilities (UN General Assembly, 2006).

The 1975 UN declaration states that “disabled persons have the inherent right to respect for their human dignity”, (Article 3; UN, 1975). Since the adoption of the United Nations Convention on the Rights of Persons with Disability in 2006, there has been an increased focus on addressing restrictive practices in the disability sector, including chemical restraint, physical restraint, and mechanical restraint. This has been particularly so in response to Article 15 which stipulates persons should be free from ‘torture or cruel, inhuman or degrading treatment or punishment’. The introduction of legislation and statutory regulation in various jurisdictions, such as the 2006 Disability Act in Victoria, Australia, reflects these concerns.

More recently in 2014, Australian commonwealth, state and territory government disability ministers endorsed the National Framework for Reducing and Eliminating the Use of Restrictive Practices in the Disability Service Sector, which outlines high-level principles and core strategies to reduce the use of restrictive
practices in the disability services sector (Australian Law Reform Commission, 2014). With the introduction of a national funding scheme for disability services in Australia, and the accompanying Quality and Safeguards Commission, Australia’s safeguarding against the use of restrictive practices on people with disability is to be strengthened by the introduction of the National Disability Insurance Scheme Restrictive Intervention and Behaviour Support Rules 2018 (Department of Social Services, 2016).

2.5 Review of current restraint reduction interventions

Following on from the human rights movements, there has been an increase in the focus on restraint reduction strategies and policies across many human service sectors including mental health and the disability service sector. Legislation, policies and intervention frameworks used to reduce restrictive practices in these two services settings are presented together given their similarities. Intervention frameworks which are currently in use include Positive Behaviour Support, Organisational Behaviour Management, and approaches to training direct support staff. These interventions, together with legislative and policy initiatives are discussed below highlighting their influence in reducing restrictive practices.

Restraint monitoring and reduction through legislation

Many jurisdictions have adopted legislation which regulates and monitors the use of restraint in disability services settings. As discussed previously, the state of Victoria, Australia, is guided by the Disability Act 2006. This Act was unique as it gave functions to a position in the state government, the Senior Practitioner. The Senior Practitioner is guided by the act to collect data about the use of restrictive practices in disability services, as well as provide training and advice to services to reduce the use of
such practices (Department of Health and Human Services, (2018). In Tasmania, Australia, disability services are guided by the Disability Services Act 2011, which closely reflects the Victorian legislation, appointing a Senior Practitioner to monitor and review the use of restrictive practices. In addition, in Queensland, Australia, disability services must practice under the guidance of the Disability Service Act 2006. All three acts mention that services should use the least restrictive option of restraint and move towards its reduction (Disability Act [Vic], 2006; Disability Services Act [Qld], 2006; Disability Services Act [Tas], 2011).

**Positive Behaviour Support**

Positive Behaviour Support (PBS) emerged in the mid-1980s as an alternative to consequence based and aversive behaviour management techniques. Kincaid et al. (2016) provide a comprehensive definition of PBS;

“PBS is an approach to behaviour support that includes an ongoing process of research-based assessment, intervention, and data-based decision making focused on building social and other functional competencies, creating supportive contexts, and preventing the occurrence of problem behaviours. PBS relies on strategies that are respectful of a person’s dignity and overall well-being and that are drawn primarily from behavioural, educational, and social sciences, although other evidence-based procedures may be incorporated PBS may be applied within a multi-tiered framework at the level of the individual and at the level of larger systems (e.g. families, classrooms, social service programs, and facilities).” (Kincaid et al., 2016, p71)

Using this framework, at an individual level, behaviour support needs are assessed using functional behaviour assessments. Subsequently, a behaviour support
plan is developed to guide carers/staff to work consistently to provide pro-active intervention strategies to reduce the use of behaviours of concern.

Key features of PBS are commonly highlighted in legislation and policies regarding the use of restrictive practices in disability services. For example, guided by the Victorian Disability Act (2006), disability services are required to develop a behaviour support plan (BSP) for any individual who is subjected to a restrictive intervention to control or subdue a behaviour of concern. To ensure the restrictive practice is evidenced as the least restrictive option, services submit a positive behaviour support plan which includes the hypothesised function of the behaviour, and the intervention plan. BSPs include three types of intervention strategies; (1) environmental changes; (2) strategies to teach and reinforce a positive replacement behaviour; and (3) a de-escalation plan with strategies to ensure the safety of all involved and to decrease the intensity and duration of the behaviour of concern.

Browning Wright and colleagues developed a scoring rubric called the Behaviour Support Plan Quality Evaluation (BSP-QE II) to assess the quality of the content in BSPs (Browning Wright, Mayer, Saren & Mayer, 2003). The BSP-QE II consists of twelve items to evaluate key components including: (1) the description of the behaviour, (2) predictors of each behaviour, (3) factors that support the behaviour to occur, (4) environmental changes, (5) the function of the behaviour, (6) replacement behaviours and whether they are logically related to the function of the behaviour, (7) strategies for teaching the behaviour or other positive skills, (8) reinforcers for the replacement behaviour, (9) reactive or de-escalation strategies, (10) goals and objectives, (11) team coordination and (12) team communication plan (Browning Wright, Saren & Mayer, 2003). The BSP-QE II is scored out of 24 with each item able to be scored 0, 1, or 2, with the exception of item 6 (replacement behaviour), which can
only score 0 or 2. The BSP – QE II has been found to be valid and reliable in many settings, most importantly in this context, in Australia for BSPs written for adults with disabilities (Browning Wright, Mayer, Cook, Crews, Kraemer & Gale, 2007; McVilly, Webber, Paris & Sharp, 2013; McVilly, Webber, Sharp & Paris, 2013).

Research from Webber, Richardson, Lambrick and Fester (2012) indicated that the quality of BSPs is associated with a reduction in restraint use. They reviewed the quality of 198 BSPs using the BSP – QE II, with 47 plans including the use of mechanical restraint, and placed reviewed BSPs in two categories, high-quality (score of over 13) and low-quality (score of 12 or under) (Webber, Richardson, Lambrick & Fester, 2012). Results showed that BSPs which included information regarding the function of the behaviour had the strongest effect in reducing restraint and seclusion (Webber, Richardson, Lambrick & Fester, 2012). This paper did not break down results to show the difference in high- and low-quality plans specifically for mechanical restraint reduction, however the overall results are positive in showing that a higher quality BSP relates to a reduction in the use of restraint and seclusion (Webber, Richardson, Lambrick & Fester, 2012). Currently, annual reporting from the Victorian Senior Practitioner shows that the average quality score for a sample of behaviour support plans is 13 out of the possible 24, regarding all types of restrictive interventions reportable. (Department of Health and Human Services, 2018).

**Organisational Behaviour Management Approach**

William and Grossett (2011) describe the successful use of an Organisational Behaviour Management Approach (OBM) to reduce the use of mechanical restraint at a large state-run residential facility for people with an intellectual disability. The OBM approach includes: (1) identifying and tracking a priority group of people residing in the
facility who frequently engage in self-injurious behaviour and who have been placed in mechanical restraints, this included the development of a behaviour intervention plan for each individual; (2) utilising a behaviour monitoring and feedback system, tracking behaviour data and mechanical restraint use; and (3) the analysis of current organisation policies, which led to the development of two clear contingencies surrounding the use of mechanical restraint (William & Grossett, 2011).

Using this approach, the facility reduced the use of mechanical restraint by almost 80% over a 17-month period. It should be reflected that prior to this study the organisation had no policies or specific client goals in place to reduce the use of restraint, apart from the state and federal regulations of the USA which stated that restraints can be used to prevent injury (William & Grossett, 2011). Furthermore, this approach was founded on the support and work of clinical teams including psychologists, registered nurses and physicians, which is not common practice in disability services in Australia.

Staff workforce training

In recent years there has been a greater emphasis on the role staff have in the continued use or reduction of restrictive interventions. This has led to a focus on the effectiveness of training that disability service staff receive and its influence in reducing restrictive interventions.

Firstly, training disability service staff in the principles of PBS has proven to be effective in increasing the quality of BSPs (O’Dwyer, McVilly & Webber, 2017). O’Dwyer, McVilly and Webber (2017), found that staff who attended a four-day training workshop, based on the principles of PBS and the quality components of the BSP-QEII, created higher quality BSPs which led to a reduction in maladaptive
behaviours and restrictive interventions. This study observed a slight reduction in PRN (as needed) chemical restraint use 12 months after staff had completed the training. Furthermore, other research has shown that staff training in PBS leads to an increase in staff knowledge and confidence in working with people who display challenging behaviours (Lowe et al., 2007).

Secondly, training staff in mindfulness techniques has been explored to investigate its association with a reduction in the use of restrictive practices (Brooker, Webber, Julian, Shawyer, Graham, Chan, & Meadows, 2014). Brooker et al. (2014) found a reduction in the use of restrictive interventions in two residential facilities after staff completed an 8-week Occupational Mindfulness program. Further studies are continuing to investigative the effectiveness on staff training on the empathy and work practices of staff, including the possible reduction in the use of restrictive interventions (Randell, Hastings, McNamara, Knight, Gillespie & Taylor, 2017).

**Staff knowledge and perspectives of restrictive interventions**

As highlighted above, disability service staff have an influence on the continued use of and possible reduction of the use of restrictive interventions. An important factor within this influence is staff knowledge and perceptions about restrictive practices. In both disability and mental health settings studies have investigated staff knowledge, experiences and views of both chemical and physical restraints. Donley, Chan and Webber (2011), investigated the knowledge of disability support workers regarding the use of psychotropic medications which are commonly used as chemical restraints. Within this study, six participants were interviewed and the majority of them regarded medication as the best and only solution to manage challenging behaviours (Donley, Chan & Webber, 2011). However, participants did acknowledge alternative positive
interventions and thought that with consistent approaches, staff could reduce use of PRN (as needed) medication use (Donley, Chan & Webber, 2011).

Staff views on the use of physical interventions have been investigated in residential and forensic disability services as well as in psychiatric settings (Fish & Culshaw, 2005; Hawkins, Allen & Jenkins, 2005; Larsen & Terkelsen, 2014). Fish and Culshaw (2005) interviewed both staff and patients of a forensic disability service. Staff reported feelings of guilt and sadness after using physical restraint and they said that it was always used as a last resort (Fish & Culshaw, 2005). In Hawkins, Allen and Jenkins’ (2005) study, staff working in residential disability settings experienced negative emotional reactions when applying physical restraint. Additionally, Larsen & Terkelsen (2014), explored both patient and staff experiences of coercion in a locked psychiatric ward. Coercion included the use of a seclusion room and mechanical devices to inhibit patients from moving. Themes from the interviews of twelve staff included feeling vulnerable and experiencing feelings of guilt when using physical restraint on patients (Larsen & Terkelsen, 2014).

Staff perception on the ideals of restraint reduction have also been investigated (Deveau & McGill, 2009; Muir-Cochrane, Baird & McCann, 2015). Deveau and McGill (2009) explored disability service staff attitudes towards the monitoring and reduction of physical intervention use. The majority of staff supported the idea of restraint reduction, noting the need for the uptake of ‘restraint as last resort’ policies (Deveau & McGill, 2009). They also supported staff training, better person-centred planning, monitoring restraint use and having external support (Deveau & McGill, 2009). Muir-Cochrane, Baird & McCann (2015) interviewed 39 mental health nurses to understand their experiences of restraint and seclusion in short-stay acute old age psychiatry and how these experiences underpin resistance to eliminate restrictive
practices. The main themes from the participants regarding barriers to restraint elimination were a lack of accessible alternatives to both restraint and seclusion (Muir-Cochrane, Baird & McCann, 2015). They also perceived an adverse interpersonal environment, such as poor staff-to-patient relationships, unfavourable physical environment and the practice environment, such as low staff-patient ratios as additional barriers (Muir-Cochrane, Baird & McCann, 2015).

2.6 Summary

The use of mechanical restraint on people with an intellectual disability has continued in many jurisdictions globally. Notably, in Victoria there has been no reduction in the number of clients subjected to the use of mechanical restraint within funded disability services (including both government operated services and those services operated by community sector organisations), despite the implementation of the Disability Act 2006, the associated statutory reporting regime, and the raft of professional development activities offered across the sector. This contrasts with the fact that Victorian disability services have been able to achieve reductions in other types of restrictive interventions, such as reduction in the use of physical restraint and seclusion.

While mechanical restraint is continuing to be included in personal care plans, there have been some successful circumstances where individuals have had reduction or complete elimination of mechanical restraint use. The reasons for the success or failure of mechanical restraint policy across different services and for differing individuals remains largely unknown, and what is asserted remains only speculative.

It is possible that mechanical restraint use is ingrained within service practice and culture. This culture may be preserved by the knowledge, attitudes and values of
staff, who might believe that the mechanical restraints are a necessary (positive) option for the client's health, well-being and dignity. Other possible factors may be linked to a lack of resources in addition to a lack of knowledge among senior management or organisations in regard to the negative impact of mechanical restraint on all involved (clients and staff).

To address the ongoing issue of the use of mechanical restraint in disability services, it is proposed that there needs to be a combination of change at a policy level within organisations, practice improvement at the point of direct service delivery, and legislation requiring the reporting and monitoring of such procedures. For this type of change to occur staff need to be engaged in any such endeavours, and their experience and expertise recognised as important contributors to the process.

Consequently, it is necessary to investigate the views and perspectives of staff, and the cultural factors in organisations which might be acting as barriers (or which could be harnessed as facilitators) to the reduction of mechanical restraint. To advance such a programme of research, a systematic review of the literature was initially conducted. This is documented in the next chapter.
Chapter 3: Systematic Literature Review

3.1 Introduction

As discussed in chapter two, mechanical restraint is used to prevent challenging behaviour of children and adults in disability and mental health services as well as in schools (McGill, Murphy & Kelly-Pike, 2009). Mechanical restraint often adversely impacts a person’s engagement in activities and their health and wellbeing, limits opportunities to build skills, and may represent a breach of human rights (Tumeinski, 2005). Attempts to reduce or eliminate these practices through policy initiatives have had mixed success. Given the influential role direct support staff play in the implementation of restraint reduction initiatives, it is important to understand their perspectives.

A systematic review of literature was undertaken to identify and summarise research previously conducted which investigated staff views and attitudes on the use and impact of restrictive interventions within disability service settings. Previous studies have focused on chemical restraint (e.g., Donley, Chan & Webber, 2011) and physical restraint (e.g., Fish & Culshaw, 2005; Hawkins, Allen & Jenkins, 2005). However, this review investigated staff perspectives on the use of mechanical restraint defined as ‘the use…of devices’ (Disability Act, 2006; S3).

The overarching question guiding the review was: What is currently known about the views and perspectives of direct support staff concerning the use and impact of mechanical restraint in the support of adults with Intellectual Disability (American Psychiatric Association, 2013) who exhibit challenging behaviours, i.e., behaviours that might be of harm to themselves or others in disability service settings?
3.2 Method

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff & Altman, 2009) informed the retrieval and critique of the literature providing a methodological framework for the review. The following sections are based on the PRISMA guidelines.

Search Strategy

Papers were identified by searching the following databases: PsycInfo, CINAHL Complete, MEDLINE Complete, Academic Search Complete, Psychology and Behavioural Sciences Collection, Scopus and Web of Science. The terms used to search these databases included intellectual disability, mechanical restraint, restraint, restrictive intervention, and staff views. A full list of search terms is listed in Appendix 1. Reference lists of articles were also scanned to identify authors contributing to this field of inquiry and other related articles.

Inclusion and exclusion criteria

Articles were included in the review if they were set in a disability service context (either a community service organisation or those provided by government agencies) including dual disability settings; and if they explored staff views or perspectives on the use and/or impact of mechanical restraint interventions. Papers which identified ‘physical restraint’ were included in the initial stages of the review, given the close similarities between these two forms of restraint, that in practice they can commonly co-exist, sometimes the terms are used interchangeably, and consequently in the research literature they are commonly inter-related. However, for the final selection, nine papers that presented studies which only defined physical restraint as ‘hands on restraint’ or ‘physical force’ were excluded as this did not fit the definition of mechanical restraint. Papers which included mechanical restraint alongside
other types of restrictive practices were explored through full text review to confirm their inclusion. Moreover, if these articles did not clearly link staff views and mechanical restraint they were excluded. Papers which explored working with children and adolescents using mechanical restraint were included within the review.

Papers were excluded if they were set in mental health facilities or hospital settings. Although these settings may have similar uses for restrictive practice and mechanical restraint these settings differ greatly when considering staffing. Mental health and hospital staff usually have a diploma or degree level qualifications and specific training in health care (e.g., nursing) which is vastly different to the qualification standards in the disability sector. For example, in the United Kingdom there is no mandatory requirement for care workers to have qualifications (Skills for Care, 2018). Furthermore, in Australia, there is no minimum qualification standard for disability support workers, however it is becoming more common for service organisations to require a certificate level qualification (Department of Health and Human Services, 2017). Review and opinion papers were also excluded. However, their reference lists were searched to identify further peer-reviewed articles to review.

Eligibility assessment

Using the search terms, databases were searched for articles to include in the review. Inclusion and exclusion criteria were used to assess the eligibility of papers. As outlined in Figure 1, the search strategy initially revealed 37 peer-reviewed papers, after duplicates were removed. Papers were first considered for inclusion by means of reading headings and abstracts. Subsequently there were sixteen papers for consideration by means of reviewing their full text. Following full-text review, there were two papers remaining that met the inclusion and exclusion criteria.
Data extraction

Data were extracted from the selected papers, guided by the PRISMA guidelines (Moher, Liberati, Tetzlaff & Altman, 2009). First, papers were read in full to gain knowledge about the methodology, participants, findings and context of the research presented. Data were then extracted from each paper under the following headings, description of study, design and setting, recruitment and sampling of participants, data collection and analysis, and results. A summary of the extracted data from the review articles is provided in Table 1.
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Participants</th>
<th>Aim/Purpose</th>
<th>Methodology</th>
<th>Measures/Analysis</th>
<th>Principle Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bethel &amp; Beail (2013)</td>
<td>United Kingdom</td>
<td>38 support staff who worked with one of three disability clients who was subjected to mechanical restraint</td>
<td>To ascertain the experiences of support staff who apply mechanical restraints to their clients</td>
<td>Qualitative</td>
<td>Semi-structured interview (theory of what they did with data) Content analysis Emergent coding (Only 9 participants data were used for analysis)</td>
<td>Staff described mechanical restraint having a negative impact on themselves.</td>
</tr>
<tr>
<td>Merineau-Cote &amp; Morin (2014)</td>
<td>Canada</td>
<td>8 pairs of service users and support staff</td>
<td>To examine the perspectives of both services users and staff regarding the use of restrictive interventions</td>
<td>Qualitative</td>
<td>Interview containing 16 open questions Content analysis Emergent coding</td>
<td>Staff experienced restrictive interventions negatively.</td>
</tr>
</tbody>
</table>
3.3 Results from literature review

Two papers were identified to be included in this literature review regarding disability staff perspectives on the use of mechanical restraint on people with an intellectual disability (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Given the paucity of literature available for review, further consideration was given to widening the search criteria. However, as noted earlier, the context of the other studies potentially available for review (e.g., in mental health facilities) differed substantially from the context of mechanical restraint use in services for people with intellectual and developmental as to render their findings irrelevant for the current purposes. The fact that there were so few published papers on this topic highlighted the need to develop a comprehensive programme of research in this field. Information regarding the aims, methodology and results of the papers finally included are presented below.

Description of studies

Rationale

The selected papers highlighted the use of mechanical restraint being used to prevent challenging behaviours displayed by people with an intellectual disability which cause harm to themselves and others, such as staff and other service users. These papers depicted summaries of literature regarding the use of mechanical restraints globally and within their local contexts and highlighted that although policies and procedures are in place to reduce these types of restraint, they are continuing to be used in disability service settings (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Both studies stated that previous research into the perspectives of staff has been completed within psychiatric or hospital settings regarding mechanical restraint use (Mérineau-Côté & Morin, 2014), and staff perspectives within disability service settings, however this research related specifically to the use of physical restraint (Bethel & Beail, 2013).
Aims of studies

These papers described exploratory studies which looked at the views of disability support staff on the use of mechanical restraint within disability services. The first paper, by Bethel and Beail (2013), aimed to ascertain the experiences of staff and the impact that using mechanical restraint had on these staff. They also investigated how staff manage this impact (Bethel & Beail, 2013). The second paper, by Mérineau-Côté & Morin (2014), aimed “to identify how staff perceive the use of restrictive measures” (p.448). This study looked at multiple types of restraint, which included mechanical restraint (Mérineau-Côté & Morin, 2014).

Design and setting

Studies were all jurisdiction specific. Bethel and Beail’s (2013) study was set in the United Kingdom, solely within accommodation service settings, whereas Mérineau-Côté & Morin’s (2014) was set in Canada, using staff who worked in community services. One study stated that the use of mechanical restraints within the accommodation setting were a part of support plans devised with a clinical psychologist and a physiotherapist as well as having input from staff and family members (Bethel & Beail, 2013). Qualitative research methodologies were utilised with both studies using semi-structured interviews to collect data (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014).

Sampling and participants

To gain insight into staff perspectives, both studies recruited direct support staff who regularly applied restraints within disability service settings (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Studies adopted purposive sampling strategies to support data collection from relevant and willing participants (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). One study recruited staff who worked with three
people with profound multiple intellectual disability, who displayed self-injurious
behaviour resulting in the application of arm splints by support staff (Bethel & Beail,
2013). This study recruited 38 staff from a single service, who supported the three
individuals, however only nine participants were interviewed as authors claimed data
saturation to have been reached at that point. One study recruited participants as pairs;
one primary care provider (staff) and a client subject to restraint (Mérineau-Côté &
Morin, 2014). This study included eight people with intellectual disabilities, who were
diagnosed with mild through to severe intellectual disabilities and one person (staff)
who supported them with the service setting (Mérineau-Côté & Morin, 2014). An
inclusion criterion for these ‘service user’ participants was that they were required to
have a level of expressive and receptive language skills which would allow them to
participate in an interview (Mérineau-Côté & Morin, 2014). Only one study provided
demographic information regarding the staff participants (Bethel & Beail, 2013). The
participants in this study comprised of eight females and one male staff with a mean age
of 40.67 years (Bethel & Beail, 2013).

Data collection and analysis

A common approach amongst the studies was the use of face-to-face semi-
structured interviews (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). One
study (Mérineau-Côté & Morin, 2014) interviewed both staff and the service users
which they supported. Although interview schedules were not found within the papers,
both papers described the use of open-ended questions which were formulated to gain
both positive and negative responses (Bethel & Beail, 2013; Mérineau-Côté & Morin,
2014). One study included questions to elicit information regarding staff emotional
experiences before, during and after using the restraint; possible alternatives to the
restraint in use; and their perceived impact on the use of restraint on their relationship
with the service user (Mérineau-Côté & Morin, 2014). One study asked staff about the use of restraint within the past week and how they experienced its use (Bethel & Beail, 2013).

Utilising qualitative approaches, data were commonly analysed using content analysis and emergent (inductive) coding (Bethel & Beail, 2013) or using a coding grid based on reference texts and initial readings of the transcripts (Mérineau-Côté & Morin, 2014). Mérineau-Côté and Morin (2014) described a six-step process which they used to ensure the reliability of coding themes, stating inter-rater agreement at 78% between two researchers. Bethel and Beail (2013) briefly described their process of member checking the researcher’s interpretation of the data by asking participants to read over the transcript with the researcher.

Study findings

Staff perspectives on the use of Mechanical Restraint

Findings concerning staff perspectives on the use of mechanical restraint were generally consistent between the two studies. Overall findings from the studies highlighted both the negative feelings and the impact that mechanical restraint had on support staff (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Staff commonly reported feeling anxious and sad about having to restrain the clients they supported (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Studies reported that staff felt concerned about the comfort and safety of their client while in the restraints (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Staff described experiencing feelings of guilt or failure as they had not been able to successfully use an alternative intervention to the restraint (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014).
Contradictory to the main findings, a few staff within both studies discussed feeling reassured when using restraint as it reduced the risk of harm to self or others (Mérineau-Côté & Morin, 2014) or reflected these emotions when they were working within set guidelines by clinicians (Bethel & Beail, 2013).

Additionally, in these studies the majority of participants commented that they would like to find an alternative to the use of restraint (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). The issue of safety for staff as well as other service users was highlighted by a few staff as they had previously experienced injuries from clients’ aggressive behaviour (Mérineau-Côté & Morin, 2014).

**Staff knowledge and views regarding restraint guidelines**

Studies reported on staff knowledge and perspectives around restraint guidelines, policies and management strategies (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Both studies reported on the strategies that staff used to manage the negative impact they experienced during or after using restraint (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Strategies included debriefing with colleagues, self-debriefing, and in some cases taking time off work (sick leave) (Mérineau-Côté & Morin, 2014). However, Bethel and Beail (2013) reported that some staff in their study felt there was a culture in their workplace that took the view it was unprofessional to be distressed by your work, and that staff just needed to do what was needed and move on without further reflection.

In Merineau-Cote and Morin’s (2014) study, clients’ experiences of mechanical restraint were also reported. They were of the understanding that the restraints were necessary for ‘safety reasons’ and, like the staff involved, experienced negative emotional reactions towards restraint use.
3.4 Discussion

Summary of main results

This review searched for studies which explored disability support staff views and experiences about the use of mechanical restraint on people with intellectual disabilities within disability service settings. The search revealed a paucity of relevant research as it pertains to staff in community-based disability services, with the only related work having been conducted primarily in health care (psychiatric in-patient) settings.

In the two studies identified as relevant to the current review, staff predominantly highlighted negative feelings and experiences when using mechanical restraint with people they support, including sadness, anxiety, guilt and feelings of failure. The studies utilised similar methodologies and participants although recruitment strategies differed. Due to the small number of participants and the context of both studies being very specific to the locality, it is difficult to generalise the findings to a wider population of disability services. However, the commonalities of the results across the UK and Canada suggest these findings could inform practice developments in service systems that have similar legislative and policy frameworks, such as in Australia.

Critical appraisal

Rational and aims

The studies clearly stated their aims and as exploratory studies, but neither had hypotheses. However, both were primarily qualitative studies investigating topics of inquiry rather than reporting experimental work. As described earlier in the review, both studies provided rationales supported by literature and the policy context of the situation with their respective settings.
**Sampling setting and participants**

There were a number of limitations with these studies. These included the relatively small sample sizes and focus on single facilities which might have impeded both data saturation and theoretical saturation (Charmaz, 2006; Mason, 2010), and in turn limited the extent to which findings could be said to have wider application. Both studies recruited participants from a sole service setting, meaning that all staff worked at the same service. This limits the transfer of findings to other disability service settings as organisational policies, training and overall culture may be different to other settings and this was not explored in these papers.

It should be noted that in the study where pairs of service users and staff were used, that all but one service user had a mild to moderate intellectual disability (Mérineau-Côté & Morin, 2014). This is important because it is likely that service users with severe to profound intellectual disabilities would require different levels of care and, where restraint is used staff may experience this differently to when working with other (lower support / more able) client populations. Investigating the issues specifically for service users with severe to profound intellectual disabilities appears critical, as this group is most vulnerable to such practices.

In terms of the global context of mechanical restraint use, the studies were set in the United Kingdom and Canada, allowing for comparison of results and some generalisations for other jurisdictions as the key findings were similar. As disability services and their policies, together with staff culture could vary across countries, further research is required to develop an understanding of any potential cultural differences in other countries.
Study design methodology and data collection

The two studies in the review utilised qualitative methods to explore their aims. This was appropriate as qualitative research strategies are typically used where researchers aim to explain people’s experiences with a social context (Kielhofner & Fossey, 2006). A strength in the study designs of these two studies was the use of semi-structured interviews. This allowed researchers to use a set of questions when interviewing participants, with some freedom to add additional questions when elaboration was required. One of the studies presented information of how often the interview schedule was followed or when the interview had reformed or added additional questions (91% to 9% respectively) (Mérineau-Côté & Morin, 2014). Both studies also highlighted their bias mitigation strategies to ensure that open ended questions could elicit both positive and negative responses from participants.

There were limitations evident with respect to the use of face-to-face interviews, foremost was the potential for participants to provide information that they may have deemed socially desirable (Paulhus, 2002; Perinelli & Gremigni, 2016; Tourangeau & Yan, 2007). In such contexts, participants may have been reluctant to honestly express their perspectives/beliefs and instead may have provided answers that they believed to be good or expected by the interviewer (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Screening for such issues could enhance future studies, or possibly be circumvented by the adoption of alternative, more anonymous methods such as an online survey.

Analysis and interpretation

Following on from gathering qualitative data through semi-structured interviews, the use of content analysis with the interview transcripts was considered appropriate to achieve research aims. One study provided a detailed six step approach to
data analysis, including information regarding inter-rater agreement in regard to the coding grid used to highlight themes found within the interview transcripts (Mérineau-Côté & Morin, 2014). This strengthened the reliability of results reported.

In keeping with qualitative methods approaches, the researchers presented the result weighting the information with regards to the number of participants who spoke about a certain phenomenon through the interviews. This allowed the reviewer to recognize the array of different experiences by participants while acknowledging the most prevalent findings from the sample.

Due to the low sample sizes, complexity of the participant recruitment and sample inclusion criteria, it is difficult to generalise the findings from the studies across other jurisdictions and service settings. However, it is noted that clear descriptions of the service context were provided in both studies, and other settings may be able to relate to the similarities and gain insight from the results and interpretation presented. To make these studies more robust, seeking participants from a number of similar service settings in the same locality would have eliminated any bias based from the singular setting, such as local workplace culture and relationships between staff as work team.

**Future research**

There was a limited number of studies found which addressed the questions asked in this review. More research in this area is necessary to investigate how staff perspectives and experiences may impact on the continued use of mechanical restraint, especially with different service jurisdictions.

One of the main limitations in this review is the reliability of data collected in studies utilising on face-to-face interviews, and the possibility of participants providing
socially desirable responses (Paulhus, 2002). This is a problem common in social research in contentious topics. Future research may address this issue by including research designs which are more anonymous, such as utilising postal or on-line surveys, or possibly phone interviews for data collection, where participants may feel their identity is more removed from the researcher.

Future research may also consider the use of quantitative methods involving the use of psychometric scales which have been validated to gain information about the frequency and intensity of emotional experience by staff who use mechanical restraint on people with an intellectual disability. Alternative recruitment strategies and data collection methods may also allow for greater participation rates, which would allow for more generalisation of results.

3.5 Summary

This systematic review of the literature was undertaken to identify what is currently known about the views and perspectives of support staff concerning the use and impact of mechanical restraint in the support of adults with Intellectual Disability and/or mental health issues who exhibit challenging behaviours that might be of harm to themselves or others. It was proposed that an in-depth understanding of these issues could provide the basis for policy and practice interventions to decrease, or ideally eliminate, the misuse of mechanical restraint.

There is a paucity of literature concerning staff perspectives on the use of mechanical restraint on people with intellectual disabilities. However, the review did identify some common themes amongst the studies identified - predominantly, that staff have strong negative feelings towards using mechanical restraint.
The literature presented forms a foundation for developing an understanding of the perspectives of staff who use mechanical restraints in disability services, and the subsequent need for policies, culture change and strategies to address these issues. However, with the low number of papers and their limitations with respect to analysis, interpretation, and the ability for the results to be transferred into other contexts, there is need for more research on this topic within different countries and contexts and employing more robust and comprehensive research techniques. Most notably, further work is required with respect to the circumstances of staff working with people with severe to profound Intellectual Disability and who are vulnerable to restraint.
Chapter Four: Phase One Study

4.1 Overview

This chapter outlines the research methodology and results from the first phase of a two-phase study. It includes information about the two-phase research strategy and the methodological approaches; participant selection and recruitment; data collection techniques and instruments; methods for data analysis; ethical considerations; and critique of the research methodologies, for phase one of the study.

The protocols for this programme of research were reviewed and approved by the University of Melbourne Human Research Ethics Committee; project number 1749397 (Appendix 2).

4.2 Research Strategy

The research was undertaken in the form of a two-phase study to explore the topic, i.e., the use of mechanical restraint in disability services, and relate key findings to practice. The applied aim of phase one (reported in this chapter) was to investigate and establish the perspectives, knowledge and values of direct support staff in respect to the use of mechanical restraints on people with intellectual disabilities.

By investigating staff beliefs, values and knowledge surrounding challenging behaviour which has been associated with the use of mechanical restraint on individuals with an intellectual disability, it was proposed that it would be possible to better understand how the external, social and cultural environment might act to enable (promote) the use of such practices, act as a barrier to restraint reduction in disability services, or facilitate the reduction of such interventions. External factors can be understood as those that are not related to a specific individual client, but rather those of the environment surrounding the use of restrictive practices in a service; for example,
the policies, management frameworks, workplace culture and staff values and beliefs that influence working practice within a service.

Phase two aimed to gain insight and perspectives from support staff on key findings from phase one. By presenting findings from phase one to a group of support staff who were involved in using mechanical restraint, the phase two research was designed to member check and refine the emerging theory arising from phase one, with a particular focus on the organisational issues that might affect the use of mechanical restraint in disability services. The methodology and results for phase two are presented in chapter 5.

**Theoretical perspectives underpinning the research**

The design of the research was informed by two theoretical perspectives; the Attributional Theory of Helping Behaviour (ATHB) (1980) and the Theory of Achievement Motivation (TAM) (1974). Weiner’s Attributional Theory of Helping Behaviour (ATHB) (1980), has been used to explain why and how disability support staff might respond to their clients’ challenging behaviours (Campbell, 2007). ATHB posits that helping behaviour is prompted by a helper’s emotional reactions. Research demonstrates that if support staff believe the challenging behaviour is outside the control of the person with an intellectual disability, they are more likely to be ‘sympathetic’ and are therefore more likely to help (Ling, Mak, & Cheng, 2010). Conversely, if the cause of the challenging is deemed by staff to be within the person’s control, and considered manipulative or even threatening, this can elicit feelings of anger and consequently reduce support staff’s likelihood to engage in helping behaviours (Bailey, Hare, Hatton, & Limb, 2006).
Additionally, Weiner’s earlier Theory of Achievement Motivation (TAM) (1974), proposes that the likelihood of helping behaviour depends on the potential helper’s perceived ability to achieve a good result. Here research has demonstrated that if challenging behaviour is attributed by staff as arising from unmodifiable causes, such as low intellect, a personality trait inherent within the person with disability, or a psychiatric illness that cannot be cured, support staff will be less likely to help, than if they perceive that, through their own efforts, they can change the circumstances to reduce or eliminate the challenging behaviour (Bailey et al., 2006; Stanley & Standen, 2000).

Here it should be noted that the current research did not seek to formally test these two theories. Rather, elements of these theories provided a framework to inform the design of the questionnaire and support the analysis and interpretation of data.

4.3 Phase one Methodology

**Phase one method/approach**

For the first phase of this research, an on-line questionnaire was developed to retrieve information from direct care (i.e., care providers) and non-direct care (i.e., management) staff about their perspectives, knowledge, and insights into the use of mechanical restraint in disability services. The questionnaire used four standardised, quantitative measures of staff attitude and beliefs surrounding challenging behaviour (i.e., the validity and reliability of these measures had been established in previous studies) alongside quantitative and qualitative questions about the context in which mechanical restraint was used and other practice-related factors, such as staff training and health practitioner involvement or lack thereof. The questionnaires are described in detail later in this section.
Participants

Participants for phase one were disability support staff who were employed in Australian disability services. Non-direct service staff including front line managers (for example, house supervisors) or operations managers familiar with the current use of such restraints in their organisations were also included. Additional criteria specified that direct support staff had used mechanical restraint on a client within the past month from the date the questionnaire was completed. These criteria were established to ensure data provided was well informed and based on current practices. Demographic details are provided in section 4.4.

Ethical Considerations

Risk benefit

The National Health and Medical Research Council (NHMRC) ethical guidelines highlight the issue of risk and benefit while planning and conducting human research. The likely benefit of research must outweigh the potential risk of harm, discomfort or inconvenience to participants (National Statement, 2007). Using these guidelines there was no foreseeable risk of physical or psychological harm to participants within the design of this phase. However, there may have been a risk of discomfort when participants completed the on-line questionnaire, as they may have been influenced to think and reflect on experiences within their workplace, which may have had a negative impact. Participating in the on-line questionnaire may have also been an inconvenience due the time required to complete the survey. To mitigate these risks, the Plain Language Statement (Appendix 3) directed staff to speak with their supervisor, workplace health unit or independent Employee Assistance Programme, or, seek referral via their GP if they experienced any concerns. Participants were invited to contact the researchers if required, who are experienced practitioners in the field.
The participants in this phase (i.e. staff of disability services) could be viewed as a vulnerable population as they asked questions relating to their work and thoughts about the policies and processes of their workplace. As some open-ended questions were used to gain an understanding of the complex contexts and their experiences, participants were reminded in the Plain Language Statement that their responses to questions were anonymous. In addition, questions were formed to decrease the likelihood of responses containing personal information regarding the respondents or clients that they support.

**Informed consent and privacy**

Informed consent was addressed in the Plain Language Statement, presented at the beginning of the on-line questionnaire. Participants consented to participating in the research by moving past the Plain Language Statement and completing the questionnaire. At the outset, they were informed that once the questionnaire was completed the data were unable to be withdrawn from the study as it was not linked to the participant and was therefore unidentifiable.

**Recruitment Process**

The sampling strategy for this phase was purposive, targeting persons with identified expertise in the topic of inquiry, and also included a snowballing strategy leveraging the networks of the initial participants recruited to the study. The researcher prepared an email invitation to recruit participants which included a direct link to the on-line questionnaire (Appendix 4).

Participants were recruited using two strategies. The first strategy involved the researcher emailing recruitment information about the study to key government bodies in the Australian states and territories which have links to disability service organisations in their respective geographical areas. For example, the Senior
Practitioner – Disability of Victoria forwarded the emails to disability services who were registered on their restrictive intervention data system. Other key professional bodies such as National Disability Services, who have strong links with Australian disability services, were also contacted via email. The second strategy utilised publicly available contact information for disability service organisations through the National Disability Insurance Scheme provider registry lists for all states and territories (Australian Department of Human Services, 2018). Individual organisations were contacted and asked to pass on the information to direct support staff and line-managers.

The researcher contacted all providers who were listed under the following NDIS registration group categories: accommodation/tenancy; behaviour support; early childhood supports; assist-travel/transport; community nursing care; daily tasks/shared living; group/centre activities; innovative community participation; development/life skills; specialist disability accommodation.

This recruitment strategy ensured a wide-spread advertisement of the research study with additional endorsement from key sector agencies, both government and non-government. Using these two strategies, over five thousand disability service organisations received an email invitation to participate in the research study. It also ensured the anonymity of participants as the individual responders’ email addresses were not known by the researcher.

**Method of data collection**

An on-line questionnaire was used to gather data. It was run on the Lime Survey platform, a web-based application (Limesurvey, 2005). The link provided in the recruitment email directed participants to the Lime Survey site.
The rationale for using an on-line questionnaire for the first phase of the study was threefold. Firstly, the use of on-line research offers the possibility of reaching a broader range of participants, especially in terms of locality. This was key in recruiting participants across Australia in both metropolitan and rural areas (Liamputtong, 2006). On-line research also offers speed and immediacy between the researcher and the participant. The participant can respond to the questionnaire at a time that is convenient and can be completed instantly as no preparation from the participant is necessary. Secondly, using the combination of the above-mentioned recruitment strategy and the on-line data collection tool preserved the anonymity of participants on what is arguably a contentious topic of inquiry (Liamputtong, 2006). Thirdly, on-line research removes issues such as the ‘interview effect’ and receiving answers thought to be ‘socially desirable’ (Liamputtong, 2006). Roberts et al. (1997; as cited in Liamputtong, 2006) commented that ‘electronic interviewing’ alleviates some of the interpersonal problems which may be experienced using conventional interviewing techniques. On-line research also facilitated the retrieval of information on issues which may be politically sensitive or viewed as negative, such as the information which was collected from this phase.

**Instrument (on-line survey)**

The on-line questionnaire comprised six sections. Four previously validated scales were used which focused on measuring attitudes and values towards the use of mechanical restraint by staff as well as measuring participants’ personality traits including optimism and pessimism while working with their client group.

The questionnaire was piloted and checked for flow and readability by three non-participants. During the pilot, the questionnaire was completed within 20 to 30 minutes. The full questionnaire is presented in Appendix 5, with each of the four
validated scales and the additional section in the questionnaire (Questions about Mechanical Restraint), described below.

**Scale 1: Emotional Reaction to Challenging Behaviour scale**

The Emotional Reactions to Challenging Behaviour Scale (ERCB) (Jones & Hastings, 2003; Mitchell & Hastings, 1998) was included in the questionnaire to gather data regarding how disability staff felt about using mechanical restraint in response to challenging behaviour. In the survey, the prompt for the scale was adjusted to focus respondent attention on the specific issue of mechanical restraint. For example; “Consider each of the emotional reactions and select the response next to each item that best describes how you feel when working with people who display challenging behaviours who are also restrained.” See Appendix 5 for the full scale.

The ERCB was developed to measure staff emotional reactions, both positive and negative in response to challenging behaviour. The scale asks staff to consider the emotions listed and to select the response that best describes how they feel when working with people who display challenging behaviours. Following the instructional prompt, the frequency of each item, a one-word emotion (e.g. ‘helpless’, ‘guilty’), is rated by the staff using a Likert scale measurement of 0 to 3 (No, not at all; yes, but infrequently; yes, frequently; yes, very frequently). The original ERCB scale contained 18 items with two subscales, depression/anger and fear/anxiety (Mitchell & Hastings, 1998). The more current, 23 item scale is divided into four sub-scales, two for positive emotions and two for negative emotions. Ten items measure depression/anger (score range: 0-30), five items measure fear/anxiety (0-15), four items measure confidence/relaxed (0-12), and four items measure cheerful/excited (0-12). Scores for each sub-scale are summed and a high score in a sub-section is interpreted as the staff
having those reactions to challenging behaviour more often (Mitchell & Hastings, 1998).

Earlier studies have used the ERCB to measure staff emotional reactions to aggressive behaviour both in general terms and when it was targeted directly at them (Mitchell & Hastings, 1998). Jones and Hastings (2003) used the ERCB to measure the emotional reactions of staff towards people with intellectual and/or developmental disabilities who display self-injurious behaviour. In both studies the ERCB was reported to have demonstrated good internal consistency and test-retest reliability (Jones & Hastings, 2003; Mitchell & Hastings, 1998).

**Scale 2: Controllability Beliefs Scale**

The Controllability Beliefs Scale (CBS) was included in the questionnaire to provide data to measure the perceived control staff believe a person has over the behaviour that they display. See Appendix 5.

The CBS is a 15-item scale that measures the beliefs of carers regarding the level of control a person with a disability has over engaging in challenging behaviours. The scale was originally developed for use with carers of people who have dementia (Dagnan, Grant, & McDonnell, 2004). Each item is a 5-point likert scale 1 “strongly disagree”, 2 “slightly disagree”, 3 “unsure”, 4 “slightly agree”, 5 “strongly agree”. Ten items are worded so that agreement indicates perception of high control, for example, “They are trying to wind me up”. Five items are worded so that agreement indicates a perception of low control, for example, “They can’t help themselves”. These items are scored in reverse (i.e. “Strongly agree” would score 1). Dagnan, Hull and McDonnell (2013) used the CBS with 264 carers of people with intellectual disabilities. They found the CBS has a Cronbach alpha 0.89, has significant correlation with proven measures of
the same variable (p<0.05), and good test retest-reliability used within this context (r=0.87, p<0.001) (Dagnan, Hull, & McDonnell, 2013).

**Scale 3: Challenging Behaviour Attributions Scale**

The Challenging Behaviour Attributions Scale (CHABAS) was included in the questionnaire to gather information about staff beliefs in relation to the causes behind challenging behaviour which lead to the use of Mechanical Restraint in disability services. See Appendix 5.

The CHABAS is a 33-item questionnaire used to attain staffs’ beliefs about why clients with an intellectual disability displays challenging behaviour. More specifically the CHABA assesses staff beliefs about causal attributions, the cause behind a challenging behaviour (Hastings, 1997). The items are statements which follow the introduction prompt “People with learning disabilities engage in challenging behaviours because…”. Staff are asked to indicate the likelihood that the statement comprises a reason for the use of challenging behaviour (Extremely likely = -2; somewhat likely = -1; neither likely nor unlikely = 0; somewhat unlikely = 1; extremely unlikely = 2). Items are grouped into seven subscales establishing staffs’ beliefs, these are; Learned Behaviour, Learned Positive, Learned Negative, Biomedical, Emotional, Physical Environment, and Stimulation (Hastings, 1997). Averages are found for each subscale to determine which the staff relate to having a causal effect on challenging behaviour (Hastings, 1997; Lambrechts, Kuppens & Maes, 2009). A subscale score of below zero indicates that staff consider that causal model, i.e. the purpose behind the use of behaviour, for example, the behaviour is used as an emotional response, as unlikely to explain the use of challenging behaviour (Hasting, 1997; Lambrechts, Kuppens & Maes, 2009). Conversely, a score above zero would highlight that the staff consider the
causal model a likely explanation for the behaviour occurring (Hasting, 1997; Lambrechts, Kuppens & Maes, 2009).

The CHABA has been shown to have a moderate to good level of reliability in all sub-scales using Cronbach’s alpha coefficient. (Hastings, 1997). The CHABA has been used previous in studies which aimed to test the hypotheses within Weiner’s Attributional Theory of Helping Behaviour (1980) (Lambrechts, Kuppens & Maes, 2009).

Scale 4: Optimism Pessimism Scale

The Optimism Pessimism Scale (OPS) was included in the questionnaire to add information about the level of staff optimism or pessimism while using mechanical restraint with people they support. See Appendix 5.

The OPS is an 11-item assessment used to measure staff level of optimism/pessimism in regard to challenging behaviour prognosis in clients they are supporting. Items are a simple statement about beliefs regarding challenging behaviour, such as “When this type of behaviour happens I can usually think of something to do”. Each item is ranked on a Likert scale 1 (strongly agree), 7 (strongly disagree). Items 1-5 measure pessimism and 6-10 optimism. Item 11 measures participant willingness to put in extra effort. Total scores for measures are summed and means found to establish beliefs. This scale has been used in several studies measuring Weiner’s models of helping behaviours (Dagnan, Tower, & Smith, 1998; Rose & Rose 2005). Previous studies have shown the scale to have acceptable reliability (α=0.76) (Sharrock et al., 1990).
Questions about Mechanical Restraint

This section of the questionnaire contained questions about the type and reasons behind the use of mechanical restraint that the participant had experience in using. See Appendix 5.

Participants were reminded at the start of the section of the definition of Mechanical restraint from the Victorian Disability Act 2006 (considered in Australia to provide the basis of similar definitions in subsequent legislation across other Australian states and territories). While completing this section, participants were prompted to think about one client they support who is subjected to mechanical restraint.

The multiple-choice responses for the reasons behind mechanical restraint use came from part 7 of the Victorian Disability Act 2006. The choices for the type of mechanical restraint device came from the pre-populated responses that disability support services can select from when reporting mechanical restraint use to the Senior-Practitioner in Victoria. Both questions had an ‘other’ category to allow for participants to add information where their response did not fit the options presented.

Participants were then asked to describe how the mechanical restraint was applied and to detail specific practices surrounding its use. The following questions were asked with a free text response.

- What indicates that the restraint might be needed?
- Who makes the decision that the restraint is required at the moment?
- What do staff do immediately before the restraint is put on?
- Who is involved in applying the restraint?
- What indicates that the restraint can be removed?
- How is the use of restraint monitored?
- Has a Functional Behaviour Assessment been used?
- What health practitioners are currently involved?

These questions were used to gain information about the participant’s knowledge regarding how mechanical restraint is used and whether there were formal guidelines and/or strategies followed when using the restraint. The question about Functional Behaviour Assessments (FBA) was included as understanding of the function of a challenging behaviour when any form of restraint is used is crucial to ensure that proactive and positive behaviour support strategies match the function of the behaviour to allow for maximum benefit (Webber, McVilly, Fester & Chan, 2011). Regarding FBAs, respondents were asked to describe what this process looked like if they answered positively and to explain why one hadn’t been completed if they responded negatively. These questions highlighted the knowledge of participants regarding the practices around mechanical restraint use. Information regarding the involvement of health practitioners was sought after as many people who are subject to mechanical restraint are known to have multiple and complex disabilities, so it was expected that a number of specialists would be involved, and that staff would be knowledgeable about their input (Webber et al., 2017).

While keeping in mind their focus client who was subjected to mechanical restraint, participants were asked whether a reduction in mechanical restraint use had been tried and whether they thought it could be eliminated. Staff were asked to support their affirmative or negative response with their perceptions of what was supporting or preventing reduction and elimination. These questions highlighted staff perceptions and beliefs about mechanical restraint use and their answers were able to be linked to scores of the four scales answered previously.
Demographics

Lastly the survey included questions to highlight participants’ age, gender, the state that they worked in and their years of experience in working in disability services. See Appendix 5. This section also gathered information regarding the participant’s highest level of tertiary qualifications and on the job training. They were specifically asked about training regarding working with people who display behaviours of concern, the use of restrictive interventions and positive behaviour support. Staff were asked to describe the training they had undertaken in these categories. Positive behaviour support (PBS) was important to include as it is best practice to use PBS strategies while aiming to reduce and eliminate the need for restraint use (Carr et al., 2002; Australian Psychological Society, 2011; McVilly, 2012). The use of PBS strategies are also highlighted in some legislation. For example, under the Victorian Disability Act 2006, where restraint is used it must be supported by a positive behaviour support plan with specific PBS strategies.

Method of data analysis

Quantitative data were analysed using SPSS computer software. Sample sizes were adequate for the analyses conducted (Pallant, 2007). The four scales were first analysed independently as dependent variables. Full scale and sub-scale scores for each of the four psychometric scales were calculated as well as averages and standard deviations. Cronbach Alpha analysis were completed for all four scales to identify internal consistency and overall validity of the scales. The overall results for the CBS and OPS, and the sub-scale totals for the CHABAS and ERCB scales were tested for correlations. For section five of the questionnaire, ‘Questions about mechanical restraint’, quantitative data (e.g. Types of Mechanical Restraint used) were subject to descriptive analysis, and qualitative (answers to open ended questions) were analysed
using thematic coding, which assisted in highlighting the variety and prevalence of responses to these questions. Finally, demographic information was analysed through simple counts and were compared with population data from the Disability Services Workforce Data report (Rimfire Resources Pty Ltd, 2010) – the most recent data of its kind available in Australia at the time of the analysis.

4.4 Phase one Results

Survey completion

The on-line questionnaire was accessed by 29 participants, however there was an attrition of respondents in the later sections of the survey. There were 29 participants in the first section (Emotional Reactions to Challenging Behaviour), 26 in the second section (Controllability Beliefs Scale), 24 for sections three and four (Challenging Behaviour Attributions Scale and Optimism Pessimism Scale), and 14 respondents in the last two sections (Mechanical restraint use, and Demographics).

Consequently, the full six sections of the questionnaire were only completed by 14 participants. The researcher competed data analysis on each questionnaire section separately with the total number of respondents (e.g., 29 respondents for the first section) and also undertook separate analysis of the 14 respondents who completed the full questionnaire. T-tests failed to reveal any significant differences in the mean scores and distribution of responses across the various groups. These tests were undertaken to ensure that in using the smaller dataset variants were not inadvertently missed which were in the full dataset. Subsequently only data from the 14 participants who responded to the entire questionnaire are reported here. Additional data are reported at Appendix 6.
Participant demographic information

The final section of the questionnaire was the demographic section. Details of the 14 respondents are specified in tables 2 and 3. In addition, the profiles of the respondents in the current survey are compared with a population sample derived from a study of the disability workforce in Victoria (Rimfire Resources Pty Ltd, 2010) – the most recent comprehensive overview of this workforce at the time of preparing the current thesis. Statistical analysis establishing the similarities and differences in the distribution of the demographics between the 14 respondents in the current survey and the Victorian disability workforce are also detailed in Table 2. Overall the participants in the current survey were somewhat older and more qualified than might have been expected based on the disability service worker population data. However, the differences in gender distribution across the two samples were unremarkable.

Table 2. Demographic information of 14 respondents and their comparison with Victorian disability workforce data

<table>
<thead>
<tr>
<th>Item</th>
<th>Survey Sample</th>
<th>Victorian Sample</th>
<th>Chi Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>86%</td>
<td>79%</td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>14%</td>
<td>21%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-34</td>
<td>2</td>
<td>14%</td>
<td>24.5%</td>
</tr>
<tr>
<td>35-44</td>
<td>3</td>
<td>21%</td>
<td>26%</td>
</tr>
<tr>
<td>45-54</td>
<td>4</td>
<td>29%</td>
<td>31%</td>
</tr>
<tr>
<td>55-64</td>
<td>4</td>
<td>29%</td>
<td>17%</td>
</tr>
<tr>
<td>65+</td>
<td>1</td>
<td>7%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Highest level of education</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cert/Diploma</td>
<td>5</td>
<td>36%</td>
<td>66%</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>4</td>
<td>28%</td>
<td>20%</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>5</td>
<td>36%</td>
<td>14%</td>
</tr>
</tbody>
</table>

*significant at p ≤ 0.05
Table 3. Demographics on state of origin, staff role, & years of experience

<table>
<thead>
<tr>
<th>Item</th>
<th>State</th>
<th>N</th>
<th>N as %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VIC</td>
<td>8</td>
<td>57.2</td>
</tr>
<tr>
<td></td>
<td>TAS</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td></td>
<td>SA</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>NSW</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>Role</td>
<td>Direct support worker</td>
<td>5</td>
<td>35.7</td>
</tr>
<tr>
<td></td>
<td>Team Leader</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Operations Manager</td>
<td>7</td>
<td>50</td>
</tr>
<tr>
<td>Years of experience</td>
<td>5-10</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td></td>
<td>11-20</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td></td>
<td>21-30</td>
<td>4</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td>30+</td>
<td>4</td>
<td>28.6</td>
</tr>
</tbody>
</table>

Information about staff training

The 14 respondents who completed the full survey made comment on the training that they had received in regard to behaviours of concern (BOC), restrictive interventions (RI) and positive behaviour support (PBS). Eight respondents stated they had had some training in RIs however, only two stated the specific training courses they had completed. Others made mention of “on the job observations” or highlighted learning through working with allied health professionals when working with the client. Three had not had any training in RIs and three were unsure. Nine respondents stated they had training in PBS through participating workshops. Four had not had PBS training and one respondent was unsure.

Information about the use of mechanical restraint

Fourteen respondents answered questions regarding mechanical restraint use regarding one person with a disability that they supported. Reasons for the use of mechanical restraint fell into three main pre-determined categories (based on legally accepted justifications for the use of mechanical restraint – see Disability Act 2006);
harm to self \( (n=13) \), safety of other clients \( (n=7) \) and safety of staff \( (n=7) \). Respondents were able to select multiple categories. One respondent selected ‘other’ as the restraint was used for ‘transportation’ (i.e., seatbelts required by law). Types of mechanical restraint used can be seen in figure 2. The most common type of mechanical restraint reported was helmets \( (n=5) \). Disabling wheelchairs and fixing bedrails in place also featured highly as means of mechanical restraint.

![Figure 2. Types of Mechanical Restraint and number of respondents reporting their use.](image)

Respondents were also asked to give information regarding the different health professionals involved in the person with a disability’s care. Many respondents said that General Practitioners were involved \( (n=13) \). Figure 3 shows the variety of different types of health professionals involved as selected by respondents. These data suggest that while most people’s interventions are supervised by a General (medical) Practitioner, there is a paucity of involvement by other professionals.
In the section of the questionnaire titled ‘Questions about Mechanical Restraint’, respondents answered the following questions about the circumstances in which the mechanical restraint they described was used. These answers were analysed using inductive thematic analysis to report on the main themes of responses. These are reported below.

**What indicates that the restraint might be needed?**

Two main themes highlighted the situations around the need for restraint use. Firstly, the initiation of a behaviour of concern by the person with a disability was noted by the majority (11), and secondly the determined risk of harm to the client or others caused by this behaviour (noted by seven respondents). For example, one respondent stated that “continuous hand rubbing…to the point where skin integrity is compromised” (R1) was a precursor to the use of mechanical restraint. One respondent mentioned that the restraint had ‘been in place for many years’ (R5), but gave no reason
based on current circumstances. Another respondent did not classify the devices such as bed rails, helmets and wheelchairs as mechanical restraint (R10).

**Who makes the decision that restraint is required at that moment?**

The majority of respondents stated that the most senior staff on duty were the decision makers around when the restraint was used (R1, R6, R9, R11, R12) however, there was a common theme throughout that staff and senior management followed the recommendations of allied health or medical professionals, identified as the people who had prescribed the restraint use in the first instance (R1, R5, R7, R10, R13).

**What do staff do immediately before the restraint is put on?**

Before the restraint is used, respondents mentioned the use of communication with the person with a disability, to talk to them and to listen to them (R1, R2, R3, R6, R7, R11). Others mentioned the need to support the person and engage, divert or distract them with alternative activities. Activities included playing music, providing sensory items, going for a walk and proving food and drink (R1, R11).

**Who is involved in applying the restraint?**

The majority of the respondents stated staff were involved in applying restraints. One respondent mentioned that parents were also involved (R8).

**What indicates that the restraint can be removed?**

Respondents stated that the restraints can be removed once the person is calmer (R1, R3, R11), they have “settled down” (R2), or when they no longer pose a risk to themselves or others (R6, R9, R10). One respondent stated that the restraint can be removed once the person is asleep (R12).
**How is the use of restraint monitored?**

Two respondents described protocols around the use of the restraint which included the person not being left alone and having constant supervision while the device was in use (R1, R2). Many respondents noted the need for documenting and recording restraint use, which was mainly completed by staff writing shift notes (R3, R6, R11, R12, R13).

**Has a Functional Behaviour Assessment been used?**

Seven respondents highlighted that functional behaviour assessment had been conducted. Two respondents mentioned the assessments were completed by health professionals including; psychologists, occupational therapists, and speech pathologists (R6, R9). One respondent mentioned that observations were used consistently over time to assess the function of the behaviour (R8). Those who selected that there had been no functional behaviour assessment, stated the assessment was not applicable (R13), or were unsure whether one had been completed (R4, R11). One respondent stated a functional assessment had not been conducted as the funding for the assessment was not approved (R1).

**Has a reduction in the use of restraint been tried?**

Respondents were asked whether a reduction in restraint had been tried. Eight respondents stated they had trialled a reduction in restraint (R1, R3, R5, R6, R8, R11, R12, R14). One person mentioned the use of medication to aid restraint reduction (R8) where others stated the use of ‘one to one support’ for the person and divert their attention using tactile objects (R11).
**Could the restraint be eliminated?**

Participants were asked whether they thought that the restraint could be eliminated. Six respondents agreed and highlighted three themes that would assist restraint elimination; stronger leadership “management to lead by example” (R9); constant engagement in “activities meaningful to the resident” (R1); and access to different equipment to support the person. Eight respondents disagreed and stressed that behaviour is difficult to change (R7, R12), “you can’t change nature or life” (R3) stating there will always be triggers to behaviours (R11). Two respondent made note of the constraints placed on practice by restraints that had been approved external to the service (R5, R9). One respondent stated the restraint would not be eliminated due to health concerns (R13), and one was unsure if the restraint could be eliminated (R4).

In addition to their qualitative responses, respondents also provided quantitative responses to four previously validated questionnaires: Emotional Reactions to Challenging Behaviour; Controllability Beliefs Scale; Challenging Behaviour Attributions Scale; and the Optimism Pessimism Scale.

**Emotional reactions to Challenging Behaviour (ERCB)**

There were 29 responses for the ERCB. Using the data from all respondents, the four subscales showed adequate internal consistency ($\alpha > 0.7$), and two of the subscales (Confident/relaxed and Cheerful/exited) showed optimal internal consistency ($\alpha > 0.8$) as shown in table 4. This shows that the items which make up the subscales are reliable in testing similar constructs (Pallant, 2007).
Table 4. Internal consistency of subscales in Emotional Reactions to Challenging Behaviour

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N of Items</th>
<th>Cronbach's Alpha (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear/Anxiety</td>
<td>5</td>
<td>.704</td>
</tr>
<tr>
<td>Depression/Anger</td>
<td>10</td>
<td>.793</td>
</tr>
<tr>
<td>Confident/relaxed</td>
<td>4</td>
<td>.819</td>
</tr>
<tr>
<td>Cheerful/Excited</td>
<td>4</td>
<td>.914</td>
</tr>
</tbody>
</table>

A one sample t-test was undertaken to determine if there was a difference in subscale scores between the full sample (N=29) and the 14 participants who completed the whole survey (Table 5). It was concluded that there were no significant differences on ERCB responses between the sample of 14 respondents for which full demographic data were available and the 29 respondents who had completed the ERCB.

Table 5. ERCB: One-sample t-test of the results of n=14 respondents compared to those of all 29 respondents

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>N=29 M(SD)</th>
<th>n=14 M(SD)</th>
<th>Mean Difference</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression/Anger</td>
<td>0.72 (0.381)</td>
<td>0.8 (0.399)</td>
<td>0.08</td>
<td>0.52915</td>
<td>13</td>
<td>0.61</td>
</tr>
<tr>
<td>Fear/ Anxiety</td>
<td>0.89 (0.213)</td>
<td>0.91 (0.221)</td>
<td>0.02</td>
<td>0.186168</td>
<td>13</td>
<td>0.86</td>
</tr>
<tr>
<td>Confident/Relaxed</td>
<td>1.32 (0.342)</td>
<td>1.27 (0.363)</td>
<td>0.05</td>
<td>0.272109</td>
<td>13</td>
<td>0.79</td>
</tr>
<tr>
<td>Cheerful/Excited</td>
<td>0.67 (0.119)</td>
<td>0.48 (0.267)</td>
<td>0.19</td>
<td>1.187065</td>
<td>13</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Average scores and standard deviations for each ERCB items for the sub-set of 14 respondents are shown in Table 6. Scores above zero indicate that the emotion is felt at some time, higher scores (up to 3) are interpreted as the respondent having the emotional reaction more often while working with someone who displays behaviours of concern and is subjected to mechanical restraint use.
Eight ‘emotional response’ items had an average score above one. The most frequently felt emotional response for all respondents were “Confident” ($M=1.64$, $SD=0.929$) and “Self-assured” ($M=1.43$, $SD=0.756$). The fourteen respondents also frequently felt “Frustrated” ($M=1.43$, $SD=0.756$). These findings were reflected in the subscale averages, as the subscale “Confident/Relaxed” ($M=1.27$, $SD=0.363$) scored the highest, followed by “Fear/Anxiety” ($M=0.91$, $SD=0.221$). These higher scoring emotional reactions contrast with the key findings of the literature review in chapter three, where staff reported feeling ‘guilty’ when using mechanical restraint. This will be elaborated upon in the following discussion chapter.

Table 6. ERCB: Average and standard deviations of scale items (0 to 3) for $n=14$

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Emotional Response</th>
<th>Average ($SD$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confident/Relaxed</td>
<td>Confident</td>
<td>1.64 (.929)</td>
</tr>
<tr>
<td></td>
<td>Self-assured</td>
<td>1.43 (.756)</td>
</tr>
<tr>
<td></td>
<td>Comfortable</td>
<td>1.21 (1.188)</td>
</tr>
<tr>
<td></td>
<td>Relaxed</td>
<td>0.79 (.802)</td>
</tr>
<tr>
<td>Depression/Anger</td>
<td>Frustrated</td>
<td>1.43 (.756)</td>
</tr>
<tr>
<td></td>
<td>Helpless</td>
<td>1.21 (.802)</td>
</tr>
<tr>
<td></td>
<td>Sad</td>
<td>1.29 (1.069)</td>
</tr>
<tr>
<td></td>
<td>Hopeless</td>
<td>0.79 (.893)</td>
</tr>
<tr>
<td></td>
<td>Resigned</td>
<td>0.79 (.699)</td>
</tr>
<tr>
<td></td>
<td>Angry</td>
<td>0.79 (.893)</td>
</tr>
<tr>
<td></td>
<td>Disgusted</td>
<td>0.79 (.893)</td>
</tr>
<tr>
<td></td>
<td>Guilty</td>
<td>0.5 (.855)</td>
</tr>
<tr>
<td></td>
<td>Humiliated</td>
<td>0.29 (.469)</td>
</tr>
<tr>
<td></td>
<td>Betrayed</td>
<td>0.14 (.535)</td>
</tr>
<tr>
<td>Fear/Anxiety</td>
<td>Nervous</td>
<td>1.14 (.663)</td>
</tr>
<tr>
<td></td>
<td>Shocked</td>
<td>1.07 (.829)</td>
</tr>
<tr>
<td></td>
<td>Frightened</td>
<td>0.86 (.864)</td>
</tr>
<tr>
<td></td>
<td>Afraid</td>
<td>0.93 (.616)</td>
</tr>
<tr>
<td></td>
<td>Incompetent</td>
<td>0.57 (.646)</td>
</tr>
<tr>
<td>Cheerful/Excited</td>
<td>Happy</td>
<td>0.71 (.914)</td>
</tr>
<tr>
<td></td>
<td>Cheerful</td>
<td>0.71 (.825)</td>
</tr>
<tr>
<td></td>
<td>Excited</td>
<td>0.21 (.426)</td>
</tr>
<tr>
<td></td>
<td>Invigorated</td>
<td>0.29 (.611)</td>
</tr>
</tbody>
</table>
Controllability beliefs scale (CBS)

Twenty-six participants completed the CBS. Using the data from all respondents, the High Control items were found to have optimal internal consistency ($\alpha > 0.8$) however, the Low Control items had lower internal consistency ($\alpha = 0.623$), though not to the extent that might impede meaningful interpretation (see Table 7).

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N of Items</th>
<th>Cronbach's Alpha ($\alpha$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High control items</td>
<td>10</td>
<td>.896</td>
</tr>
<tr>
<td>Low control items</td>
<td>5</td>
<td>.623</td>
</tr>
</tbody>
</table>

A one sample t-test was undertaken to determine if there was a difference in scores between the full sample ($n=26$) and the 14 participants who completed the whole survey inclusive of the demographics. It was concluded that there were no significant differences on CBS responses between the sample of 14 respondents ($M=2.681, SD=0.361$) for which full demographic data were available and the total of 26 respondents ($M=2.4, SD=0.315$) who had completed the CBS; $t(13)=1.79 \ p=.048$, two tailed.

The means and standard deviations for each item are presented in Table 8 for the sub-set of 14 for which full demographics were available. Scores are interpreted as ranging from 1 (strongly disagree/less perceived control) to 5 (strongly agree/more perceived control). However, the final 5 items as presented on the questionnaire are reverse scored for the purposes of overall scoring. Therefore, for the purposes of interpretation all item scores have the same meaning; that is, a higher score indicates that staff perceive that the person has more control over their behaviour. The majority of
items show the respondent group perceived people they support as not having a lot of control over their behaviours that lead to the use of mechanical restraint. An overall scale average reflected this finding (\(M=2.681, SD = 0.361\)).

**Table 8. CBS: Average and standard deviations of scale items (1 to 5) for \(n=14\)**

<table>
<thead>
<tr>
<th>Prompt</th>
<th>Average (SD) n=14</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are trying to manipulate the situation</td>
<td>3.36 (1.01)</td>
</tr>
<tr>
<td>They have no control*</td>
<td>3.29 (1.20)</td>
</tr>
<tr>
<td>They know what they are doing</td>
<td>3.07 (1.14)</td>
</tr>
<tr>
<td>They are not to blame for what they do*</td>
<td>2.93 (1.44)</td>
</tr>
<tr>
<td>They know the best time to challenge</td>
<td>2.79 (1.19)</td>
</tr>
<tr>
<td>They are trying to wind me up</td>
<td>2.79 (1.37)</td>
</tr>
<tr>
<td>They could stop if they wanted to</td>
<td>2.71 (0.99)</td>
</tr>
<tr>
<td>They are doing it deliberately</td>
<td>2.57 (1.4)</td>
</tr>
<tr>
<td>They are in control of their behaviour</td>
<td>2.57 (.94)</td>
</tr>
<tr>
<td>They don’t mean to upset people*</td>
<td>2.57 (.85)</td>
</tr>
<tr>
<td>They can’t help themselves*</td>
<td>2.43 (1.02)</td>
</tr>
<tr>
<td>They have chosen to behave this way</td>
<td>2.36 (1.22)</td>
</tr>
<tr>
<td>They can think through their actions</td>
<td>2.36 (1.01)</td>
</tr>
<tr>
<td>They mean to make me feel bad</td>
<td>2.29 (1.27)</td>
</tr>
<tr>
<td>They don’t realise how it makes me feel*</td>
<td>2.14 (1.29)</td>
</tr>
<tr>
<td>Overall scale average</td>
<td>2.68 (0.36)</td>
</tr>
</tbody>
</table>

*These items are reverse scored

**Challenging Behaviour Attributions Scale**

Twenty-four participants completed the CHABAS. Internal consistency was tested using the 24 responses, applying a Cronbach alpha (Table 9). Two subscales, Physical Environment and Emotional, had adequate internal consistency (\(\alpha >.7\)) and two, learned behaviour and stimulation had lower consistency (\(\alpha >.6\)). The Biomedical subscale exhibited low consistency (\(\alpha = 0.402\)).
Table 9. Internal consistency of subscales in CHABAS

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N of Items</th>
<th>Cronbach’s Alpha (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learned Behaviour</td>
<td>6</td>
<td>.645</td>
</tr>
<tr>
<td>Learned Negative Behaviour</td>
<td>3</td>
<td>.408</td>
</tr>
<tr>
<td>Learned Positive Behaviour</td>
<td>3</td>
<td>.584</td>
</tr>
<tr>
<td>Biomedical</td>
<td>6</td>
<td>.402</td>
</tr>
<tr>
<td>Physical Environment</td>
<td>8</td>
<td>.783</td>
</tr>
<tr>
<td>Stimulation</td>
<td>6</td>
<td>.620</td>
</tr>
<tr>
<td>Emotional</td>
<td>7</td>
<td>.747</td>
</tr>
</tbody>
</table>

A one sample t-test was undertaken to determine if there was a difference in subscale scores between the full sample (N=24) and the 14 participants who completed the whole survey and for which full demographics were available (Table 10). It was concluded that there were no significant differences on CHABAS responses between the sample of 14 respondents for which full demographic data were available and the 24 respondents who had completed the CHABAS.

Table 10. CHABAS: One-sample t-test of the results of n=14 respondents compared to those of all 24 respondents

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>N=24 M (SD)</th>
<th>n=14 M (SD)</th>
<th>Mean Difference</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>1.1 (0.231)</td>
<td>1.2 (0.234)</td>
<td>0.1</td>
<td>1.07167</td>
<td>13</td>
<td>0.30</td>
</tr>
<tr>
<td>LB</td>
<td>0.945 (0.4)</td>
<td>0.965 (0.375)</td>
<td>0.02</td>
<td>-1.067095</td>
<td>13</td>
<td>0.31</td>
</tr>
<tr>
<td>BM</td>
<td>0.743 (0.495)</td>
<td>.785 (0.556)</td>
<td>0.042</td>
<td>0.458376</td>
<td>13</td>
<td>0.65</td>
</tr>
<tr>
<td>PE</td>
<td>0.646 (0.418)</td>
<td>0.7425 (0.481)</td>
<td>0.965</td>
<td>0.597048</td>
<td>13</td>
<td>0.56</td>
</tr>
<tr>
<td>ST</td>
<td>0.548 (0.646)</td>
<td>0.582 (0.65)</td>
<td>0.034</td>
<td>0.29029</td>
<td>13</td>
<td>0.78</td>
</tr>
</tbody>
</table>

L = Learned Behaviour, BM = Biomedical, PE = Physical Environment, ST = Stimulation, EM = Emotional
The averages and standard deviations for each item are presented in Table 11 for the 14 completed questionnaire responses. A score above zero indicates that staff considered the causal model a likely explanation for the person displaying the behaviour, with a higher score (with 2 the maximum) relating to more probable explanation. The Emotional (EM) and Learned behaviour (LB; L/LP; L/LN) subscales scored the highest (EM: \(M=1.2\), \(SD=2.34\); and LB: \(M=0.965\), \(SD=0.375\)). The Stimulation subscale scored the lowest (\(M=0.582\), \(SD=0.65\)). This means that respondents believed that the cause of challenging behaviour was most likely due to an emotional response from the person they support, or it is a learnt behaviour.

### Table 11. CHABAS: Average and standard deviations of scale items for \(n=14\)

<table>
<thead>
<tr>
<th>Item</th>
<th>Subscale</th>
<th>Average (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>They cannot cope with high levels of stress</td>
<td>1.50 (.519)</td>
</tr>
<tr>
<td></td>
<td>They are worried about something</td>
<td>1.36 (.497)</td>
</tr>
<tr>
<td></td>
<td>They are angry</td>
<td>1.36 (.497)</td>
</tr>
<tr>
<td></td>
<td>They are unhappy</td>
<td>1.21 (.699)</td>
</tr>
<tr>
<td></td>
<td>They are frightened</td>
<td>1.21 (.579)</td>
</tr>
<tr>
<td></td>
<td>They feel let down by somebody</td>
<td>.93 (.616)</td>
</tr>
<tr>
<td></td>
<td>They feel let down by somebody</td>
<td>.93 (.616)</td>
</tr>
<tr>
<td>L/LP</td>
<td>They have not got something that they wanted</td>
<td>1.29 (.825)</td>
</tr>
<tr>
<td></td>
<td>They want attention from other people</td>
<td>.71 (1.069)</td>
</tr>
<tr>
<td>L/LN</td>
<td>Somebody they dislike is nearby</td>
<td>1.21 (.699)</td>
</tr>
<tr>
<td></td>
<td>They want to avoid uninteresting tasks</td>
<td>.93 (.475)</td>
</tr>
<tr>
<td></td>
<td>They are given things to do that are too difficult for them</td>
<td>.36 (.745)</td>
</tr>
<tr>
<td>BM</td>
<td>They are hungry or thirsty</td>
<td>1.43 (.646)</td>
</tr>
<tr>
<td></td>
<td>They are tired</td>
<td>1.21 (.579)</td>
</tr>
<tr>
<td></td>
<td>Of some biological process in their body</td>
<td>1.14 (.535)</td>
</tr>
<tr>
<td></td>
<td>Of the medication that they are given</td>
<td>.50 (1.019)</td>
</tr>
<tr>
<td></td>
<td>They are physically ill</td>
<td>.43 (1.399)</td>
</tr>
<tr>
<td></td>
<td>They are physically disabled</td>
<td>.00 (1.177)</td>
</tr>
<tr>
<td>PE</td>
<td>Their house/classroom is too crowded with people</td>
<td>1.50 (.650)</td>
</tr>
<tr>
<td></td>
<td>They live in a noisy place</td>
<td>1.29 (.726)</td>
</tr>
<tr>
<td></td>
<td>Their surroundings are too warm/cold</td>
<td>1.00 (.555)</td>
</tr>
<tr>
<td></td>
<td>High humidity makes them uncomfortable</td>
<td>0.79 (.699)</td>
</tr>
</tbody>
</table>
There is not very much space in their house/classroom to move around in 0.43 (1.089)
They do not like bright lights 0.43 (938)
They do not go outdoors very much 0.29 (1.204)
They live in unpleasant surroundings 0.21 (1.188)

ST
They are bored 1.57 (.514)
There is nothing else for them to do 1.00 (.679)
They are rarely given activities to do .57 (1.399)
People do not talk to them very much .50 (1.019)
They get left on their own .14 (1.231)
They enjoy it -.29 (1.204)

L/LP = Learned Positive Behaviour, L/LN = Learned Negative Behaviour, BM = Biomedical, PE = Physical Environment, ST = Stimulation, EM = Emotional

**Optimism Pessimism Scale**

Twenty-four participants completed the OPS. Internal consistency was tested using a Cronbach alpha equation (Table 12). The pessimism sub-scale had adequate internal consistency ($\alpha > .7$) and the optimism sub-scale had optimum internal consistency ($\alpha > .9$).

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N of Items</th>
<th>Cronbach's Alpha ($\alpha$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pessimism</td>
<td>5</td>
<td>.767</td>
</tr>
<tr>
<td>Optimism</td>
<td>5</td>
<td>.909</td>
</tr>
</tbody>
</table>

A one sample t-test was undertaken to determine if there was a difference in scores between the full sample ($N=24$) and the 14 participants who completed the whole survey inclusive of the demographics. It was concluded that there were no significant differences on the OPS responses between the sample of 14 respondents ($M=5.394, SD=0.539$) for which full demographic data were available and the total of 24 respondents ($M=5.403, SD=0.488$) who had completed the OPS; $t(13) = -0.04$, $p=.966$, two tailed.
The averages and standard deviations for each item are presented in Table 13 for the 14 complete questionnaire responses. Scores range on a Likert scale between 1 (strongly agree) and 7 (strongly disagree) for each item. Therefore, a higher score in the pessimism subscale relates to staff disagreeing with the item, feeling more optimistic, whereas in the optimism subscale a lower score equates to staff feeling more optimistic. For the purposes of analyses, the optimism items were scored in reverse. This means for all items a higher score equates to higher level of optimism. The overall average ($M=5.394, SD=0.539$) indicates that respondents were optimistic about working with people with challenging behaviour which led to the use of mechanical restraint.

The final item on the OPS asks respondents to select how much extra effort they would be prepared to put in to help the person they support. In this item respondents are given five options, “A great deal”, to “None at all”. These were scored 5 to 1 respectively. Overall, respondents indicated that they would give extra effort to support people with challenging behaviour ($M=4.07, SD=0.960$).
Table 13. OPS: Average and standard deviations of scale items for *n*=14

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Item</th>
<th>Average (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pessimism</td>
<td>There is little point in any interventions for a person who behaves like this</td>
<td>6.29 (1.069)</td>
</tr>
<tr>
<td></td>
<td>Problems such as this are usually so ingrained that the person will not be responsive to treatment or intervention</td>
<td>5.79 (1.477)</td>
</tr>
<tr>
<td></td>
<td>A person will always have this type of behaviour once they have developed it</td>
<td>5.79 (1.424)</td>
</tr>
<tr>
<td></td>
<td>All one can do for a person with this behaviour is keep them safe and look after their physical needs</td>
<td>5.14 (1.875)</td>
</tr>
<tr>
<td></td>
<td>This type of behaviour will usually get worse</td>
<td>4.79 (2.082)</td>
</tr>
<tr>
<td>Optimism</td>
<td>I can remain calm when this type behaviour happens because I can rely on my training and abilities</td>
<td>5.64 (1.646)</td>
</tr>
<tr>
<td></td>
<td>When this type of behaviour happens, I can usually think of something to do</td>
<td>5.57 (1.505)</td>
</tr>
<tr>
<td></td>
<td>I am confident I could deal efficiently with this type of behaviour</td>
<td>5.29 (1.490)</td>
</tr>
<tr>
<td></td>
<td>I can deal with this type of behaviour if I invest the necessary effort</td>
<td>5.21 (1.672)</td>
</tr>
<tr>
<td></td>
<td>I can always find a solution to this type of behaviour</td>
<td>4.43 (1.399)</td>
</tr>
</tbody>
</table>

| Overall average | 5.394 (0.539) |

4.5 Summary

This chapter presented a rationale for the design of a two-phase study investigating disability staff perspectives and knowledge regarding the use of mechanical restraint and documented a detailed research methodology. The design of both phases was informed by a review of the literature and two theories; the

The first phase (reported in this chapter) used an on-line questionnaire including four standardised, quantitative measures of staff attitude and beliefs surrounding challenging behaviour alongside questions about the context in which mechanical restraint is used. Ethical considerations within the design of this phase were commented on in the relation to the National Health and Medical Research Council (NHMRC, 2007) ethics guidelines. Concerns of participant privacy and confidentiality were mitigated through the design of data collection tools, (e.g. the use of an anonymous on-line survey) and informed consent was gathered via the use of plain language statements.

The results of the first phase (of the two-phase study) presented above begin to portray a picture of staff knowledge, beliefs, and attitudes towards the use of mechanical restraint on people with an intellectual disability, and to point the way to policy and practice solutions.

Twenty-nine staff accessed the on-line survey completing at least one of the six sections, however only fourteen completed all six. However, statistical analyses failed to reveal any significant differences between the responses given by the fourteen participants whose data form the basis of the main analyses and the larger groups who completed each of the scales. Also, comparisons between the demographics of the 14 participants whose responses form the basis of the main analyses and an earlier Victorian workforce survey revealed many similarities and some differences in the distribution of the demographics. The implications of these, for the purposes of generalising the findings from the current study, will be discussed in chapter 6.
Staff who completed the questionnaire used many forms of mechanical restraint and detailed what they knew about the procedures surrounding the restraint devices use. The ERCB scale suggested that staff felt confident, self-assured and frustrated when using mechanical restraint. The results suggest staff believe that the people they support who require mechanical restraint do not have control over their challenging behaviour, as indicated by the CBS. The CHABAS showed that staff perceive that the purpose behind behaviour was most likely attributed to an emotional response or a learned behaviour. Lastly the questionnaire showed that staff were optimistic about their abilities when working with people who display challenging behaviour and subjected to mechanical restraint, and they were willing to put in extra effort to support them.

The following chapter describes the methodology and outlines the results of phase two of the study. The results from both phases are then discussed together, including the practical and policy implications in chapter Six.
Chapter Five: Phase Two Study

5.1 Overview

This chapter outlines the research methodology and results from the second phase of a two-phase study. It includes information about the methodological approaches; participant selection and recruitment; data collection techniques and instruments; methods for data analysis; ethical considerations; and critique of the research methodologies, for phase two. Following this, results from phase two of the study are presented in themes generated from inductive thematic analysis of the transcript of the discussion during the focus group.

The protocols for the study were reviewed and approved by the University of Melbourne Human Research Ethics Committee; project number 1749397 (Appendix 7).

5.2 Phase two

Phase two method/approach

The second phase of the study was designed to further examine and interpret the findings from phase one, using participants who were seen as experienced in the topic of inquiry; i.e., staff with experience of using mechanical restraint in disability services. The rationale behind this was twofold. Firstly, the process allowed the researcher to member check the findings from phase one; exploring the extent to which the interpretation of the data by the researcher resonated with those who had experience of direct support work and the use of mechanical restraint on people with intellectual disability. Secondly, utilising staff with experience the researcher was able to explore the relationship of the phase one’s findings to everyday practice experience. This deepened the researcher’s understanding of the findings from phase one, which investigated staff members’ knowledge and perspectives surrounding mechanical restraint use. Moreover, it allowed the researcher to explore practice barriers and
facilitators to reducing mechanical restraint use with the experienced staff, and to test and refine the emerging theory formulated to inform policy and practice initiatives.

**Participants**

Participants for phase two had the same profile as used for phase one; disability support workers from across Australia who had experience in supporting people with a disability who are subject to mechanical restraint. However, none identified as having completed the phase one study. Both were female and were working as front-line managers.

**Ethical Considerations**

*Risk benefit*

The ethical considerations pertaining to risk benefit for phase two were similar to those of phase one. However, it was acknowledged that the risks to participants were elevated compared to Phase One given they were to participate in small group discussions and subsequently were not anonymous at the point of data collection as had been the case for Phase One. Here though it should be noted that the focus group asked participants to comment on the findings from the phase one study, and not necessarily disclose elements of their own practice unless they believed this was relevant. As participants were involved in discussing and making comment on work practices and experiences, they were given information in the plain language statement as well as before and after the focus group about who they could talk if they had any negative emotions or reactions to being involved in the focus group. Participants were also advised that they could exit the focus group at any time without the need for a reason.
Participants were made aware of time commitment and confidentiality/identification concerns in the plain language statement (Appendix 8) and were given methods to remedy identification concerns (detailed below).

**Informed consent and Privacy**

During the recruitment process prospective participants were prompted to read the plain language statement in the on-line link and were then required to select a box stating they had read and consented to being contacted by the researcher and to be involved in the focus group. As well as gaining consent upon participants registering their interest, the researcher confirmed consent from participants before the focus group started while Zoom (the secure software platform used for the focus group; https://www.zoom.us/) was audio recording.

The identities of participants in the focus group were made known to the researcher after the participant registered their interest to the invitation for the phase. To set up the focus group using the on-line program 'Zoom Communications' the researcher needed to be able to contact participants to provide details about how to join the on-line focus group. This ethical concern of identification of participants by the researcher was seen as a negligible risk and was clearly outlined in the plain language statement for the consideration of prospective participants.

As Zoom allows for audio and video conferencing, participants were able to see and hear each other which means that participants were identifiable to each other. However, participants were given the option of turning off their video camera and only participate via audio (i.e., a telephone conference call option as part of the ZOOM meeting). Participants were also given the option of using a non-identifying log-in name for the focus group.
After the researcher collected the data through audio recording and transcript downloaded, data was de-identified before data analysis began. There was no video recording of the focus group collected.

**Recruitment Process**

Participants were recruited using the same methodology as for phase one, utilizing an email invitation to participate (Appendix 9). The email included a request to the disability sector to pass the email on through their networks to reach direct support workers therefore allowing them to register their interest in being involved in the focus group. A link was provided within the recruitment information to a short registration survey where the plain language statement appeared on the first page. The second page acted as the consent form, where participants were able to register their interest of being involved in the focus group as well as consent to be contacted by the research to coordinate a time suitable for the study to be held (Appendix 10). If more participants registered than were needed to run the focus group (6-10 people), the researcher planned to select participants, capturing the diversity of location (state), and role in the disability service. It was envisaged that if enough participants registered, two separate focus group could be held. The registration survey was live for two weeks after the initial email was sent to allow the information to be spread widely. Once the registration period finished the interested participants' contact information was downloaded into an excel spreadsheet by the researcher. All interested participants were invited to participate and given detail on how to join the on-line focus group.

**Method of data collection**

An on-line focus group (conducted as a videoconference) was utilised to elicit in-depth information regarding specific topics, gain insight of the possible various
perceptions about the research topic and investigate the interactions between the participants throughout the group (Smithson, 2000).

The focus group was held on the on-line platform "Zoom Communications" (Zoom); the University of Melbourne holds a software license for ZOOM. This allowed for participants from different states of Australia to participate and mitigated the need for any inconvenience to participants by travelling to the researcher. Using Zoom the researcher was able to record and download an audio file of the focus group. The researcher recorded the focus group audio on a device as a back-up method for data collection. The audio file was transcribed by the researcher into a de-identified format.

**Focus group questions**

After analysing the data from phase one the researcher devised an interview schedule for the focus group (Appendix 11). Three main topics were presented in the focus group. These topics were chosen on the basis that some of the survey findings were contra to the main findings of the literature (see Chapter Three), they related to key practice issues for which there is a great amount of literature stating their importance in the reduction of restrictive practices, and/or the topic needed to be further explored in relation to practice.

Firstly, the researcher discussed the findings from the ERCB scale alongside additional information from the literature review presented in Chapter Three. Participants were asked to voice their initial reactions to the information presented and then to discuss how the information may relate to their practice experience. The second topic detailed the findings of the CHABAS from phase one, exploring the most selected reasons a person with a disability may display challenging behaviour. Focus group participants were also provided information about phase one results regarding staff
knowledge surrounding Functional Behaviour Assessments, and their importance in providing positive behaviour support. The third topic explored the perceptions of staff from phase one on the possibility of mechanical restraint being reduced and/or eliminated for a person they support. The focus group discussed the findings of all topics and were encouraged to share their views on the use, reduction and elimination of mechanical restraint.

**Pilot focus group**

The focus group was piloted with two disability service managers using Zoom online conferencing (ref). The pilot was not audio recorded as the content was not intended for analysis. The pilot allowed for the researcher to gain experience in using the technology and to test run the interview schedule and practice running a group discussion through an on-line environment.

The pilot focus group ran for forty-eight minutes, which was much shorter than the expected 1.5 -2 hours that was allowed for and specified in the recruitment and plain language statement information, however there were only two participants. The sequencing of the topics worked well as participants related discussions back to the earlier topics when discussing the final questions.

Specific questions were altered in the interview schedule after the pilot as they were thought to skew the discussion. The researcher tailored questions to be less emotionally loaded to gain a more objective response from participants. For example, after the first topic of information was presented to the pilot participants, the research asked, “Does this surprise you?” which elicited a strong positive reaction from the participants which lacked a depth of interpretation and information. Subsequently, the
first prompt question was altered to “What are your initial reactions to this information?” which alleviated the issue.

The pilot gave the researcher an opportunity to see how the topics and prompt questions would allow a conversation to flow and provoke group collaboration and interaction between participants. The researcher also gained experience in responding to the dynamics of the group and ensuring all participants were given opportunity to answer and be actively involved in the on-line environment.

**Method of data analysis**

The focus group was transcribed by the researcher and the text was checked by a peer. The qualitative data from the focus group was uploaded into NVivo 12 (QSR International, 2018) for analysis. The researcher analysed the transcript as a whole, using thematic coding to group themes to answer two questions: ‘Do the results from phase one reflect the views of the focus group participants;’ and ‘What are the barriers and facilitators to reducing/eliminating mechanical restraint’? The results are reported below.

**5.3 Phase Two Implementation**

**Recruitment and participants**

The online survey used to register staff interested in participating in the focus group was open for three weeks after the recruitment email was sent out. In this time six staff registered their interest along with their contact details. Aligning with the staffs’ schedules, a date and time for the focus group was organised. Due to unforeseen circumstances and scheduling clashes three staff dropped out of the session the day before. The final two staff were invited to go ahead with the session however, also given the option to postpone to allow for a higher participation rate.
The online survey was opened for a further two weeks and the researcher liaised with one key government body in Victoria to send the recruitment advertisement to their networks a second time. After this time there were two new staff interested. A new date for the focus group was scheduled with four staff, however due to similar circumstances as above, only two were available on the day. With the consent of the two staff it was decided to go ahead with the focus group with only two participants.

The two participants were team leaders in their organisations and were both female. One participant worked in a residential care setting and the other in a community support setting, working with people in their homes, or out in the community.

**Focus Group**

The focus group ran for one hour and eight minutes. The topics were structured into three points for discussion. Both participants responded to all topics and mostly agreed with one another. The researcher assisted the flow of discussion and asked follow up questions throughout to gain a deeper level of information from the two participants. The researcher was able to aid discussion by reflecting on previous points of discussion and strengthen the relationship between responses from participants, the survey results from phase one, as well as relevant literature relating to the topic.

The results from the focus group are presented below in four sections. The first three sections display the responses of the two participants in terms of the three structured topics. The researcher analysed the data focusing on the question “Do the results from phase one reflect the views of the focus group participants?” The final section presents the data as guided by the question “What are the barriers and facilitators to reducing/eliminating mechanical restraint”. The quotations used from the...
focus group are labelled using the annotations ‘R’ for researcher and ‘A’ and ‘B’ for the two participants.

**Emotional Reactions to Challenging Behaviour and Mechanical Restraint**

The first topic of the focus group presented participants with two pieces of information regarding the emotional reactions of staff who work with people who have an intellectual disability and applied mechanical restraint. The first piece of information was a brief statement from the literature review (see Chapter Three) stating the finding that: “published research found that staff generally have a negative emotional response to, and often feel guilty about using mechanical restraint.” (R, page 1, line 7-8). The second piece of information came from the survey results from the Emotional Reactions to Challenging behaviour scale from phase one: “The top three emotions selected were confident, comfortable and self-assured when they (phase one participants) were using mechanical restraint.” (R, page 1, line 10-11).

One participant was “surprised” by the findings of the online questionnaire (B, page 1, line 19). They also commented on the reason that staff may feel confident and comfortable when applying mechanical restraint.

“I’m not sure that they (staff) actually really realise some of the restraints that are being used … because they are working in the community … guided by family and carers … [staff] don’t actually associate what they are doing with a restraint” (B, page 1, line 20 – page 2, line 2)

“They probably feel comfortable doing it, but they feel comfortable doing it because they’ve been told that by the family member that that’s ok to do
it, rather than actually thinking through what they are doing and recognising that it is a form of restraint.” (B, page 2, line 3-5)

“I believe that the workers are removed from having that emotional association with the use of restraint, I think they can see it does what they’re being told to do. And so they just do it without actually thinking of the consequences.” (B, page 3, line 21-23)

Both participants continued to express their thoughts regarding staff knowledge of restrictive practices and staff not being able to recognise mechanical restraint.

“I think that there is a general lack of knowledge out there around what is a restraint and what isn’t” (B, page 2, line 20-21)

“It almost becomes normal for [staff] … to then go … ‘this is the way it’s happening and it’s ok’, so then those staff learn that behaviour” (A, page 4, line 1-2)

A case example of mechanical restraint use was provided to highlight the lack of staff knowledge.

“We take her to the park for an outing, she is put in a harness and she’s put into a stroller to stop her running onto the road during the walk to the park … our workers just saw that as what they had to do for that particular person and they did not actually recognise that for a 13 [year old] who’s having to use a harness and a stroller is a restraint.” (B, page 3, line 25-29)

**Functions behind challenging behaviour**

The second topic of the focus group looked at the responses to the online questionnaire (phase one) regarding what staff perceived to be the reasons behind the behaviour which led to mechanical restraint use for a person they support. This
information came from the responses to the Challenging Behaviour Attributions Scale (CHABAS). The top two ‘reasons’ as perceived by respondents in phase one were:

“Learned positive behaviour – the belief that challenging behaviours are maintained by positive reinforcement processes, [and] emotional response – the belief that challenging behaviour is used by clients to express emotions” (R, page 4, line 10-11)

“I think that people with disability don’t get heard a lot and haven’t throughout the history of their life and therefore struggle a lot more to be heard, and they get more frustrated a lot quicker.” (A, page 4, line 12-14)

“I think with some of our workers we don’t allow the time to actually know any … background so sometimes we’re not given what the diagnosis is. So we actually really don’t know if there is a clinical cause behind the behaviours.” (B, page 4, line 27-29)

Both participants also commented on the influence that past trauma can have on an individual’s ‘learnt’ behaviour.

“Some of the trauma has occurred when they have been very young and they have been managed by a family member and the behaviours are a learnt behaviour” (B, page 5, line 8-9)

“It’s trauma, a lot of our clients that we work with have huge traumatic backgrounds and a lot of them are mis-diagnosed and trauma actually looks like, a lot of the time, intellectual disability because it impacts the brain in exactly the same mannerism.” (A, page 4, line 30-32)

One participant spoke about the reasons why behaviours may be emotional responses.
“The responses are emotional responses because certainly in our area we can’t always guarantee that the same worker will go, so there’s anxiety associated with different workers, there’s anxiety associated with going to different locations, and those emotional challenges that they [person with disability] have impact on their ability to cope and obviously their behaviours” (B, page 5, line 6-19)

One participant also spoke about staff perceiving that behaviours stem from mental health issues. They discussed how that perception may influence the way they support a person.

“I think that they would respond in a fearful manner and they would potentially be more inclined to use the restraint or to keep the restraint on longer” (B, page 6, line 21-22)

The second part of this topic highlighted the use of assessments to discern why a person is displaying a challenging behaviour. The researcher stated findings from the online questionnaire which suggested that staff who participated in phase one, may not have a clear understanding of what is a functional behaviour assessment. Participants in the focus group discussed the use of systems to monitor restraint use, not focusing on the behaviour-based assessments. One participant made comment about the obstacles faced when documenting restraint management plans, mainly the interpretation of written plans.

“I know that a big part of the restraint reform is to actually have the behaviour documented, the triggers documented and the actions documented, but, depending on who is reading on what has been written, everybody is going to interpret that differently, so actually having it written down doesn’t really help in the management of
it, because what you see isn’t necessarily interpreted the same way by everybody.” (B, page 6, line 1-5).

Both participants spoke about how staff having practical knowledge of positive behaviour support concepts can assist in staff making changes to their practice.

“It’s really helped the staff to understand and have more empathy for the client, because before it was just a behaviour whereas now it’s not just a behaviour, it’s a holistic approach of everything” (A, page 9, line 12-13)

“I agree, I think it depends on whether the individual has had a positive experience and has actually seen how implementing a behaviour change can change behaviour and if they’ve seen it happen and they’ve seen it used in appropriate ways and they’re more inclined to then be engaged.” (B, page 9, line 18-21)

**Reduction and elimination of mechanical restraint and staff beliefs**

In the third topic for the focus group, the researcher presented data from phase one regarding whether staff thought mechanical restraint could be reduced or eliminated and gave explanations to why they agreed or disagreed. The responses in the survey were mixed, consequently, the researcher presented the positive and negative responses to the focus group separately.

The participants of phase one who agreed that mechanical restraint could be reduced or eliminated stated three things that would support the reduction, “Strong leadership, for management to lead by example” (R, page 9, line 32); “constant engagement of the person, using meaningful activities” (R, page 10, line 1); and ensuring people “had access to equipment that would support them” (R, page 10, line 2).
Both participants in the focus group agreed with all three statements and that services “would need all three of them to actually get it working” (B, page 10, line 12). In terms of leadership from management, they spoke about “empowering your staff” (A, page 10, line 5). In relation to engaging people they support in meaningful activities, it was stated that “funding [is] the most difficult part of it, because I guess everything does cost money” (A, page 10, line 24-25). One participant questioned the way ‘community engagement’ is viewed, especially when the requests for specific activities are coming from a family member.

“Is it just to get them out of the house and give somebody a break or is it actually teaching them behaviours or social engagement, so something functional in the community?” (B, page 11, line 16-17)

Another comment was about engaging people in their household and through this building relationships with staff and people using the service, for example, “filing…putting papers into boxes, stamping pieces of paper…it’s about being in a real house” (A, page 11, line 1-4).

The researcher presented the data from the survey participants who disagreed and did not believe that the restraint could be eliminated. Statements provided to the focus group were “behaviour is difficult to change”, “you can’t change the nature of life” and “there will always be triggers” (R, page 11, line 20-21)

The thoughts of the focus group participants did not align with those statements. One respondent stated that “it can [not] be applied in all cases, there will be some people that yes you can totally teach new behaviours… if people have strategies” (B, page 12, line 3-4).
Reducing Mechanical Restraint

In addition to information presented in the last section, the participants of the focus group highlighted other barriers and facilitators to restraint reduction throughout the discussion. The participants perceived the impact that a family has on service provision to be a barrier to reducing mechanical restraint. They discussed the notion that family has on service provision as family may ask services to use equipment/devices on their family member with a disability which would be considered mechanical restraint. Another barrier to restraint reduction was that staff may have a fear of people being injured if mechanical restraint is removed due to their past work experience history.

Facilitators included the need for a consistent approach, being able to work with people with a different/fresh perspective and having contact with clinicians when needed. One participant promoted the need for a consistent approach among all staff and across different services, including schools:

“ensure that you get a positive experience is that everybody is engaged and [make sure] they know what the outcomes are going to be for the client and they know exactly what has to happen along the way in order to get those outcomes… obviously if you’re talking about a child in the community, then the teachers are going to have to be doing the exact same thing, and the activities that they are going to and they have to at home and programmes activities and support and same with family members and that’s where it gets tricky” (B, page 10, line 14-20).

5.4 Summary

The second phase further examined the findings from phase one using participants who were seen as having experience in the topic of inquiry; i.e., staff with experience of using mechanical restraint in disability services. This was achieved using
a structured focus group, where participants assist in interpreting phase one findings and highlighted implications for practice. In the design of both studies, the research piloted data collection tools, i.e. the questionnaire and focus group structure. This ensured they were of a high standard to collect quality data from participants.

Ethical considerations, including participant privacy and confidentiality within the design of the studies were commented on in the relation to the National Health and Medical Research Council (NHMRC, 2007) ethical guidelines. Concerns were mitigated through the design of data collection tools, (e.g. the use of an on-line conference technology for the focus group), and informed consent was gathered via the use of plain language statements.

The focus group consisted of two participants, both of whom were team leaders. Participants discussed the three topics containing the key findings of phase one; staff’s emotional reactions; staff’s beliefs about the purpose behind behaviour; and staff’s thoughts about the possible reduction or elimination of mechanical restraint. Although they expressed surprise about the emotional reactions reported in the on-line survey, they discussed many reasons why this may be the case. They suggested it may be due to a lack of knowledge about what is deemed mechanical restraint, or due to staff feeling they are following procedures and the wishes of family members. The participants agreed with the top two reasons why challenging behaviours occur for the people they support who are mechanically restraint; as an emotional response or a learned behaviour. On this topic they discussed the need for staff to take time to get to know the people they are working with and highlighted the need to investigate a person’s history, especially to look out for evidence of trauma as this may be a causal factor in the behaviour. In the final topic regarding the possibility of reducing the use of mechanical
restraint, participants agreed with the positive responses from the questionnaire, stating
the need for leadership, meaningful engagement and adequate resources.

The results presented in this chapter begin to highlight areas of practice and
organisational culture which could be targeted to break down barriers to the reduction of
mechanical restraint use. These findings, and their implications for policy, professional
development and service delivery will be discussed in Chapter Six.
Chapter Six: Discussion

6.1 Overview

The two-phase study presented in this thesis investigated the knowledge, beliefs, and experiences of direct support staff and managers regarding the use of mechanical restraint on people with intellectual disabilities within Australian disability services. In addition, the second phase also aimed to gain insight and information from experienced support staff regarding the implications for practice of the key findings from the first phase. The research was informed by a review of the literature. Furthermore, the rationale for this investigation was supported by two theoretical perspectives in respect to staff responses to challenging behaviour, which could contribute to the use of mechanical restraint. First, Weiner’s Attributional Theory of Helping Behaviours (ATHB) (1986), and secondly Weiner’s Theory of Achievement Motivation (TAM) (1974), as discussed in Chapter Four.

6.2 Summary of Literature Review

A review of the current literature concerning the topic of staff perspectives and knowledge regarding the use of mechanical restraint was presented in Chapter Three. A search for peer-reviewed papers containing information about staff working in disability service settings who apply mechanical restraint to people with an intellectual disability was undertaken. Preceding the review, Chapter Two highlighted papers from other human service contexts, including hospitals and psychiatric settings. However, it was important to look at the literature regarding the disability service context separately, and in more detail, as there are differences in the types of staff employed in these services as well as differences in service provision, policies, and practices.

Only two papers met the specific inclusion criteria for the literature review as it pertained to staff in disability services. These papers were critically appraised,
informed by the PRISMA guidelines (Moher, Liberati, Tetzlaff & Altman, 2009). Key findings from these two papers showed that staff working within a disability service context predominantly described negative feelings and experiences when using mechanical restraint with people that they support (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). This review highlighted the limited amount of research into support staff who work with people with an intellectual disability and their perspectives of the use of mechanical restraint on the people they support, and by implication highlighted the urgent need for a program of research in this area.

6.3 Research Methodology

The two-phase study described in detail in chapters Four and Five investigated disability service staffs’ beliefs, knowledge, and experience of the use of mechanical restraint. The rationale behind this was to identify and explore organisational barriers to the reduction and elimination of mechanical restraint use in disability services. Phase one used an online survey and gained information from staff using four psychometric scales, in addition to asking questions about their experiences using mechanical restraint. In phase two, the researcher met with two experienced (expert) staff in an online focus group to discuss key findings from phase one. The results from both phases are discussed together later in this chapter. Limitations regarding the methodologies of both phases are also presented.

6.4 Participants

The inclusion criteria for participation in the study was the same for both phases. Participants were invited to participate in the online survey and focus group if they worked in an Australian disability service with a person with an intellectual disability who had mechanical restraint applied to them.
In the first phase of the study, the online survey collected demographic information for fourteen participants. As described in Chapter Four, the demographic information was compared to data collected from a population study of the disability workforce in Victoria, Australia, to critique the similarities between the respondents and the greater workforce (Rimfire Resource Pty Ltd, 2010). The majority of respondents (86%) were female and this correlates with the population data where the majority of staff were also female. Comparing the years of experience between the population data and the respondents of the survey, the current respondent group were more experienced, with 57% having over 21 years of experience in the disability service sector. The education level of the current respondent group was also higher than the population data, with 64% of the participants having a bachelor’s degree or higher level of tertiary education.

The demographic section of the survey captured each respondent’s position within their organisation. There were five direct support staff, two team leaders and seven operations managers. This further consolidates that the respondent group was experienced, and most were recognised as leaders in their organisations. In the second phase, the two participants were female and were both team leaders. One participant had over 10 years of experience in the disability service sector and one had experience in both the disability sector and youth services. Overall, the participants in both studies could be considered experts in the topic of inquiry.

6.5 Discussion of results

The following section will bring together results from phases one and two of the study. The second phase following on from the first, gained reflections and insight into practice implications from the key findings of phase one. Interpretations of the results from the two-phase study will be discussed in the following three themes.
The first theme, experiences of staff using mechanical restraint explores the emotional reactions as well as the practical experience of staff when using mechanical restraint. The second theme will detail the knowledge of staff surrounding the use of mechanical restraint, including knowledge of key behavioural assessments and theories as well as their organisation’s processes for when mechanical restraint is used. The third theme will present staff beliefs surrounding the use of mechanical restraint, highlighting what staff believe leads to the need for mechanical restraint to be used and whether mechanical restraint could be eliminated.

**Theme one; Experience of Staff Using Mechanical Restraint**

In the first phase of the study, staffs’ emotional reaction to the use of mechanical restraint was captured using the Emotional Reactions to Challenging Behaviour (ERCB) scale. The most selected emotional responses were ‘confident’, ‘self-assured’ and ‘comfortable’. These results contrast with those found in the systematic literature review, reported in Chapter Three, which described previous studies by Bethel and Beail (2013) and Mérineau-Côté & Morin (2014), both of which found that staff felt predominantly negative feelings, including sadness and guilt, about using mechanical restraint. However, both studies stated that some participants discussed feeling assured when using mechanical restraint (Mérineau-Côté & Morin, 2014). Furthermore, Bethel and Beail (2013), described a few staff feeling confident when using mechanical restraint when done within set guidelines from clinicians.

It might be that the participants who completed the ERCB scale felt these positive emotions when using mechanical restraint as they were most likely following a behaviour support plan which included a protocol and authorisation to use the devices. This hypothesis could be supported by reports of the number of clinicians involved in supporting a person with a disability who is subjected to mechanical restraint use. The
majority of survey respondents indicated that two or more clinicians were involved in some way, many mentioning clinicians’ involvement in the completion of functional behaviour assessments and the recommendations to use mechanical restraint.

Furthermore, the majority of respondents had over 21 years of experience in the disability service and had received training in positive behaviour support. Reflecting upon the findings of Lowe et al. (2007), which showed that training in PBS leads to an increase in confidence and knowledge in working with people who display challenging behaviour, the selection of the emotional reaction “confidence”, could be attributed to the level of training that the respondents had undertaken prior to the study, as well as their years of experience.

Here too it could be speculated that the method of investigation influenced the responses. Previous studies have used face-to-face interview, while this study afforded the respondents with the anonymity that comes with an on-line survey. It could be that in face-to-face interviews on a controversial topic such as this, respondents might be inclined to give what they perceive to be socially desirable responses (Stoeber, 2001); i.e., express discomfort with the use of restrictive practices. There was insufficient data to speculate further on this methodological issue, which warrants further investigation.

However, it is noted that close behind the top three selected emotions were items from the depression/anger subscale, with “frustrated” being the third most selected emotional reaction in the group of 14 staff (fourth in the group of 29). The emotional reactions in the depression/anger subscale could be similar to the ‘negative feelings’ that participants showed in the two studies retrieved in the literature review (Bethel & Beail, 2013; Mérineau-Côté & Morin, 2014). Staff in the current study may have some
negative feelings towards the use of mechanical restraint however, this was not the predominant findings using the ERCB scale.

In the second phase of the study, the two participants were surprised by the positive emotions selected by the staff who were a part of the first phase. Their responses included reasons to why staff may feel this way. Firstly, they discussed that “workers are removed from having an emotional association with the use of restraint” (Participant B), highlighting that staff “feel comfortable…because they’ve been told…to do it” (Participant B). This further consolidates the notion that if staff are following a plan or protocol where mechanical restraint has been prescribed or authorised, especially by a clinician, staff may feel assured that they are doing what is right by the person they support.

Furthermore, the participants in the second phase emphasised the impact of the families in the decision making of staff using mechanical restraint. One participant provided an example of a staff member using a stroller to take a person with a disability, who was ambulant, to the park as their family had asked them to do so, without recognising it as restrictive. This provides evidence that staff may feel confident when using devices, without questioning their use, when the directive has come from an external authority, such as a family member or clinician.

In addition to emotional experiences, the phase two participants made comments about staff’s past experience in trying to reduce restraint use. One participant suggested that if staff have had a positive experience in reducing restraint, they would be more likely to implement behaviour change strategies for other people with a disability in similar situation. Such findings could be interpreted as what might be predicted by Weiner’s Theory of Achievement Motivation (TAM) (1974), which proposes that staff
may be more willing to help, e.g. implement behaviour support strategies, if they perceive they will achieve a good result.

**Theme two; Knowledge of disability service staff regarding mechanical restraint use**

The Questions about Mechanical Restraint section in the online survey investigated what staff knew about the reasons for and processes of using mechanical restraint for one person that they support. These questions were included to elicit information regarding the participants knowledge of key behavioural theories and assessments. Moreover, this section also aimed to draw out what staff knew about their own organisations policies and processes when mechanical restraint was used.

**Knowledge of Functional Behaviour Assessments**

A Functional Behavioural Assessment (FBA) is a set of assessment procedures commonly used to hypothesise the function of a behaviour, primarily from the person’s perspective. FBA has long been established in the empirical literature and considered fundamental to effective intervention for people with intellectual disability who exhibit challenging behaviour (Carr et al., 2002).

In phase one, half of the respondents stated that an FBA had been completed for the person with a disability that they supported. They also made mention of the professionals who were involved in these assessments, which included psychologists, occupational therapists and speech pathologists. Some respondents were unsure, and others stated barriers such as funding for assessments had been an issue. Participants in phase two praised the outcomes of staff who have a working knowledge of PBS and acknowledge functions of behaviour as reasonable (and predictable) given the
combination of the person’s abilities and circumstances. They suggested that in such instances staff have more empathy for the people they support. This may transfer into more helping behaviours by staff to reduce the use of mechanical restraint.

Consistent with Weiner’s Attributional Theory of Helping Behaviours (ATHB) it could be that due to staff gaining insight into the possible reason for the behaviour (from the person’s perspective) they may be more likely to develop strategies to minimise or even eliminate the need for the behaviour. Furthermore, this is also relatable to Weiner’s Theory of Achievement Motivation (TAM), in the case where staff believed these strategies would reduce the behaviour. This proposition warrants further investigation, as it might not be simply the gaining of technical knowledge that influences (changes) staff practices, but changes in attitude and empathy that can come with the acquisition of new knowledge and skills. It might be that staff development could be more effective if delivered with two explicit aims; first, to increase knowledge and skills in FBA and secondly, to nurture the development of attitudes conducive with promoting empathy with clients and a belief that staff can make a meaningful difference in the quality of life of the people they support.

Processes surrounding the use of mechanical restraint

In phase one, respondents were asked to describe the processes surrounding mechanical restraint use. This included what occurred prior to its application, noting whose decision it was to apply restraint, when the restraint could be removed, and any monitoring or reviewing requirements while the restraint was in use.

Staff displayed some understanding of positive behaviour support strategies when describing what was done prior to staff applying mechanical restraint. Staff detailed using de-escalation techniques including diversion to an alternative
task/activity, or, using calming strategies such as playing music and providing tactile sensory items (Browning Wright, Saren & Mayer, 2003).

The majority of respondents stated that the most senior staff on duty were the decision makers regarding when restraint was used, most commonly after being guided by previous clinical recommendations. They stated restraints could be removed once the person was calmer, or when they no longer posed a risk to themselves or others. Here the influence of front-line managers appears critical to the use, misuse, or unnecessarily perpetuated use of restraint. While training for front-line staff remains important, professional development and mentorship for front-line leaders emerges as a possible focus for services and policy.

In regards to the monitoring of the restraint use, only two respondents mentioned supervising the person while the mechanical restraint device was in use. The majority reflected the need to fill out documentation when the restraint was used. The participants in the focus group made comments regarding the documentation of restraint management plans. They noted that they may be a source of confusion as written plans could be interpreted differently by various staff. Here there needs to be an increased focus on person-centred practice with respect to restraint use and reduction, rather than simply a focus on reporting processes and systemic compliance.

**Recognising mechanical restraint**

During the focus group discussion, the participants in phase two highlighted a factor that may be maintaining the use of mechanical restraint, that being that direct support staff may not recognise the full spectrum of mechanical restraint within their practice. This was supported by case scenarios where staff were using equipment, e.g. a stroller, to control a person’s movements. This finding was not predicted by the
researcher as the participant group needed to have knowledge of mechanical restraint to take part in the study. However, this finding is crucial to note as a possible barrier to restraint reduction.

**Theme three; Beliefs surrounding the use of Mechanical Restraints**

In the first phase of the study, staff beliefs about the controllability of and reasons behind the use of a challenging behaviour by a person with an intellectual disability were investigated. Staffs’ optimism levels regarding their ability to both respond to behaviour and influence behaviour change as well as their beliefs regarding whether mechanical restraint could be reduced or eliminated were also examined.

**Controllability of challenging behaviours**

Staff beliefs regarding the amount of control a person with a disability has over a challenging behaviour which commonly leads to mechanical restraint were investigated using the Controllability Beliefs Scale. Results presented in Chapter Four, showed that as a group, respondents thought that the people they support had low control over their behaviours of concern. Linking this finding to Weiner’s Attributional Theory of Helping Behaviours (Weiner, 1986), it may be a positive outcome as staff may believe that people with a disability who display challenging behaviours have low control over their own behaviours and consequently, they may be more willing to engage with the person and explore alternatives to mechanical restraint.

**Optimism when working with challenging behaviours**

Staff feelings of optimism when working with people who display challenging behaviour was investigated in phase one of the study using the Optimism Pessimism Scale. Respondents of phase one felt optimistic about working with people with
challenging behaviour. This may be linked to the hypothesis of staff feeling confident and comfortable following a plan and being supported by senior management and clinicians in their practice. Staff response in phase one also highlighted that they would be willing to make a great effort in supporting people who display challenging behaviours. This finding may reflect elements of Weiner’s ATHB (1986). Moreover, the findings of staff optimism levels may be a reflection of the respondents’ years of experience in the disability sector, which may affect their confidence in their practices.

*Function of challenging behaviours*

Using the Challenging Behaviour Attributions Scale (CHABAS), staff beliefs regarding why the people they support display challenging behaviour, and in turn why mechanical restraint was used, was investigated (Hastings, 1997). The reasons behind behaviour, more commonly known as the function, comes from the thought that all behaviours have a function and purpose to get or reject something within the person’s environment, whether an object, such as food, or a change in the social interaction provided, gaining or rejecting attention from others, or a change in environment for example the television sound to be turned down (Browning Wright, Saren & Mayer, 2003; Paclawskyj, Matson, Rush, Smalls, & Vollmer, 2000).

The CHABAS found that the respondents believed that the people they supported were displaying a challenging behaviour as an emotional or learned response. A learned response is used as a means of communication to get or reject something, and in the past the behaviour has been reinforced as successful / functional. These beliefs are consistent with the “communication hypothesis”, which states that self-injurious behaviour is used as a functional means of communication with others (Durand, 1986).
The participants in the second phase of the study agreed with these selections of function. They spoke about the difficulty in understanding what someone is trying to communicate due to the lack of information known about people they support or their past traumas or mental health diagnoses. They also highlighted practices, which may cause anxiety for people with a disability, such as not informing them of what is happening around or having new support staff working with them that might in turn lead to them resorting to self-injurious behaviours and consequently being subjected to mechanical restraint. Here, it is possible that resource issues are affecting practice. That is, a paucity of knowledge concerning clients (i.e., deficiencies in clinical information), and inappropriate support environments or lack of capacity to change those environments to better reflect the needs of the person with disability.

**Beliefs regarding whether mechanical restraint use could be reduced**

Staff participants in both phases of the study were asked whether they believed mechanical restraint could be reduced or eliminated. In the first phase, half the respondents agreed that it could be reduced, and half thought that it couldn’t. Participants who responded positively noted that strong leadership would be needed as well as the ability to provide constant engagement in meaningful activities and having access to appropriate equipment to support the person with a disability. Those in the first phase who thought that mechanical restraint couldn’t be reduced highlighted ongoing health concerns and external approvers of restraint devices such as family members and clinicians. Respondents noted that behaviours can be difficult to change and that the environment that surrounds a person with a disability may always trigger a behaviour to occur.

The participants in the second phase reflected on the information presented above. They agree that you would need all three positive themes to support a reduction
in mechanical restraint. They further noted issues of authentic choice in meaningful activities, using an example of whether families are choosing activities for their family member, or whether the person with a disability is choosing for themselves. Moreover, meaningful activity was questioned as either something that passes time or something that could involve skill building and social engagement.

The themes from phase one highlight external barriers, beyond staffs’ control, to the reduction of mechanical restraint use. The phase two participants highlighted the difficulty in changing practices due to a lack of funding for a more appropriate ratio of staff or access to the best equipment. It was noted by both the research and phase two participants that there seemed to be a missing link between staff knowledge of FBA and their beliefs detailed earlier regarding the function of challenging behaviour leading to mechanical restraint use and their thoughts of possible restraint reduction. None of the respondents from phase one mentioned the use of positive behaviour support strategies, such as teaching replacement behaviours or ensuring staff were trained in positive proactive strategies.

6.6 Barriers and facilitators to Mechanical Restraint reduction: Policy and Practice Implications

From the findings of phases one and two, and the themes presented above a number of possible barriers and facilitators can be hypothesised, regarding the reduction and or elimination of mechanical restraint use due to staff and organisational factors, and the potential interaction of these. Five barriers and three facilitators are proposed from the information gathered regarding staff knowledge, beliefs and practices. The subsequent implications for policy and practice are discussed below.
**Barriers to mechanical restraint reduction**

Firstly, the idea that staff may be solely ‘following the plan’ to apply mechanical restraint has been presented as a barrier through various findings from the study. This is evidenced by the positive emotional reactions held by staff as well as the practice knowledge provided. Findings highlighted that staff may be comfortable following the plan or direction provided by people who are external to the direct practice environment, but which are critical to the authorising environment in which the practice takes place. This may be a clinician who prescribes or reinforces the use of a mechanical restraint, or a family member who asks for (instructs) a device be used to ‘prevent harm’. The researcher also hypotheses this from their work background, working with staff to develop behaviour support plans and assisting them to fulfil their restrictive intervention reporting requirements. The author notes that from their experience staff are concerned about the reporting requirements of legislation and making sure they follow the plan provided. Staff may therefore not believe they have control over the reduction of mechanical restraint use, and by default opt to defer to ‘those who know better’.

This finding is a common discovery when investigating one perspective of a *wicked* problem (Batie, 2008). It is common that with each attempt to find a solution or an answer, the problem itself changes; which can be seen here where the problem focus shifts from front-line staff to ‘external authorises’ of mechanical restraints. Here though the question also arises if the issue in fact lies with one party or the other, or rather in the interactions (communications) between these two groups. Previous work in this area has revealed how the breakdown in communication between direct support staff and clinicians can occur in the context of behaviour support planning (Wareing & Newell, 2005).
To combat this issue, policy makers, clinicians and senior staff who oversee the writing or authorisation of plans need to ensure that staff who are going to follow the plans are knowledgeable about the ideals of only using restraint when necessary to prevent physical harm to self or others and that it is only used as a last resort. This of course presupposes staff have knowledge and competencies in critical thinking and ethical practice (e.g., McVilly & Newell, 2007), in addition to the clinical techniques of PBS. Policies should also encourage the need for plan reviews to facilitate discussions with staff and ‘external approvers’ together to work towards a reduction in restraint use. Here though strategies need to be developed to address the power imbalances that arise in interactions between front-line staff, managers and clinicians. Policies and management should also encourage reflective practice to support staff to consider their emotional reactions to the use of mechanical restraint, and staff training needs to explicitly support front-line workers to develop these skills.

Second to this, the findings of the second phase highlighted that staff may have previously had adverse experiences (at work or in their personal life) and consequently experience fear when working with people who exhibit challenging behaviour. Subsequently they could feel uncomfortable and resist using restraint reduction strategies. This issue may be resolved through organisations utilising staff mindfulness training, encouraging reflective practices through policy and leadership from senior management, as well as facilitating regular staff debriefings, either individually or as a group. The fact that some individual staff might present with clinically significant symptoms affecting their work-place behaviour should not be overlooked (e.g., anxiety, depression, post-traumatic stress disorder). In these situations, work-place occupational health and safety policies should be established to support these staff in the context of good practice in human resource management.
Thirdly, the study highlighted there may be challenges for staff in interpreting written documentation, such as behaviour support plans. Implications of this would be inconsistency when following such plans. This could lead to positive behaviour strategies not being effective, reinforcing in the mind of staff that the strategies do not work, and that mechanical restraint use is the only viable option to prevent injury to the person with a disability or those around them. Organisations need to acknowledge that written documentation is only one what by which strategies can be communicated to staff. Furthermore, it needs to be acknowledged that the workforce profile (Rimfire Resources Pty Ltd, 2010) suggests many staff have had limited educational opportunities and consequently communication via documentation might not be the most effective medium to communicate technical and complex information. It could be that a greater reliance on verbal communication and work-place mentorship is required (Beadle-Brown, Mansell, Ashman, Ockenden, Iles & Whelton, 2014).

Fourth, the study findings showed that staff knowledge of behavioural theories may not be linked appropriately to and embedded in staff development and consequently staff practices. This is evidenced through staff acknowledging the functions linked to behaviour, however staff not acknowledging the role of positive behaviour support in the future reduction of mechanical restraint. Policies should support staff knowledge of positive behaviour support and function of behaviour and link this knowledge into everyday practice. Again, the role of front-line leadership and workplace mentorship could be an effective agent of change.

Finally, participants from the second phase highlighted that some staff do not recognise the use of equipment and devices as mechanical restraint. This is problematic as proactive and preventative strategies cannot not be put in place if staff do not
recognise the use of restraint in the first instance. There is a need for an increase in staff knowledge through training to recognise mechanical restraint.

There is also a need for change in how services work with families in the use of mechanical restraint, explaining to families what restrictive practices are and also asking for prescribing documents for devices when people start using services. To date the major focus of restraint reduction policy, at least in Australia, has been on what occurs in a service context (e.g., the practices of teachers in schools and staff in adult services). It could be that parent focused education programmes (e.g., *Triple P* and *Stepping Stones*) needs to not only address FBA, environmental manipulation, and skill development strategies for parents to use, but also explicitly address restraint reduction with respect to mechanical restraint.

**Facilitators to mechanical restraint reduction**

The three possible facilitators for the reduction of mechanical restraint use presented in the findings of the study are: staff optimism levels; their beliefs about the controllability of challenging behaviour; and staff thoughts about the reasons why people with a disability use challenging behaviours.

Firstly, staff optimism levels, investigated through the use of the Optimism Pessimism Scale in phase one, indicate that this group of staff were optimistic about their ability to work with people who displayed challenging behaviours. Findings from this scale also highlighted that this staffing group were willing to give extra effort to support people with challenging behaviours. This optimism from staff displays an opportunity for policy makers as well as managers to support staff to make changes in their practice to better support people with a disability.
Secondly, findings of the study showed that the staff group believed that the people they support did not have a lot of control over the behaviours that lead to the use of mechanical restraint. This may be seen as a facilitator in the reduction of mechanical restraint use when linked to Weiner’s Attribution Theory of Helping Behaviour (ATHB) (1986), which suggests that when staff believe a behaviour is mailable to change due to a persons perceived lack of control and therefore external factors having a great influence on the presentation of behaviour, staff are more likely to provide helping behaviour towards the person (Willner & Smith, 2014). This may result in an increase of staff willingness to use proactive intervention strategies which reduce the need for mechanical restraint use.

Third, staff believed that the people they supported displayed a behaviour mostly as a learned response or an emotional response. Although, without the skills required to build intervention strategies for people to use functionally equivalent alternative behaviours, or replacement behaviours to communicate their needs, this finding identifies as an opportunity to facilitate development in staff to link their beliefs about the purpose behind the use of a behaviour to proactive behaviour intervention strategies to better support people with a disability to learn and use functionally equivalent alternative behaviours that are both safe and socially appropriate.

6.7 Limitations of methodology

Theoretical Orientation

This study sought to explore the phenomena of the use of mechanical restraint in respect to experience of direct support workers using these restraints. In so doing, first hand data on the emotions, values and knowledge of staff was essential to obtain. It is acknowledged that in obtaining data from staff in this field they may be layers of external limitations on accessing participants, or when accessed that participants may
have different biases based on their experiences. However, it is a strength of the study to give voice to the experience of disability support staff as they are highly involved in the use of restrictive practices.

**Phase one**

A number of limitations and challenges are recognised for phase one of the study, described in Chapter Four: methodology, in terms of recruitment and participation rates, completion of the on-line questionnaire, limitations of data collection techniques, data analysis and interpretation.

**Recruitment and participation rates**

In terms of data collection, low participation rates were anticipated during research design due to a small number of people with a disability being mechanically restrained as well as the willingness of staff to complete the questionnaire. To combat this, invitations to participate in the research were sent out nationally with a comprehensive email recruitment strategy. Moreover, the questionnaire was designed in such a way that a small participation rate was counteracted by the type of data collected. For example, the qualitative open-ended questions allowed for high quality data to be obtained from a small group of participants.

Another recruitment limitation was noted after the on-line questionnaire had closed, when high level management from large, nationwide disability services provided feedback to the researcher that they were unable to pass on the email link to their staff as the organisations policies state that research study recruitment applications go through their own research ethics board. Due to the time-frames of the study and this organisational barrier, the researcher recognises that this would have had a large impact
on the ability of staff to complete the questionnaire, as they were not aware of it. It is also possible that the email link may have not reached many direct support staff due to this issue as well as the possibility that they may not have work email addresses or access to a computer while working. In addition, in recognising some of the findings of this research, higher level management who received the original recruitment email may have been unaware of the use of mechanical restraint within their organisation, and therefore not passed the email on to other staff. All these issues would need to be considered in a future programme of research.

_Completion of the on-line survey_

In chapter four, the dropout rate throughout the questionnaire was noted. A reason for this, and another limitation to the study design, may have been the length of the questionnaire. During the piloting phase the questionnaire was completed within 20-25 minutes. Research from Hoerger (2010) has shown that is likely to be a higher dropout/incompletion rate for longer on-line questionnaires. The highest dropout rate in the on-line questionnaire was at the start of section five which contained questions about the use of mechanical restraint. In addition to the time factor, there are other possible reasons for the high dropout rate at the start of this section, including the possibility that staff felt uncomfortable answering specific questions about their practice; that they were unsure of how to answer the questions; or that staff may have not been involved in the use of mechanical restraint. Reflecting on the recruitment process for this study, the participants self-selected to be involved in answering the questionnaire, and therefore the researcher was unable to verify their suitability to be involved in the study. This may be an alternative view on why there was a large drop in participating in the section about mechanical restraint, as staff may have not read
through or fully understood the key criteria of inclusion for participants in this phase of the study.

**Data Collection Techniques**

Using an on-line survey platform also created a limitation within the data collected. As responses were stand-alone and anonymous there was no opportunity for the researchers to clarify the meaning of some free text responses, or to assist with consistent interpretation of questions amongst all participants.

Additional questions that could have strengthened the information gathered in the survey include inquiring about how long the client in question had been subjected to the mechanical restraint device and where it originated, i.e. who first prescribed the device for the current purpose. This would have strengthened the study as previous research has detailed that mechanical restraint is used over a long period of time and it would have supplemented the query of external people, for example, family members or allied health professionals, having supplied the device and instructions for use in disability services and therefore services may not have as great an influence to reduce its use. These questions may have also highlighted staffs’ knowledge regarding the origins and historic use of restraint and the fact that it is not well understood or documented. Services may be unsure of the primary purpose behind the application of the restrictive device.

**Data analysis and interpretation**

Due to the small number of respondents who completed the full questionnaire including the demographics section, analysis on the different groups of demographics and their responses was limited. With a larger number of responses, it is envisaged that data could be meaningfully split regarding the age and experience of staff as well as
their position title (e.g. direct support staff vs management). This would be interesting to note for example whether staff with more years’ experience and/or in higher positions are more likely to be resistant to the reduction of mechanical restraint or vice versa.

A strength of this phase of the study was finding good internal consistency for the ERCB and OPS scales relating to challenging behaviour which leads to the use of mechanical restraint use. This is a test result not found in literature currently.

**Phase Two**

A number of limitations and challenges are recognised for phase two of the study, described in Chapter Five, in terms of recruitment and participation rates, limitations of data collection techniques, data analysis and interpretation.

**Recruitment and participation**

As with phase one, low participation rates were anticipated for the second phase due to the specific topic and the level of involvement required from participants in this phase. Initially, eight participants registered their interest to be involved in the second phase of the study. Due to different time commitments and scheduling issues it was only possible to have two participants in the focus group. The low number of people in the focus group could have influenced the data collected. Here the reasons for relatively small numbers of people responding to the invitation to participate are proposed to be similar to those effecting the recruitment strategy for phase one. It is important to note that neither of the two participants completed the phase one online questionnaire. This is a strength in the study, as if they had completed phase one they may have brought bias to their answers in the focus group and it also illustrates good practice in member checking a collective dataset.
Data collection, analysis and interpretation

There were limitations found in the use of the online focus group. Firstly, as the group was held in an online medium, it was difficult for the researcher to lead and react to conversation easily as there was a delay in all audio. Furthermore, one participant only used audio to access the focus group and therefore conversation flow was stopped to ensure their opinion had been shared in each topic of conversation.

Bias should be highlighted in respect to the type of data collection used. The added dynamics of researcher involvement may have obscured some of the controversial perspectives from the participants (Smithson, 2000). The bias of the researcher’s interpretation of the results from phase one, together with information from literature review, namely the researching only providing main findings of literature review, being that staff experiences of mechanical restraint were negative, where there was a small amount of data which alluded to similar feelings to those of the respondents in phase one. The researcher could have also mentioned that a few staff in the two studies that they felt reassured when following a plan which had restraint in it, similar to the findings on the first study presented in Chapter Four and Five 5.

In addition to this, one participant from the focus group recognised the research from their work position within the government, and although the research explained the parts of the plain language statement again and attempted to be seen as removed from their work position, the participant may still have censored some of their responses.

It should also be noted here the impact of the researcher within the facilitation of the focus group as they had limited experience. Holding a pilot focus group allowed the researcher to prepare, however it may be that with more experience the researcher could
have elicited more in-depth information from participants. In terms of analysis and interpretation of the focus group transcript, this was completed solely by the student researcher who also ran the focus group.

6.8 Considerations for future research

This study has identified possible barriers and facilitators to the reduction of mechanical restraint use within disability services. Chapter two of this thesis described the continued use and impact of mechanical restraint on people with intellectual disability. Furthermore, there is a strong push through legislation for disability services to reduce the use of mechanical restraint. Further research into specific barriers to restraint reduction which may involve direct support staff knowledge, beliefs and experiences is warranted. Three future studies are suggested in response to the findings of the current study as well as the methodological limitations highlighted.

First, there is a need to replicate the first phase of this study with more participants from around Australia. With the Australian National Disability Insurance Scheme's Quality and Safeguards Commission coming into full effect in July 2019, which will enhance restrictive intervention law and policy around the nation, it is a crucial time to continue to investigate the use of mechanical restraint. Recruitment strategies would need to be altered to reach a greater number of both direct support staff and front-line managers who work with people who are mechanically restrained. These strategies should include invitations to participate in research being aimed at high level management such as CEOs or Directors of organisations to receive buy-in to the study which will encourage them to support their staff to complete the on-line survey. To more effectively appraise the validity of the answers retrieved from the on-line
questionnaire, a screening tool such as the Social Desirability Scale – 17 (Stoeber, 2001), would assist in identifying and controlling for any bias of participants when giving answers which are socially desirable. In sum, by replicating the study described in this thesis on a wider scale with more robust instruments, the barriers and facilitators highlighted may be confirmed, refined, or a new viewpoint may be discovered.

Second, from the findings of the current study, it was clear that there is perceived to be a great influence on the continued use of mechanical restraint by disability service staff from “external approvers”; i.e. the authorising environment. This term was defined by the participants as either clinicians, mostly allied health professionals who had prescribed the device considered to be mechanical restraint, or a family member of the person with a disability who had instructed staff to use the device in practice. There is currently a lack of policy about the use of restraint on people with a disability within family homes and around their prescription by allied health professionals. One research and practice consideration relating to this topic is to develop, through co-design principles, a “family friendly” policy initiative about the use of mechanical restraint with in the family home, and when their family members access community disability services. Especially as the structure and provision of services in Australia under the National Disability Insurance Scheme, it is likely more people will be supported within their family home for longer, and therefore more restraints may be used by services (coming into a person’s family home) as requested by family members.

Third, an ethnomethodological approach it proposed to analyse and understand the practices that surround the use of mechanical restraint and its reduction. This would include a researcher being an observer and participant during shifts with staff within disability residential and day placement settings, while using an audio recorder and taking field notes. By being within the context where mechanical restraint is used, the
research would aim to gather a contextual understanding of ‘on-the-ground’ processes and decision-making surrounding restraint use. Additionally, the researcher would be an observer of plan reviews for the use of mechanical restraint, such as behaviour support planning sessions and staff team meetings where practices are discussed. The research would seek to discover how the promotion of ‘co-creation’ and democratisation of behaviour support planning assists the development of a restraint reduction plan. Furthermore, it would explore who has the “power” within a planning meeting, or under the practice circumstances to support or limit the use of mechanical restraint. The findings of this research would follow onto targeting those groups of people (e.g. clinicians, senior management, direct support staff) who seem to hold that power and may be barriers to mechanical restraint reduction. An example of this approach being used in this field is Wareing and Newell’s (2005) study, which analysed the process of developing a behaviour management plan for a person with an intellectual disability by utilising Membership Categorisation Analysis.

6.9 Summary

This chapter discusses the overall findings within this thesis, bringing together the limited literature reviewed in chapter three as well as the results of the two-phase study described in chapters four and five, to develop a picture of the barriers and facilitators to mechanical restraint reduction within disability services. Three main themes are detailed from the data gathered within the two-phase study; the experience of staff using mechanical restraint; the knowledge staff have regarding the process and practices surrounding mechanical restraint use; and, the beliefs of staff about the use of mechanical restraint.
Using these themes barriers and facilitators to mechanical restraint reduction were discussed, including the notion of the perceived power that ‘external authorisers’ such as clinicians and family members have over staff practices in using mechanical restraint. Limitations in the methodologies were discussed and recommendations were made to lessen their impact in future studies. Considerations for three future research studies were described. The thesis will now move to come concluding remarks.
Chapter Seven: Conclusion

Mechanical restraint continues to be used in disability services throughout Australia, and other places in the world, despite the known adverse impacts of its use on people with an intellectual disability and the staff supporting them (Department of Health and Human Services, 2018; Gastmans & Milisen, 2006; Tumeinski, 2005). The reduction and elimination of the use of restraints has been the subject of debate and social policy for centuries, with many laws, policies and intervention strategies targeting the issue (as evidenced in Chapter 2), including the provisions in the United Nations Convention on the Rights of Persons with Disabilities (2006). However, at a national and state / provincial level legislation, such as the Victorian Disability Act 2006, has resulted in little change in the prevalence of mechanical restraint (Chan & Webber, 2013). Currently Australian states and territories are moving towards a national quality and safeguarding framework requiring disability services to report the use of all restrictive practices, as well as tightening legislation about the requirements which surround the use of mechanical and other types of restraints (Department of Social Services, 2016). Evidence to inform these new policy initiatives, particularly with respect to the use of mechanical restraint, is now needed, as there is a paucity of such research in the existing literature (as evidenced in Chapter 3).

This thesis aimed to identify and explore possible barriers to the reduction and elimination of mechanical restraint use in Australian disability services. It specifically aimed to measure staff attitudes, knowledge and experiences, to explore the barriers which may hinder such reductions at an organisational level. First, a review of relevant, disability service specific, research was undertaken and discovered a lack of scientific investigation into this issue. Of what little evidence was available, the research highlighted that staff possibly have negative emotional reactions to using mechanical
restraint on people with an intellectual disability. This being the case, it might be expected that staff would take action to address this situation. However, this is clearly not the case, as evidenced in statutory data sets (e.g., the Restrictive Interventions Data System maintained by the Senior Practitioner in Victoria, Australia) and the published literature (Department of Human Services, 2014; Department of Health and Human Services, 2018).

Following the review of the literature, a two-phase study was developed to explore possible organisational barriers to the reduction and elimination of mechanical restraint use in disability services, through investigating disability support staffs’ attitudes, knowledge and experience of restraint use. The first phase utilised an on-line survey, which included four psychometric scales; the Emotional Reactions to Challenging Behaviour Scale; the Controllability Beliefs Scale; the Challenging Behaviour Attributions Scale; and, the Optimism Pessimism Scale. The survey also elicited information from disability service staff about their knowledge of the processes for the use of mechanical restraint in their organisations as well as of behavioural strategies, such as positive behaviour support. The second phase of the study recruited experienced disability service staff to participate in a focus group to discuss the findings from phase one and their implications and translation into practice.

The results from the two-phase study highlight many practice implications, most predominantly the necessity to increase staff knowledge around recognising mechanical restraint and understanding the needs of the people they support; the importance of working collaboratively with families to identify, assess and intervene when restraint is used; and to work with staff in linking their perceptions about why behaviours may be occurring to behaviour data collected about the person and this information combining into restraint reduction plans. This type of work needs to be addressed alongside other
factors including organisational culture and operational expectations. Working with and importantly listening to front-line staff could be an important source of information when developing strategies to address issues or organisational culture, policy and procedure.

Furthermore, the results identified the idea of “external approvers”, such as allied health clinicians or family members of people with a disability as potentially having a great influence on staff practices. This issue of the influence of the authorising environment in which mechanical restraint is used is another critical area for investigation, with potential implications for implementing restraint reduction policy and strategies.

The issue of mechanical restraint use within disability services and the barriers to its reduction and elimination, warrants further research to influence change at both policy and practice levels. Three future research considerations and recommendations are suggested. The first, should replicate the first phase of the study to generate more data about staff knowledge and experiences of mechanical restraint use. Utilising more robust recruitment strategies will assist such a study, and could either confirm, refine or add to the findings documented in this thesis. Second, encouraging the research focus to include clinicians who may be prescribing devices to be used as mechanical restraint, and to the families of people who are mechanically restrained, as these two groups have been highlighted in the current study as potentially having influence in the continued use of mechanical restraint within disability services. Lastly, by analysing the practice and processes of the use of mechanical restraint through an ethnomethodological approach, a greater understanding of both the intricacies of staff decision making as well as gaining an understanding of who has influence over the use of restraint within
behaviour support plan development and implementation might highlight areas that require targeting within policy ad practice strategies.

In sum, the research presented in this thesis achieved its aims of exploring aspects of the organisational and practice barriers to the reduction of mechanical restraint use on people with an intellectual disability within Australian disability services; namely the knowledge and beliefs of disability support staff. Despite the limitations of the study, the findings create a foundation for further research on this topic and highlight where future research could be focused. The movement to reduce the use of mechanical restraint within disability and other human service settings, requires continuous effort to explore and develop strategies from multiple angles to be successful in eliminating this wicked problem.
References


*Disability Services Act 2006*. Brisbane, Queensland Government

*Disability Services Act 2011*. Hobart. Australia, Tasmanian Government


National Association of State Mental Health Program Directors, (2006). *Six core strategies for reducing seclusion and restraint use*. Retrieved from,


https://www.scie.org.uk/publications/researchresources/rr01.asp


Appendices

Appendix 1: Systematic literature review search strategy

Concepts and search terms

1. Staff OR support worker OR care worker OR care giver
2. Perspective* OR view* OR attitud* OR knowledge OR belief* OR perception* OR thoughts*
3. mechanical* restrain* OR restr* device OR restrictive intervention
4. Intellectual* disab* OR learning disab*OR mental* retard* OR developmental* disab*

All concepts were searched together.

Databases searched: PsychINFO, CINAHL complete, Medline Complete, Academic search complete, Psychology and behavioural sciences collection, Scopus and Web of Science.
31 May 2017

Prof Keith McVilly
Social and Political Sciences
The University of Melbourne

Dear Prof McVilly,

I am pleased to advise that the Faculty of Arts Human Ethics Advisory Group (HEAG) has approved the following Minimal Risk Project:

Project title: Mechanical restraint use on people with Intellectual Disabilities: the experience and views of direct support staff and their managers

Researchers: Prof K R McVilly, K White

Ethics ID: 1749397

The Project has been approved for the period: 31-May-2017 to 31-Dec-2017.

It is your responsibility to ensure that all people associated with the Project are made aware of what has actually been approved.

Research projects are normally approved to 31 December of the year of approval. Projects may be renewed yearly for up to a total of five years upon receipt of a satisfactory annual report. If a project is to continue beyond five years a new application will normally need to be submitted.

Please note that the following conditions apply to your approval. Failure to abide by these conditions may result in suspension or discontinuation of approval and/or disciplinary action.

(a) Limit of Approval: Approval is limited strictly to the research as submitted in your Project application.

(b) Amendments to Project: Any subsequent variations or modifications you might wish to make to the Project must be notified formally to the Human Ethics Advisory Group for further consideration and approval before the revised Project can commence. If the Human Ethics Advisory Group considers that the proposed amendments are significant, you may be required to submit a new application for approval of the revised Project.

(c) Incidents or adverse effects: Researchers must report immediately to the Advisory Group and the relevant Sub-Committee anything which might affect the ethical acceptance of the protocol including adverse effects on participants or unforeseen events that might affect continued ethical acceptability of the Project. Failure to do so may result in suspension or cancellation of approval.

(d) Monitoring: All projects are subject to monitoring at any time by the Human Research Ethics Committee.

(e) Annual Report: Please be aware that the Human Research Ethics Committee requires that researchers submit an annual report on each of their projects at the end of the year, or at the conclusion of a project if it continues for less than this time. Failure to submit an annual report will mean that ethics approval will lapse.

(f) Auditing: All projects may be subject to audit by members of the Sub-Committee.

Please quote the ethics ID and the name of the Project in any future correspondence.

On behalf of the Ethics Committee I wish you well in your research.

Yours sincerely,

A/Prof Belinda Hewitt
Chair Faculty of Arts HEAG Human Ethics Advisory Group

Faculty of Arts
The University of Melbourne, Parkville Victoria 3010 Australia
T: +61 3 8344 7591  E: arts-research@unimelb.edu.au
W: www.arts.unimelb.edu.au

Appendix 2: Ethics Approval Letters from Phase One
29 Aug 2017

Prof Keith Mcvilly
Social and Political Sciences
The University of Melbourne

Dear Prof Mcvilly,

Project title: Mechanical restraint use on people with Intellectual Disabilities: the experience and views of direct support staff and their managers.
Researchers: K White, Prof K R Mcvilly
Ethics ID: 1749397.2

I am pleased to advise that the amendment to this Project was approved by the Faculty of Arts HEAG Human Ethics Advisory Group on 29-Aug-2017.

Please note it is your responsibility to ensure that all people associated with the Project are made aware of the amendment.

Yours sincerely

[Signature]

A/Prof Belinda Hewitt
Chair Faculty of Arts HEAG - Human Ethics Advisory Group
Appendix 3: Plain Language Statement Phase One

Plain Language Statement
School of Social and Political Sciences, Faculty of Arts
Project: Mechanical restraint use on people with Intellectual Disabilities: the experience and views of direct support staff and their managers.
Dr Keith R. McVilly (Responsible Researcher)
Tel: +61 3 8344 5366 Email: Keith.McVilly@unimelb.edu.au
Kathryn White (Masters of Research, Arts student) Email: kathrynw2@student.unimelb.edu.au

Introduction
Thank you for your interest in participating in this research project. The following few pages will provide you with further information about the project, so that you can decide if you would like to take part in this research.

Please take the time to read this information carefully. You may ask questions about anything you don’t understand or want to know more about.

Your participation is voluntary. If you don’t wish to take part, you don’t have to.

What is this research about?
We are looking at what disability service staff know, think and feel about mechanical restraint use on people who have an intellectual disability. We want to find this out to look at what could be done to help reduce or eliminate mechanical restraint use.

For the purpose of this research the term Mechanical Restraint means the use of devices to prevent, restrict or subdue a person’s movement, for the primary purpose of the behavioural control of a person with a disability (Disability Act, Victoria, 2006)

What will I be asked to do?
Should you agree to participate you will be asked to complete an anonymous on-line questionnaire. This questionnaire will take about 15-20 minutes to complete. Completion and on-line submission of the questionnaire will indicate your consent to participate.

What are the possible benefits?
There are no immediate benefits to participants. The benefits of this project may be seen in practice by participants at a later date through education and new practice frameworks.

What are the possible risks?
Reflecting on your work may bring up issues that may need to be addressed within your or your organisations work practices. Make sure you talk to someone if you feel distressed about things that are brought up by completing the questionnaire. If you have
any concerns to speak to your workplace health unit or independent Employee Assistance Programme, or seek advice from a GP (doctor).

**Do I have to take part?**
No. Participation is completely voluntary. You are able to withdraw (quit) at any time during the questionnaire. Once you have completed the questionnaire you will not be able to withdraw your responses as the information is anonymous and we cannot link it to you.

**Will I hear about the results of this project?**
If you would like to receive a report of the findings of this project and participate in future studies please leave your email address after completing the questionnaire. There is a link that will open a new page to leave your email. Your email address cannot be linked to your questionnaire responses.

**What will happen to information about me?**
Your answers and information provided in the on-line questionnaire will not be linked to you. This means your answers are anonymous. This information will be kept securely for 5 years after the project ends and non-identifiable data will be deleted.

Please note that if there is a small response rate to the questionnaire, the service that you work at may be able to be identified through your responses. To lessen the chance of this happening please make sure you do not use names of clients in your responses. You will be reminded of this throughout the questionnaire.

**Where can I get further information?**
If you would like more information about the project, please contact the researchers; Keith McVilly (Keith.McVilly@unimelb.edu.au) or Kathryn White (kathrynw2@student.unimelb.edu.au).

**Who can I contact if I have any concerns about the project?**
This research project has been approved by the Human Research Ethics Committee of The University of Melbourne. If you have any concerns or complaints about the conduct of this research project, which you do not wish to discuss with the research team, you should contact the Manager, Human Research Ethics, Research Ethics and Integrity, University of Melbourne, VIC 3010. Tel: +61 3 8344 2073 or Email: HumanEthics-complaints@unimelb.edu.au. All complaints will be treated confidentially. In any correspondence please provide the name of the research team or the name or ethics ID number of the research project.
Appendix 4: Email for phase one recruitment

Hello,

We want to hear from staff and front-line managers in disability services supporting people with intellectual disabilities who are subjected to mechanical restraint.

We are interested to know what staff in disability services think and feel about the use of Mechanical Restraint on people with intellectual disabilities; why it is currently used, and what might be needed to reduce or eliminate its use. We want to find out how to best promote the safety of both people with disabilities and their support staff.

If you volunteer to participate you will be asked to complete an anonymous on-line questionnaire. This questionnaire will take about 15-20 minutes to complete. You will have the opportunity to participate in follow-up questionnaires if you wish.

Please follow the link below to read more about the study and access the questionnaire.

[link here]

If you would like more information about the project, please contact the researchers; Professor Keith McVilly, Keith.McVilly@unimelb.edu.au or Kathryn White, kathrynw2@student.unimelb.edu.au.

Kind regards,

Kathryn White
kathrynw2@student.unimelb.edu.au
Masters of Arts Research Candidate
School of Social & Political Sciences
The University of Melbourne
Appendix 5: Phase one online questionnaire

Staff experience of Mechanical Restraint Questionnaire

*Emotional Reactions to Challenging Behaviour Scale (Mitchell & Hastings, 1998)*

Q1 Below is a list of emotions that caregivers have said that they experience when they have to work with people who display challenging behaviours. Consider each of the emotional reactions, and select the response next to each item that best describes how you feel when working with people who display challenging behaviours who are also restrained.
<table>
<thead>
<tr>
<th></th>
<th>No, never</th>
<th>Yes, but infrequently</th>
<th>Yes, frequently</th>
<th>Yes, very frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shocked</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hopeless</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfortable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afraid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invigorated (energized)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incompetent (lack of ability)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frustrated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpless</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Assured (self-confident)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disgusted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relaxed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resigned (satisfied)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frightened</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheerful</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humiliated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Betrayed (cheated, mislead)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sad</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excited</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Controllability Beliefs Scale (Dagnan, Grant & McDonnell, 2004)**

Q2 Listed below are thoughts that a person may have when dealing with a person with challenging behaviour. Think about challenging behaviour that you have experienced from a client recently. For each thought please put a tick in the box that shows how much you agree with each statement.

<table>
<thead>
<tr>
<th>Thought</th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are trying to wind me up.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They can’t help themselves.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They are doing it deliberately.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They know what they are doing.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They have no control over their behaviour.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They could stop if they wanted.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They are trying to manipulate the situation.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They can think through their actions.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They don’t mean to upset people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They are in control of their behaviour.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They mean to make me feel bad.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>They have chosen to behave in this way.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>They are not to blame for what they do.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>They know the best time to challenge.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>They don’t realise how it makes me feel.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
</tbody>
</table>
Challenging behaviour attributes scale (Hastings, 1997)

Q3 Please put a tick in the box that shows how much you agree with each statement in response to the following question: People with intellectual disabilities engage in challenging behaviours because…

<table>
<thead>
<tr>
<th></th>
<th>Extremely likely</th>
<th>Somewhat likely</th>
<th>Neither likely nor unlikely</th>
<th>Somewhat unlikely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are given things to do that are too difficult for them.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They are physically ill.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They do not like bright lights.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They are tired.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They cannot cope with high levels of stress.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Their house/classroom is too crowded with people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They are bored.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Of the medication that they are given.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They are unhappy.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They have not got something that they wanted.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They live in unpleasant surroundings.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They enjoy it.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>They are in a bad mood.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>High humidity makes them uncomfortable.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---</td>
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<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>They are worried about something</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Of some biological process in their body</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Their surroundings are too warm/cold</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They want something</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They are angry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is nothing else for them to do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They live in a noisy place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They feel let down by somebody</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They are physically disabled</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is not very much space in their house/classroom to move around in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They get left on their own</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They are hungry or thirsty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They are frightened</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somebody they dislike is nearby</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People do not talk to them very much</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They want to avoid uninteresting tasks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They do not go outdoors very much</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>They are rarely given activities to do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They want attention from other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Optimism Pessimism Scale (Dagnan, Tower, & Smith, 1998)

Q4 For each thought please put a tick in the box that shows how much you agree with each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Somewhat agree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All one can do for a person with this behaviour is keep them safe and look after their physical needs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>There is little point in any interventions for a person who behaves like this problem such as this are usually so ingrained that the person will not be responsive to treatment or intervention</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>This type of behaviour will usually get worse</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>A person will always have this type of behaviour once they have developed it</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I can always find a solution to this type of behaviour</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am confident I could deal efficiently with this type of behaviour</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I can deal with this type of behaviour if I invest the necessary effort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When this type of behaviour happens I can usually think of something to do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can remain calm when this type behaviour happens because I can rely on my training and abilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q5 Given your experience with this type of behaviour how much extra effort would you be prepared to put in to help the person?

- [ ] A great deal
- [ ] A lot
- [ ] A moderate amount
- [ ] A little
- [ ] None at all
Questions about Mechanical Restraint
The term Mechanical Restraint means the use of devices to prevent, restrict or subdue a person's movement, for the primary purpose of the behavioural control of a person with a disability (Disability Act, Victoria, 2006)

Think of one client that you support who is subjected to mechanical restraints while answering the following questions

Q6. Why is mechanical restraint used?
☐ Client safety - harm to self
☐ Safety of other clients
☐ Safety of staff
☐ other ______________________

Q7 What type of Mechanical Restraint is used?
☐ Bed rails
☐ Belt/strap
☐ Cuffs
☐ Furniture
☐ Gloves
☐ Helmet
☐ Restrictive Clothing
☐ Shackle
☐ Splint
☐ Wheelchair
☐ Other ______________________

Q8 What indicates that the restraint might be needed?

Q9 Who makes the decision that restraint is required at that moment?

Q10 What do staff do immediately before the restraint is put on?

Q11 Who is involved in applying the restraint?

Q12 What indicates that the restraint can be removed?
Q13 How is the use of restraint monitored?

Q14 Has a Functional Behaviour Assessment (FBA) been used?
- Yes - If yes, please describe this process.
- No - If no, what that stop an FBA being used?

Q15 Has a reduction in the use of restraint been tried?
- Yes - If yes, please describe the process and outcome.
- No - If no, why not?

Q16 Could the restraint be eliminated?
- Yes - If yes, please describe how or what needs to done.
- No - If no, what is stopping this?

Q17 What health practitioners are currently involved?
Please choose all that apply:
- General Practitioner (GP)
- Speech Pathologist
- Occupational Therapist
- Nurse
- Psychologist
- Psychiatrist
- Audiologist
- Optometrist
- Dentist
- Other:
Demographics

Q18 Age
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74
- 75+

Q19 Gender
- Male
- Female
- Other ______________________

Q20 State of origin
- ACT
- NSW
- NT
- QLD
- SA
- VIC
- WA

Q21 Highest level of education (please specify course name/field of study if applicable)
- High school certificate
- Cert 1-4 ______________________
- Diploma ______________________
- Bachelor degree ______________________
- Post-graduate degree ______________________

Q22 How many years have you worked in disability support?
- Under 2 years
- 3-5 years
- 5-10 years
- 11-20 years
Q23 Select the option that best describes your current role.

- Direct Support Worker
- Team leader
- Operational Manager

Q24 Have you received any on-the-job training regarding behaviours of concern and the use of restraint?

- Yes - If yes briefly describe ____________________
- No
- Unsure

Q25 Have you received any training in positive behavior support?

- Yes - If yes briefly describe ____________________
- No
- Unsure
Appendix 6: Phase One Data for all respondents

**Table 14. ERCB: Average and standard deviations of scale items from all respondents**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Emotional Response</th>
<th>Average (SD) N=29</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depression/Anger</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frustrated</td>
<td>1.24 (.739)</td>
</tr>
<tr>
<td></td>
<td>Helpless</td>
<td>1.14 (.875)</td>
</tr>
<tr>
<td></td>
<td>Sad</td>
<td>1.14 (1.026)</td>
</tr>
<tr>
<td></td>
<td>Hopeless</td>
<td>0.86 (.953)</td>
</tr>
<tr>
<td></td>
<td>Resigned</td>
<td>0.86 (.915)</td>
</tr>
<tr>
<td></td>
<td>Angry</td>
<td>0.59 (.780)</td>
</tr>
<tr>
<td></td>
<td>Disgusted</td>
<td>0.52 (.738)</td>
</tr>
<tr>
<td></td>
<td>Guilty</td>
<td>0.45 (.783)</td>
</tr>
<tr>
<td></td>
<td>Humiliated</td>
<td>0.21 (.412)</td>
</tr>
<tr>
<td></td>
<td>Betrayed</td>
<td>0.21 (.491)</td>
</tr>
<tr>
<td><strong>Fear/Anxiety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nervous</td>
<td>1.14 (.581)</td>
</tr>
<tr>
<td></td>
<td>Shocked</td>
<td>0.93 (.651)</td>
</tr>
<tr>
<td></td>
<td>Frightened</td>
<td>0.93 (.704)</td>
</tr>
<tr>
<td></td>
<td>Afraid</td>
<td>0.9 (.618)</td>
</tr>
<tr>
<td></td>
<td>Incompetent</td>
<td>0.55 (.686)</td>
</tr>
<tr>
<td><strong>Confident/Relaxed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Confident</td>
<td>1.69 (.850)</td>
</tr>
<tr>
<td></td>
<td>Self-assured</td>
<td>1.38 (.903)</td>
</tr>
<tr>
<td></td>
<td>Comfortable</td>
<td>1.34 (1.143)</td>
</tr>
<tr>
<td></td>
<td>Relaxed</td>
<td>0.86 (.875)</td>
</tr>
<tr>
<td><strong>Cheerful/Excited</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Happy</td>
<td>0.83 (1.071)</td>
</tr>
<tr>
<td></td>
<td>Cheerful</td>
<td>0.69 (.967)</td>
</tr>
<tr>
<td></td>
<td>Excited</td>
<td>0.62 (1.083)</td>
</tr>
<tr>
<td></td>
<td>Invigorated</td>
<td>0.55 (1.021)</td>
</tr>
</tbody>
</table>
Table 15. CBS: Average and standard deviations of scale items from all respondents

<table>
<thead>
<tr>
<th>Prompt</th>
<th>Average (SD) N=26</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are trying to wind me up</td>
<td>2.38 (1.359)</td>
</tr>
<tr>
<td>They are doing it deliberately</td>
<td>2.38 (1.388)</td>
</tr>
<tr>
<td>They know what they are doing</td>
<td>3.00 (1.131)</td>
</tr>
<tr>
<td>They could stop if they wanted to</td>
<td>2.35 (1.056)</td>
</tr>
<tr>
<td>They are trying to manipulate the situation</td>
<td>2.88 (1.177)</td>
</tr>
<tr>
<td>They can think through their actions</td>
<td>2.08 (.935)</td>
</tr>
<tr>
<td>They are in control of their behaviour</td>
<td>2.23 (.908)</td>
</tr>
<tr>
<td>They mean to make me feel bad</td>
<td>1.92 (1.129)</td>
</tr>
<tr>
<td>They have chosen to behave this way</td>
<td>2.00 (1.095)</td>
</tr>
<tr>
<td>They know the best time to challenge</td>
<td>2.54 (1.104)</td>
</tr>
<tr>
<td>They can’t help themselves*</td>
<td>2.42 (1.065)</td>
</tr>
<tr>
<td>They have no control*</td>
<td>2.85 (1.223)</td>
</tr>
<tr>
<td>They don’t mean to upset people*</td>
<td>2.42 (.902)</td>
</tr>
<tr>
<td>They don’t realise how it makes me feel*</td>
<td>2.19 (1.132)</td>
</tr>
<tr>
<td>They are not to blame for what they do*</td>
<td>2.50 (1.393)</td>
</tr>
<tr>
<td>Overall scale average</td>
<td>2.4 (0.315)</td>
</tr>
<tr>
<td>Item</td>
<td>Subscale</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>L/LP</td>
<td>They have not got something that they wanted</td>
</tr>
<tr>
<td></td>
<td>They want something</td>
</tr>
<tr>
<td></td>
<td>They want attention from other people</td>
</tr>
<tr>
<td>L/LN</td>
<td>They are given things to do that are too difficult for them</td>
</tr>
<tr>
<td></td>
<td>Somebody they dislike is nearby</td>
</tr>
<tr>
<td></td>
<td>They want to avoid uninteresting tasks</td>
</tr>
<tr>
<td>BM</td>
<td>They are physically ill</td>
</tr>
<tr>
<td></td>
<td>They are tired</td>
</tr>
<tr>
<td></td>
<td>Of the medication that they are given</td>
</tr>
<tr>
<td></td>
<td>Of some biological process in their body</td>
</tr>
<tr>
<td></td>
<td>They are physically disabled</td>
</tr>
<tr>
<td></td>
<td>They are hungry or thirsty</td>
</tr>
<tr>
<td>PE</td>
<td>They do not like bright lights</td>
</tr>
<tr>
<td></td>
<td>Their house/classroom is too crowded with people</td>
</tr>
<tr>
<td></td>
<td>They live in unpleasant surroundings</td>
</tr>
<tr>
<td></td>
<td>High humidity makes them uncomfortable</td>
</tr>
<tr>
<td></td>
<td>Their surroundings are too warm/cold</td>
</tr>
<tr>
<td></td>
<td>They live in a noisy place</td>
</tr>
<tr>
<td></td>
<td>There is not very much space in their house/classroom to move around in</td>
</tr>
<tr>
<td></td>
<td>They do not go outdoors very much</td>
</tr>
<tr>
<td>ST</td>
<td>They are bored</td>
</tr>
<tr>
<td></td>
<td>They enjoy it</td>
</tr>
<tr>
<td></td>
<td>There is nothing else for them to do</td>
</tr>
<tr>
<td></td>
<td>They get left on their own</td>
</tr>
<tr>
<td></td>
<td>People do not talk to them very much</td>
</tr>
<tr>
<td></td>
<td>They are rarely given activities to do</td>
</tr>
<tr>
<td>EM</td>
<td>They cannot cope with high levels of stress</td>
</tr>
<tr>
<td></td>
<td>They are unhappy</td>
</tr>
<tr>
<td></td>
<td>They are in a bad mood</td>
</tr>
<tr>
<td></td>
<td>They are worried about something</td>
</tr>
<tr>
<td></td>
<td>They are angry</td>
</tr>
<tr>
<td></td>
<td>They feel let down by somebody</td>
</tr>
<tr>
<td></td>
<td>They are frightened</td>
</tr>
</tbody>
</table>
### Table 17. OPS: Average and standard deviations of scale items

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Item</th>
<th>Average (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pessimism</td>
<td>All one can do for a person with this behaviour is keep them safe and look after their physical needs</td>
<td>4.83 (2.057)</td>
</tr>
<tr>
<td></td>
<td>There is little point in any interventions for a person who behaves like this</td>
<td>6.25 (.989)</td>
</tr>
<tr>
<td></td>
<td>Problems such as this are usually so ingrained that the person will not be responsive to treatment or intervention</td>
<td>6.04 (1.268)</td>
</tr>
<tr>
<td></td>
<td>This type of behaviour will usually get worse</td>
<td>5.08 (1.742)</td>
</tr>
<tr>
<td></td>
<td>A person will always have this type of behaviour once they have developed it</td>
<td>5.79 (1.587)</td>
</tr>
<tr>
<td>Optimism</td>
<td>I can always find a solution to this type of behaviour</td>
<td>4.75 (1.327)*</td>
</tr>
<tr>
<td></td>
<td>I am confident I could deal efficiently with this type of behaviour</td>
<td>5.33 (1.239)*</td>
</tr>
<tr>
<td></td>
<td>I can deal with this type of behaviour if I invest the necessary effort</td>
<td>5.42 (1.412)*</td>
</tr>
<tr>
<td></td>
<td>When this type of behaviour happens I can usually think of something to do</td>
<td>5.54 (1.351)*</td>
</tr>
<tr>
<td></td>
<td>I can remain calm when this type behaviour happens because I can rely on my training and abilities</td>
<td>5.50 (1.642)*</td>
</tr>
<tr>
<td>Overall average</td>
<td></td>
<td>5.403 (0.488)</td>
</tr>
</tbody>
</table>

*reverse scored
02 July 2018

Professor Keith McVilly
Social and Political Sciences
The University of Melbourne

Dear Professor McVilly,

I am pleased to advise that the Faculty of Arts Human Ethics Advisory Group (HEAG) has approved the following Minimal Risk Project application.

Project title: Mechanical restraint use on people with Intellectual Disabilities: the experience and views of direct support staff and their managers
Researchers: Prof K McVilly, K White
Ethics ID: 1749397.3

The Project has been approved for the period: 02-Jul-2018 to 31-Dec-2018.

It is your responsibility to ensure that all people associated with the Project are made aware of what has actually been approved.

Research projects are normally approved to 31 December of the year of approval. Projects may be renewed yearly for up to a total of five years upon receipt of a satisfactory annual report. If a project is to continue beyond five years a new application will normally need to be submitted.

Please note that the following conditions apply to your approval. Failure to abide by these conditions may result in suspension or discontinuation of approval and/or disciplinary action.

(a) Limit of Approval: Approval is limited strictly to the research as submitted in your Project application.

(b) Amendments to Project: Any subsequent variations or modifications you might wish to make to the Project must be notified formally to the Human Ethics Advisory Group for further consideration and approval before the revised Project can commence. If the Human Ethics Advisory Group considers that the proposed amendments are significant, you may be required to submit a new application for approval of the revised Project.

(c) Incidents or adverse effects: Researchers must report immediately to the Advisory Group and the relevant Sub-Committee anything which might affect the ethical acceptance of the protocol including adverse effects on participants or unforeseen events that might affect continued ethical acceptability of the Project. Failure to do so may result in suspension or cancellation of approval.

(d) Monitoring: All projects are subject to monitoring at any time by the Human Research Ethics Committee.

(e) Annual Report: Please be aware that the Human Research Ethics Committee requires that researchers submit an annual report on each of their projects at the end of the year, or at the conclusion of a project if it continues for less than this time. Failure to submit an annual report will mean that ethics approval will lapse.

(f) Auditing: All projects may be subject to audit by members of the Sub-Committee.

Please quote the ethics ID and the name of the Project in any future correspondence.

On behalf of the Ethics Committee I wish you well in your research.

Yours sincerely

A/Prof Belinda Hewitt
Chair Faculty of Arts HEAG Human Ethics Advisory Group

Faculty of Arts
The University of Melbourne, Victoria 3010 Australia
T: +61 3 8344 9284 E: arts-heag@unimelb.edu.au
W: www.arts.unimelb.edu.au
Appendix 8: Plain Language Statement Phase Two

Plain Language Statement

School of Social and Political Sciences, Faculty of Arts

Project: Mechanical restraint use on people with Intellectual Disabilities: the experience and views of direct support staff and their managers.

Dr Keith R. McVilly (Responsible Researcher)
Tel: +61 3 8344 5366 Email: Keith.McVilly@unimelb.edu.au
Kathryn White (Masters of Arts, Research student) Email: kathrynw2@student.unimelb.edu.au

Introduction
Thank you for your interest in participating in this research project. The following few pages will provide you with further information about the project, so that you can decide if you would like to take part in this research.

Please take the time to read this information carefully. You may ask questions about anything you don’t understand or want to know more about. Your participation is voluntary. If you don’t wish to take part, you don’t have to.

What is this research about?
We are looking at what disability service staff know, think and feel about mechanical restraint use on people who have an intellectual disability. We want to find this out to look at what could be done to help reduce or eliminate mechanical restraint use.

For the purpose of this research the term Mechanical Restraint means the use of devices to prevent, restrict or subdue a person’s movement, for the primary purpose of the behavioural control of a person with a disability (Disability Act, Victoria, 2006). This is the second phase of the study. The first phase was an on-line questionnaire.

What will I be asked to do?
You are invited to register your interest to be a part of an on-line focus group. We are looking for 6-10 participants to be involved in a discussion about the use of mechanical restraint within disability services.

The focus group will run for 1.5-2 hours on-line using an audio and video conferencing program. You will be able to use a non-identifying log-in for the on-line focus group, and select to use audio only if you wish. The focus group will be audio recorded to ensure that we make an accurate account of what is said.

To register your interest complete the questions on the next page and complete the consent section. By registering, your name, contact email, state of residence, and time preferences for the focus group will be recorded and sent to the researchers. The researcher will be in contact with selected participants with the details of the focus group including how to join the on-line focus group. When registering your interest to participate you will be asked to select your availability for the time of the focus group.
**How will my confidentiality be protected?**
We intend to protect your anonymity and the confidentiality of your responses to the fullest possible extent. At the beginning of the focus group you will be reminded to keep the discussion confidential and not to reveal the identity of other participants. In the final report, you will be referred to by a pseudonym. We will remove any references to personal information or context that might allow someone to guess your identity. However, you should note you and other participants will be able to identify and know each other from your participation in the focus group discussion.

**What are the possible benefits?**
There are no immediate benefits to participants. The benefits of this project may be seen in practice by participants at a later date through education and new practice frameworks.

**What are the possible risks?**
Reflecting on your work may bring up issues that may need to be addressed within your or your organisations work practices. Make sure you talk to someone if you feel distressed about things that are brought up by participating in the focus group. If you have any concerns to speak to your workplace health unit or independent Employee Assistance Programme, or seek advice from a GP (doctor).

**Do I have to take part?**
No. Participation is completely voluntary. You are able to withdraw (quit) at any time before or during the focus group.

**Will I hear about the results of this project?**
If you would like to receive a report of the findings of this project and participate in future studies please email Kathryn White.

**What will happen to information about me?**
Your answers and information provided in the on-line questionnaire will not be linked to you. This means your answers are anonymous. This information will be kept securely for 5 years after the project ends and non-identifiable data will be deleted.

**Where can I get further information?**
If you would like more information about the project, please contact the researchers; Keith McVilly (Keith.McVilly@unimelb.edu.au) or Kathryn White (kathrynw2@student.unimelb.edu.au).

**Who can I contact if I have any concerns about the project?**
This research project has been approved by the Human Research Ethics Committee of The University of Melbourne. If you have any concerns or complaints about the conduct of this research project, which you do not wish to discuss with the research team, you should contact the Manager, Human Research Ethics, Research Ethics and Integrity, University of Melbourne, VIC 3010. Tel: +61 3 8344 2073 or Email: HumanEthics-complaints@unimelb.edu.au. All complaints will be treated confidentially. In any correspondence please provide the name of the research team or the name or ethics ID number of the research project.
Appendix 9: Email for phase two recruitment

Hello,

Do you support people with a disability who are subject to the use of mechanical restraint?

Are you a supervisor or manager of a disability service where mechanical restraint is in use?

We want to hear from staff and front-line managers in disability services supporting people with intellectual disabilities who are subjected to mechanical restraint. We are interested to know what staff in disability services think and feel about the use of Mechanical Restraint on people with intellectual disabilities; why it is currently used, and what might be needed to reduce or eliminate its use. We want to find out how to best promote the safety of both people with disabilities and their support staff.

We are running an on-line focus group to discuss the use of mechanical restraint in disability services. The focus group will discuss the key findings of an on-line questionnaire which investigated disability support workers and managers views about challenging behaviour and mechanical restraint use. Participants will also be encouraged to share their views on the use, reduction and elimination of mechanical restraint.

Please follow the link below to read more about the study and to register your interest in being a part of the focus group. Please register by the 3rd of August 2018.

[link here]

If you would like more information about the project, please contact the researchers; Professor Keith McVilly, Keith.McVilly@unimelb.edu.au or Kathryn White, kathrynw2@student.unimelb.edu.au.

Kind regards,

Kathryn White
kathrynw2@student.unimelb.edu.au
Masters of Arts Research Candidate
School of Social & Political Sciences The University of Melbourne
Appendix 10: Recruitment registration questions

By selecting the box below you are providing consent to being contacted by the researcher and be involved in the focus group.

[ ]

Please provide the following information

Name:

Email:

State:

   VIC
   NSW
   QLD
   SA
   TAS
   ACT
   NT
   WA

Role in disability service (select the most relevant)

   Direct support staff
   Team Leader
   Operations Manager

Times of focus group (run time 1.5-2): [check all you could be available for]

[options for focus group dates and times here]
Appendix 11: Focus group interview schedule

Thank you for joining me today, I’ll start by explaining a bit about the research and then go over the information from the plain language statement about what will be asked of you in the focus group.

We are interested to know what staff in disability services think and feel about the use of Mechanical Restraint on people with intellectual disabilities; why it is currently used, and what might be needed to reduce or eliminate its use. We want to find out how to best promote the safety of both people with disabilities and their support staff.

We will discuss the key findings of an on-line questionnaire which investigated disability support workers and managers views about challenging behaviour and mechanical restraint use. Participants will also be encouraged to share their views on the use, reduction and elimination of mechanical restraint.

[Read from plain language statement]

Consent process
If you are willing to continue on and participate in the focus group today could you please state your name or pseudonym and say “Yes, I consent”

If you would not like to participate today, that is okay, thank you for your time so far, you may leave the Zoom meeting now.

Does anyone have any questions surrounding the information I have read or about the research process?

Topic one
1. Staff emotional responses towards the use of mechanical restraint
   a. A Systematic Literature Review of published research found that staff generally have a negative emotional response to, and often feel guilty about using mechanical restraint.
   b. Study one (our on-line survey) used an emotional reactions scale – staff were asked to indicate how frequently they felt emotions when applying mechanical restraint due to challenging behaviour. Higher scores indicated that staff had that emotional reaction more often. The top three emotions selected were:
      i. Confident
      ii. Comfortable
      iii. Self-assured

Questions:
- What is your reaction to this?
- In your experience/practice, how do staff respond (emotionally) to using mechanical restraint?
- Why do you think respondents in our survey reported these three emotional reactions to be experienced more frequently?
- Do you think these emotional reactions could be a barrier or something that may support mechanical restraint reduction?
- What might these findings mean for practice?

**Topic two**

2. Another part of the survey asked staff to respond to statements regarding the reasons or purpose of their client’s behaviour which led to the use of mechanical restraint.

   The top two ‘reasons’ as perceived by respondents were:
   a. Learned positive behaviour - belief that challenging behaviours are maintained by positive reinforcement processes
   b. Emotional response – belief that challenging behaviour is used by clients to express emotions

**Questions:**
- How might these beliefs / mindsets influence the use of mechanical restraint (perpetuating, increasing, or decreasing the use of mechanical restraint)?
- What might these findings mean for practice?

**More information**

- To determine the reason why a behaviour occurs, it is recognised as good practice to complete functional behaviour assessment (FBA). In the survey, staff where asked whether an FBA had been completed and used to inform behaviour support plans.
- The data from the survey suggests an absence of in depth understanding of FBA (how to do it), and its role when developing strategies for a Positive Behaviour Support Plan.

**Questions:**
Is FBA something that is discussed in PBS planning, and understood by support staff?
What might these findings mean for practice?

**Topic three**

3. Staff who completed the survey were asked whether they thought that mechanical restraints could be eliminated. Nearly half of the respondents agreed and highlighted three themes that would assist restraint elimination; stronger leadership “management to lead by example”; constant engagement in “activities meaningful to the resident”; and access to different equipment to support the person. The other half of respondents disagreed and stressed that behaviour is difficult to change, “you can’t change nature or life”, stating there will always be triggers to behaviours.

**Questions:**
- Do these findings surprise you; how do they resonate with your experience?
What does this mean for practice, and the development of programs and strategies to reduce the use of or indeed eliminate the use of mechanical restraint?

Elimination of mechanical restraint – many barriers
  - In your experience what is the main barrier to mechanical restraint reduction?
  - With this knowledge – staff beliefs about the possibility of elimination, how can organisations work within this culture of staff/organisations?

It is interesting to reflect that the top “reason” for behaviours was ‘Learned response’ however half of the respondents linked behaviour/mechanical restraint reduction to external ‘triggers’. Do you think that these two ideas are common within your experience?

Closure of focus group
Thank you for participating in this focus group.
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