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Acceptance and commitment therapy with the police force: evaluating its efficiency and mechanisms for change

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Acceptance and Commitment Therapy with the Police Force: Evaluating its Efficacy and Mechanisms for Change

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Thesis Certification

I, Linda Bilich-Erich, declare that this thesis, submitted in fulfillment of the requirements for the award of Doctor of Philosophy, in the School of Psychology, Faculty of Health and Behavioural Sciences, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualification at any other academic institution.

Linda Bilich-Erich

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Abstract

Police officers experience a high level of stress that results from operational and organisational pressures associated with their professional occupation (Hart & Cotton, 2002). This can result in harmful consequences for the individual, the workplace and their family, with a plethora of literature outlining the increase in work / family conflict for police officers. The police and stress literature also indicates that police officers can be prone to utilising unhelpful coping skills, such as avoidance, to manage their stress.

The current research project describes the implementation and investigation of a worksite stress management intervention called Mindfulness-based Emotional Intelligence Training (MBEIT) intervention. MBEIT was designed to promote emotional well-being and workplace effectiveness, and improve interpersonal relationships (personal and work-related) amongst NSW police officers. The intervention is based on Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 1999). ACT promotes emotionally intelligent behaviour by increasing people's ability to utilise emotions as information, and to act effectively in the context of emotions and emotionally charged thoughts. This is accomplished through mechanisms such as acceptance and defusion whilst pursuing personally meaningful values.

A total of 123 police officers were randomly assigned to either the MBEIT condition or the control condition. The MBEIT intervention consisted of a total of 4 days of training that was completed over 4 months. Outcome (i.e., mental health, innovativeness, sick leave) and process of change (i.e., acceptance) measures were administered at baseline (Time 1), at the completion of the training after four months (Time 2), and again 3 months later (Time 3). Participants in the MBEIT intervention group also completed a Personal Values Questionnaire (Blackledge & Ciarrochi, 2005) at Time 1 and Time 2 in order to

examine their values and the impact of MBEIT on values over time. Facilitators were also monitored in order to assess adherence to MBEIT.

Results indicated that adherence to the MBEIT protocols by facilitators was satisfactory. Participants in the MBEIT intervention showed significantly greater improvements in their general mental health compared to those in the control condition over the 4 month training period (T1 to T2). It was predicted that an increase in psychological flexibility, or acceptance, would mediate this effect but mediation was not found. Over the 4 month period, participant's increased their level of success in pursuing their family relationship values, and also indicated that they chose their relationship values for more intrinsic reasons over time. There were no other significant changes in any of the other outcome measures over time or between groups.

The study found modest evidence for the effectiveness of the MBEIT intervention. There was no supporting evidence to indicate that the intervention is mediated by acceptance, although trainers were assessed as adhering to an ACT protocol. A potential explanation for the relatively modest effects of the intervention was that the sample of police officers who were assessed had high psychological functioning and positive mental health prior to the program commencing. The theoretical and practical implications of this research along with the applicability of a worksite stress management program for police populations are discussed. Further research is necessary to examine the effectiveness of the program with police officers with lower initial levels of mental health, using a larger sample size, and trialing a program of shorter length.

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Chapter 1

Chapter 1: Police and Stress

1.1 Introduction

Policing is often described as a stressful occupation, due to both operational and organisational stressors that impact on police officers. The result is high levels of distress, increases in burnout, low levels of morale, physical and psychological problems, and difficulties creating a work/life balance. Police organisations are recognising the toll that stressors can have on their employees, and the flow-on effect this may have on the police officers family, and have acted to implement stress management interventions to help police officers. This thesis presents the results of a stress management intervention conducted with police officers from the New South Wales (NSW) police service in Australia.

The first chapter outlines the impact of organisational and operational stressors on police officers, and the myriad of consequences that result. A discussion of the main methods that police officers use to cope with stress is presented, with a focus on avoidance which appears to be the most detrimental coping method used by police to deal with stress.

The second chapter describes the kinds of stress management interventions (SMIs) that have been implemented within police organisations. The main types of interventions are described as primary, secondary or tertiary oriented. Whilst there are certain advantages to some of the current SMIs implemented in police organisations, there have also been identified disadvantages. More recently, emotion-focused, individual oriented SMIs have been suggested as overcoming such disadvantages. The focus of this thesis is on an ACT based SMI intervention used with the police.

The third chapter provides a description of ACT, including theoretical and practical / research information. This chapter leads on to chapter four which describes Mindfulness-

Based Emotional Intelligence Training (MBEIT). This is an ACT intervention that was delivered to the NSW police. The fourth chapter concludes with an outline of the aims and hypotheses for this study.

The fifth chapter describes the methodology of the study, including a description of participants, the outcome and mediator measures used, information about the procedure, and the process used to measure facilitator's adherence to MBEIT. Chapter six describes the results of the analyses conducted, while the seventh chapter presents a general discussion about the study. The discussion focuses on the theoretical and practical implications of the study, describes the limitations, and discusses the utility of using a worksite SMI program for the police.

1.2 Police and Stress: Causes, Consequences and Costs

In 2007 the NSW police service was confronted with several incidents involving employees threatening to take their life, and over 10 current and former police officers have taken their lives over the past 7 years (Danks & Ralston, 2007). Such events have highlighted the impact of stress and mental health problems that police officers face. A recent report has also highlighted the cost of mental health problems on Australian workplaces, including loss of productivity, increase in sick days and poor work performance (AAP, 2007).

A myriad of studies have been conducted which all highlight that policing is a stressful occupation (Anshel, 2000; Brown & Campbell, 1994; Burke, 1994; Copes, 2005; Evans, Coman, Stanley, & Burrows, 1993; Haarr & Morash, 1999; Kerley, 2005; Kohan & Mazmanian, 2003; Martinussen, Richardsen, & Burke, 2007; Perrott & Kelloway, 2006; Stevens, 1999; Violanti, 1996, 2005). According to Ussery and Waters (2006),

> "there [has] always been requirements that police officers be strong enough to handle the job, but very little attention has been paid to mental health and resiliency…" (p. 68).

There are many factors that contribute to mental health problems and stress among police officers, including a number of factors that act to maintain and exacerbate the impact of these stressors, such as poor coping skills and interpersonal/ relationship problems. The aim of this chapter is to explore some of the factors that may contribute to stress and mental health problems among police officers.

1.2.1 Operational and Organisational Stressors

Stress related to policing has commonly been referred to as operational and organisational stressors. Operational stressors refer to routine police duties that are stressful, including confronting dangerous and traumatic situations, attending critical incidents involving car accidents and assaults, high speed pursuits, and being abused whilst performing their duties (Alkus & Padesky, 1983; Kerley, 2005; Violanti, 2005; Violanti & Aron, 1995). Other operational stressors include court related activities, public criticism and complaints, poor publicity from the media (Burke, 1994), and staff shortages (Brown & Campbell, 1994; Stinchcomb, 2004). There are also positive aspects to policing that can provide a balance between the stressful and more rewarding features of their work, such as developing positive community relationships (Kop, Euwema, & Schaufeli, 1999).

Organisational stressors refer to the policies and practices of the police organisation (Kohan & Mazmanian, 2003). Organisational stressors are characterised by those aspects of policing that are part of the day to day running of the organisation, and also include: strict and official hierarchies and chains of command; strict rules and regulations (Alkus &

Padesky, 1983; Brown, Cooper, & Kirkcaldy, 1996; Kerley, 2005; Violanti, 2005); lack of organisational and supervisor support, lack of communication between chains of command (Kop et al., 1999; Stinchcomb, 2004; Violanti, 2005); a competitive promotion system, demanding supervisors (Haarr & Morash, 2005); the quality of relationships between colleagues and between superior and subordinate officers (Brown & Campbell, 1994); lack of leadership, internal investigations, and organisational change including job loss (Davey, Obst, & Sheehan, 2001a).

The impact of both operational and organisational stressors on police officers has been well documented and can be costly to physical, emotional, and psychological well-being, as well as to the organisation and the climate that people work in. Many studies have found that organisational stressors have a more significant impact on police officers than operational stressors (see Brough, 2005; Collins & Gibbs, 2003; Cotton & Hart, 2003; Davey et al., 2001a; Evans & Coman, 1993; Hart, Wearing, & Headey, 1995; He, Zhao, & Archbold, 2002; Kohan & Mazmanian, 2003; Kurke, 1995; Lennings, 1997; Stinchcomb, 2004; Violanti, 2005). This is interesting as it is often assumed that the dangerous, or life threatening nature, of actual police work is what contributes significantly to stress and mental health problems among police officers. However, police officers acknowledge and accept that this is just ‘part of the job’, and in fact, research has found that dealing with dangerous and unpredictable duties leads to higher job satisfaction (Davey et al., 2001a; Storch & Panzarella, 1996). Thus, it appears that it is not always the case that dangerous operational incidents per se play a role in reducing well-being among police, but rather it is the policies, procedural requirements and ‘working’ relationships that have a significant impact on well-being. For example, in a study of over 700 Australian police officers, Davey

et al. (2001a) found a positive relationship between organisational support and job satisfaction and a negative relationship between organisational support and job stress.

There are numerous detrimental consequences that can affect police officers as a result of experiencing organisational and operational stressors. Table 1.1 presents a summary of the research findings of the consequences resulting from the impact of these stressors on police officers and divides these into three main areas: job-related consequences (Burke, 1994; Evans & Coman, 1993; Kaufmann & Beehr, 1989; Kohan & Mazmanian, 2003; Lumb & Breazeale, 2002; Patterson, 1999; Violanti, 1996, 2005); individual consequences (including physical, emotional and psychological) (Al-Humaid, el-Guebaly, & Lussier, 2007; J. M. Brown & Campbell, 1994; Burke, 1994; Gaines & Jermier, 1983; Kohan & O'Connor, 2002; Loo, 2005; Lowenstein, 1999); and family and relationship consequences (Brough, 2005; Burke, 1994; Miller, 2007; Roberts & Levenson, 2001; K. J. Williams & Alliger, 1994).

As can be seen from Table 1.1, the impact of the stressors is not only detrimental to the individual police officer, but also to the organisation, their family/friends, and possibly to the community who rely on the police for safety and support. For the individual, chronic stress affects the body’s immune system and markedly reduces one’s ability to ward off illness (Glaser, 2005; Selye, 1955; Vollhardt, 1991; Wadee, Kuschke, Kometz, & Berk, 2001). The impact on psychological well-being can also be detrimental for some, resulting in decreased mental functioning (i.e., difficulty making decisions and concentrating), and increases in unpleasant emotions such as anger, anxiety, and depression (Anshel, 2000). Finally, personal functioning can be greatly affected due to emotional exhaustion, or burnout (see Alexander, 1999, for a detailed account of the impact of burnout).

Table 1.1

Consequences of Operational and Organisational Stressors on Police Officers

Job-related	Individual	Family and relationships
Absenteeism	Alcoholism	Child abuse / neglect
Aggression	Anger / frustration	Divorce
Alienation	Decreased job satisfaction	Domestic violence
Burnout	Depression	Family strain
Corruption	Drug use and abuse	Limited community
Cynicism	Eating disorders	involvement
Decreased morale	Emotional exhaustion	Limited activities
Decreased motivation	Fatigue / Sleep problems	Seeking less social support
Early retirement	Headaches	Spousal / partner abuse
Emotional exhaustion	Heart disease	Spousal / partner neglect
Fatigue	Helplessness	Strain on friendships
Organisational conflict	High blood pressure	Withdraw and isolation
Reduced organisational	Hypertension	
commitment	Increased job stress	
Termination	Performance anxiety	
Transfers	Post-traumatic stress	
	disorder	
	Skin problems	
	Smoking	
	Suicide	

It is important to note that not everybody responds to stress the same way. Some individual's may respond in a manner that facilitates proactive and effective behaviour. However, for others the effect of emotional exhaustion, for example, can result in feelings of fatigue, irritability, frustration, and a general loss of feeling, interest and concern (Gaines & Jermier, 1983). Police officers adversely affected by stress often engage in 'coping' behaviours in order to reduce the impact of the stressors that they continually face. In some cases these behaviours can be quite ineffective. The following section outlines research findings in relation to the ineffective strategies that police officers use.

1.3 Stress and Coping: When Police Officers Can't Cope

How do we know or recognise that somebody is experiencing stress? Toch (2002) writes that, "most visibly, stress manifests itself through inappropriate behaviour – responses to other people that are not entirely rational because they are contaminated by strong feelings" (p. 69). Table 1.1 outlines the many ways in which stress affects a police officer and the organisation they work in. Prior to discussing research findings that highlight police officers ineffective strategies to deal with stress, the theory behind stress and coping is outlined with specific reference to police officers. In addition, a description of the most common theory that has been used to examine the impact of stress on police officers and the coping strategies that have commonly been identified will be described.

1.3.1 Stress and Coping: Problem- and Emotion-Focused Coping

A commonly referred to model of stress is that of Lazarus' Transactional Model of Stress and Coping (see Lazarus & Folkman, 1984, for a detailed description). This model is a cognitive model of stress whereby the impact of stress depends on the cognitive appraisal

made by the individual and the coping strategies they engage in to deal with the 'stressor'. Lazarus refers to two kinds of appraisals that an individual can make when interpreting the impact of an event. Firstly, a 'primary appraisal' is made where an individual evaluates the seriousness of an event based on its impact on their well-being. The second appraisal process, referred to as 'secondary appraisal', involves the individual assessing the adequacy of their own personal resources that can be used to cope with the demands of the situation. Based on the appraisal approach an individual is likely to experience stress when they perceive that an event threatens their well-being and they believe that their personal resources, or ability to cope with the event, are inadequate and ineffective (DeLongis, Folkman, & Lazarus, 1988; Lazarus & Folkman, 1984). The model emphasises the role of individual differences in the appraisal and coping processes (i.e., problem-focused or emotion-focused coping) that individual's have when it comes to assessing their own experience of stress.

The model also defines the nature of stress according to specific types of variables or processes that can impact on an individual. Lazarus and Folkman (1984) describe stressors as the triggering features in a situation and strain as the harmful consequences of the stress process. In this case, stressor refers to the physical or psychological demands that the individual has to respond to, while an ineffective or harmful response to this is referred to as strain. Strain, or distress as it is also known, reflects the negative physical, psychological, and behavioural consequences that occur when individuals are faced with stress (Flaxman, 2006). Some examples include: headaches, musculoskeletal disorders, anxiety, depression, substance abuse, relationship conflict, and absenteeism from work.

According to the Transactional Model of Stress and Coping, whether an event or demand functions as a stressor and whether it results in strain, or distress, largely depends

on the individual's primary and secondary appraisal process (Lazarus & Folkman, 1984). For example, a police officer may perceive their supervisor's feedback as constructive criticism and based on their appraisal, this could actually be beneficial to their work performance. Alternatively, a different police officer may perceive the same feedback as negative and unjustified criticism, and they respond in a way that is harmful, such as arguing with their supervisor or taking time off work. In this scenario, it is likely that the second individual is experiencing psychological strain, or distress, as a result of perceiving that they have inadequate resources to cope with that event.

In order to address the impact of stress on police, researchers have extensively examined the role of coping abilities in different stressful situations. Anshel (2000) has explored and conceptualised the role of stress and its consequences specifically for police officers. Anshel (2000) outlines three assumptions in describing the process involved in the perception of stress and the coping process. Similar to Lazarus' model of stress, Anshel defines the first assumption in the model as indicating that an individual has perceived a stressor (i.e., being reprimanded by a supervisor) as threatening. The second assumption is that if a police officer is unable to effectively cope with short-term stress, then this is likely to lead to long-term, chronic stress resulting in burnout and emotional exhaustion. Consequences of stress such as burnout and emotional exhaustion can be insidious and create a working environment or culture that is both apathetic and cynical. The third assumption relates to coping strategies that are used by police officers.

The main coping strategies that have been examined include problem-focused coping and emotion-focused coping (Lazarus & Folkman, 1984). According to Lazarus and Folkman (1984), coping is defined as an individual's ability to change their "cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised

as taxing or exceeding [their resources]" (p. 178). In order to cope with stress an effective and adaptive coping strategy needs to be adopted. Problem-focused coping has been conceptualised as engaging in or modifying one's behaviour in order to change or manage the event that is stressful. Problem-focused coping essentially involves problem solving or planning and then following the plan to remedy the situation. It may also involve speaking to or challenging other individual's involved in order to resolve the situation. Evans et al., (1993) also refer to problem-focused coping as 'direct action coping strategies'.

Emotion-focused coping has been described as engaging in behaviour in order to reduce stress, regulate one's emotional response to the stressor, and minimise the emotional impact of stressful situations. Examples of emotion-focused coping include distancing oneself, escape/avoidance behaviour (i.e., sleeping, alcohol use), being positive, being cynical, and talking to one's social supports to ease feelings. Carver et al., (1989) have identified maladaptive emotion-focused strategies that individual's often use which include, focusing on and venting one's emotions, behavioural disengagement (reducing one's effort to deal with the stressor, even giving up the attempt to attain goals with which the stressor is interfering), mental disengagement (i.e., distraction, watching TV), and denial.

Research has identified problem-focused coping as more effective than emotion-focused for police officers in reducing emotional and psychological distress and resolving problematic situations (Anshel, 2000; Carver et al., 1989; Evans et al., 1993; Haarr & Morash, 2005; Patterson, 1999). However, given that organisational stressors are quite pervasive in policing, one might wonder how effective any coping style is when it comes to actually resolving such stressors. According to the Transactional Model of Stress, persistent organisational issues act as the stressors and if police officers appraise their coping ability as poor, they are increasingly at risk of experiencing greater strain, particularly if the

situation does not change – including the appraisal they make about the situation. When a stressor is constant it is possible that police officers may increasingly engage in maladaptive coping strategies to deal with such a stressor (Richmond, Kehoe, Hallstone, Wodak, & Uebel-Yan, 1999). We will refer to these maladaptive strategies as avoidance based strategies.

1.3.2 Maladaptive Coping Strategies: Avoidance

Anshel (2000) states that avoidance coping strategies involve, "a conscious attempt at turning away from the stressful source, cognitively or physically" (p. 389). It is an attempt by an individual to use any technique or strategy to control any of their reactions to a stressful event – including cognitive, physical, emotional and psychological reactions (Anshel, 2000). An example of an avoidance strategy includes changing unpleasant and negative thoughts into more positive thoughts. Avoidance coping can also involve more destructive strategies including drug and alcohol use, isolation, and even suicide. Whilst avoidance can have beneficial effects in the short term, over a long period of time avoidance can be less effective than physically or mentally acknowledging and confronting the source of stress (Anshel, 2000). In a culture of control, like the police, this coping mechanism may be more harmful than helpful. Control in this case refers to the tendency for police to control the expression of emotion both at work and personally. This can have a detrimental impact on police officers, and more will be written about this shortly.

Stress-reduction programs and workshops that are provided to police officers often emphasise the effectiveness of problem-focused coping and provide education and training to assist police officers in adopting such an approach (more about this later). Police officers may use problem-focused strategies such as developing a plan. However, when the stressor

is not resolved, police officers may resort to engaging in ineffective and unhelpful coping strategies to reduce the impact of, or remove, the stressor. The evidence for suggesting that police officers are struggling with stress and may engage in ineffective coping strategies is outlined in Table 1.1. The following section highlights police-specific research findings that demonstrate the problems associated with avoidance and using maladaptive coping strategies.

First, the use of alcohol as a maladaptive 'coping' mechanism has been found to be a serious problem among police officers (Davey, Obst, & Sheehan, 2001b; Lennings, 1995; Martin, Blum, & Roman, 1992; McNeill, 1996). For example, assessment of the frequency of alcohol consumption among 852 NSW police officers found that almost half of the respondents reported drinking alcohol excessively (Richmond, Wodak, Kehoe, & Heather, 1998). Alcohol use has often been associated with escaping or forgetting the effects of nonrewarding on-the-job experiences (Martin et al., 1992). It has been found that problematic alcohol use has serious implications for the police organisation, in that it decreases work performance, lowers job commitment, diminishes coordination, and impedes reaction time and ability to process information (McNeill, 1996; Richmond et al., 1999; Richmond et al., 1998). Such consequences can result in increases in absenteeism and the risk of occupational injury.

Harr and Morash (1999) conducted a study in which they identified the kinds of strategies that police officers, with high or low levels of stress, used in order to cope with organisational stressors. Highly stressed officers, in comparison to officers with low levels of stress, used escape, expressed feelings of anger and hurt to co-workers, kept written records, and relied significantly more on support from co-workers, supervisors, managers, and families. Difficulty coping with stressors and emotions that arise in difficult situations

is also likely to result in police officers becoming increasingly cynical about their work and their relationships with co-workers.

Perrott and Kelloway (2006) argue that cynicism has been found to be a common avoidance coping strategy used by police officers. Cynicism is referred to as an avoidance strategy because it enables individuals to 'emotionally detach' from what they are really feeling (i.e., hurt, anxious) and present themselves in a different manner (i.e., 'tough', confident) (Patterson, 1999). Police officers are also more likely to avoid divulging their emotions, or even talk about emotional issues, to work colleagues as a way of giving the impression that they are coping. This was reflected in a study that investigated the way in which Australian police officers coped with stressful situations and events (Evans et al., 1993). They found that most officers utilised problem-focused coping strategies. However, forty-five percent of the participants indicated that they would not divulge or discuss their feelings with other colleagues. According to Evans et al. (1993) this was used frequently as an avoidance strategy. In addition, one-quarter of the participants stated that they would deliberately avoid letting others 'know how bad things were for them'. The result of this is that officers may become increasingly cynical, suspicious, authoritarian, and emotionally detached from others. Evans et al., (1993) surmise that there exists an entrenched reaction within the police culture to refrain from, or avoid, speaking about one's emotions.

Avoidance: The role of the police culture

The literature on police and emotions often highlights the inadequacy with which emotions are expressed and managed both at an individual level and organisationally (Haarr & Morash, 2005; Lennings, 1997). This response to emotions has been reported to be quite pervasive and entrenched within the culture of the police. Police are required, as part of their job, to manage, control, mediate and confront emotions and emotional people. This

also involves the regulation and suppression of emotions (Bakker & Heuven, 2006; Pogrebin & Poole, 1991). Haarr and Morash (1999) describe police agencies as reinforcing the image of a police officer as being "logical, rational and reasoned decision makers and mediators who fight crime and maintain order" (p. 166). Some authors suggest there are several unique features of the police culture that are strongly unifying: secrecy from, and suspicion of, the community; masculinity (including loyalty and solidarity); and high value placed on dominance and physical control (J. M. Brown & Campbell, 1994; Martin et al., 1992).

These same unique features reflect the four main reasons why police officers might regulate and suppress their emotions. This is not limited to their work role, but has been found to occur in their private life as well (Pogrebin & Poole, 1991). First, there is a common view that police officers believe that emotion, and being emotional makes people feel uncomfortable. The cultural stance is that officers who display or communicate emotions such as distress at work, are weak and lack masculinity (Brown & Campbell, 1994; Haarr & Morash, 2005; Lowenstein, 1999; Woody, 2006). Second, police officers are more likely to inhibit their emotions for fear of being seen to be incompetent and vulnerable. Third, emotions, and their expression, are regulated because officers perceive that their colleagues at work may think of them as being unreliable (Lowenstein, 1999; Woody, 2005). Lowenstein (1999) suggests this is likely to increase police officers experience of stress, as any feelings of weakness such as anxiety, are not communicated to colleagues, including supervisors or managers. This is in part out of fear that this may be used against them at some point in time, in particular, when seeking promotion or transfers to 'better departments'. In fact, police officers often admit that they do not discuss difficult

emotions with just anyone, and are very selective about who they speak to about their emotions and experiences, if they talk to anyone at all (Howard, Tuffin, & Stephens, 2000).

Finally, the inhibition and suppression of emotions is believed to be related to the widely held notion within the police culture that police are meant to be tough and staunch - often referred to as the 'Dirty Harry' or 'John Wayne Syndrome' in the police and stress literature (Martin et al., 1992; Violanti, 1999). It has been argued that this perspective is instilled very early in a police officers career, where new officers are strongly socialised through both training and actual field experience to adopt such characteristics and relate to emotions in this way, while still acting professionally (Perrott & Kelloway, 2006; Pogrebin & Poole, 1991; Violanti, 1996, 1999).

The tendency to regulate and suppress emotions by police officers can be detrimental, and paradoxically can increase the use of maladaptive coping strategies and experience of difficult emotions. For example, the premise within the police culture that certain emotions are not to be discussed with colleagues and supervisors often leaves police officers feeling increasingly helpless and stressed (Abdollahi, 2002). In one study, over fifty percent of participants reported that not being able to express how they felt was ranked seventh out of a possible 56 stressful events (Evans et al., 1993). This suggests that officers do report feeling quite stressed when they are unable to discuss their emotions.

Another cultural norm that exists in the police is the perception that any personal issues that are stressful, need to be left at home and not brought to work. However, trying to remain composed when dealing with significant personal stressors can be difficult. Evans and Coman (1993) refer to personal issues as non-work stressors and these include sources of stress such as relationships (i.e., marriage), separation, illness, pregnancy, children, financial stressors etc. Non-work stressors add to the experience of work-related stress, and

have been found to "directly influence reported levels of occupational stress because of their impact on life stress" (Evans & Coman, 1993, p. 12). Thus, both work-related police stress and personal related stress are interconnected (Evans & Coman, 1993; Toch, 2002).

Recent research emphasises the bidirectional relationship between work and family, meaning that work can interfere with family and family can also interfere with work, particularly when demands in one area are higher than in the other (Adams, King, & King, 1996; Allen, Herst, Bruck, & Sutton, 2000). A consequence of this bidirectional relationship is that conflict can result, stress can increase, and the quality of work and family life are affected. The following section will highlight some recent findings in relation to the effect of work-family conflict on police officers.

1.3.3 The impact of work-family conflict on police

Work-family conflict has a significant impact on not only the officer and their family, but on the organisation as a whole. Work-family conflict has often been found to be a strong negative predictor of psychological well-being (Brough, 2005) and has been identified as a factor that is related to psychological burnout (Allen et al., 2000; Burke, 1994; Martinussen et al., 2007). Consequently, the influence of work-family conflict in the prediction of psychological well-being is receiving increasing attention.

Research has also linked work-family conflict to negative outcomes for the families of police officers. According to Miller (2007) the most common stressors reported by police families relate to "schedule and shift changes, the 'police culture' [i.e., suppression of emotions], job commitment, overprotectiveness, cynicism, suspiciousness and hypervigilance or a general distrust of people's motives and actions" (p. 22). Jackson and Maslach (1982) conducted a study involving 142 police couples to explore the effects of

job stress on family life. Couples were surveyed and were asked to describe their family interactions. Officers who were experiencing stress, as measured by the Maslach Burnout Inventory (Maslach & Jackson, 1981), were more likely to be angry, uninvolved in family matters and have unsatisfactory marriages. It was also revealed that police officers who identified themselves as being emotionally exhausted were more likely to bring home the stress and tension caused by their job. The police officers wives indicated that their experience of emotionally exhausted officers were that they would return home from work upset, angry, or tense and anxious, being in a complaining mood, and having difficulty sleeping at night. In order to cope, police officers engaged in maladaptive avoidance strategies such as getting away, drinking, or finding alternative things to think about.

In a separate study, Jackson, Zedeck and Summers (1985) examined the impact of job stress and physical exhaustion on the physiological and subjective components of emotional responding during marital interactions between 19 male police officers and their spouses. Findings indicated that when police officers were experiencing more stress, both spouses were more physiologically aroused. An interesting finding was that spouses' satisfaction with the quality of family life was closely related to the 'emotional interference' from work (such as stress, tension, anxiety), as opposed to the 'structural interference' from work (i.e., working shifts) (Jackson et al., 1985). It has also been reported that if partners sense that their family member has had a stressful work day, they may adopt a defensive and vigilant attitude in an attempt to anticipate conflict or to avoid exacerbating and adding to their level of stress (Roberts & Levenson, 2001).

A similar result was obtained in a study conducted by Williams and Alliger (1994). These authors found that unpleasant moods, as opposed to pleasant moods, were more likely to affect a police officers mood in both family and work roles. The findings of this

study highlight the bidirectional nature of work-family conflict, whereby distress and unpleasant moods are positively related to perceptions that family interferes with work, and that work interferes with family, although, participants indicated that work interfered with family to a greater extent.

The effect of an employee's negative mood transferring to the home environment is often referred to as 'mood spillover' (Thompson, Kirk, & Brown, 2005). This is one way in which work stress can affect family members. Work stress can also affect family members and other relationships, is when emotions are not discussed or suppressed (Evans et al., 1993; Youngcourt & Huffman, 2005). This can be both concerning and frustrating for spouses, friends and family who try to provide support for their family member. An employee's negative mood in relation to work-family conflict can also impact on the organisation (Frone, 2000). Higher levels of work-family conflict has been found to be related to lower levels of job satisfaction (Greenhaus & Beutell, 1985; Youngcourt & Huffman, 2005). When police officers perceive their work environment as stressful, they are also more likely to report work-family conflict (Youngcourt & Huffman, 2005). This finding is particularly alarming as policing is an inherently stressful job.

1.4 Summary of Police and Stress Literature

Police officers are subject to a variety of operational and organisational stressors that may impact on their ability to function effectively in the workplace and in their personal life. Those who are unable to cope effectively with such stressors may rely on maladaptive coping skills, such as avoidance based coping skills. Not surprisingly, maladaptive coping skills (e.g., avoidance, emotion regulation, excessive alcohol intake,

drug use, smoking, overeating) appear to be a significant factor in determining the intensity and frequency with which stress is experienced in police work (Anshel, 2000).

Given the detrimental impact that chronic stress can have both on the individual police officer, their family and the organisation, the approach to tackle these issues has been to develop stress-reduction programs and other interventions to target and reduce the impact of stress in police officers. Interventions and policies have also been developed to lessen work-family conflict and increase work-family balance. Work-family balance is believed to promote well-being and reduce the harmful consequences of stress and increase employee effectiveness at work (Greenhaus, Collins, & Shaw, 2003). The following chapter provides details regarding the measures that have been used to combat the negative consequences of stress among police officers.

Chapter 2

Chapter 2: Interventions Targeting Police Stress

2.1 Police and Worksite Stress Management Interventions

Anshel (2000) states that considerable resources have been devoted to training police to understanding the impact of stress, as well as developing interventions and training programs to counteract the harmful effects of prolonged stress. In the field of organisational psychology, programs that tackle stress and aim to minimise the negative consequences of work-related stressors are commonly referred to as worksite stress management interventions (SMIs) or worksite stress management training (SMTs) (Ivancevich, Matteson, Freedman, & Phillips, 1990).

SMIs can be either organisational-focused or individual-focused and there are three common approaches in their provision: primary prevention, secondary prevention, and tertiary prevention (which will be defined shortly). A detailed review of the three approaches is beyond the scope of this introduction but have been summarised elsewhere (see Murphy, 1996, 1999; Murphy, 2003; Murphy, Hurrell, & Campbell Quick, 1992; van der Klink, Blonk, Schene, & van Dijk, 2001).

The following chapter briefly outlines the research that has been conducted specifically with police according to each of the three prevention approaches. It will highlight the problem with such research in that relatively few empirical studies have been conducted to examine the effectiveness of programs and interventions that have been implemented within police organisations. The chapter builds to describe the use of worksite SMIs that are based on acceptance and psychological flexibility as an individual-focused variable. The research exploring the role of acceptance will be discussed separately as the current thesis project is based on this approach.

2.1.1 Primary Prevention Approaches to Police Stress

Primary prevention programs and initiatives within police organisations reflect a '*whole organisation'* approach to the prevention of stress among police officers and police employees. These programs and initiatives are implemented by, and conducted within the organisation to alter aspects of the working environment that are hazardous to an employee's well-being (Cooper, 2003). They involve the identification and reduction of the sources of work-related stress (Cooper, 2003; Murphy, 2003), in order to lessen the negative impact of work-related stress on the individual and the organisation. Flaxman (2006) describes these hazards as being low levels of job control and organisational support, poor communication, role conflict or ambiguous roles, and increased workload. Murphy (1999) concluded that three elements are important in order for an organisational intervention to be successful – worker involvement, management commitment and a supportive organisational culture. Programs that are implemented into police organisations are likely to be ineffective if there is not a strong commitment from the organisation to support such programs (Kurke, 1995).

Examples of primary prevention programs that have been implemented in police organisations include the use of job performance appraisals, team-building programs and conflict resolution interventions, training of supervisors in leadership, and coaching skills (Kurke, 1995; Lumb & Breazeale, 2002). The effectiveness of training senior police officers in leadership skills was evaluated in a pilot study involving 14 police officers (Lumb & Breazeale, 2002). The program introduced them to new concepts of managing problematic employee behaviour, including developing skills to overcome such problems and how to address self-destructive behaviour. Participants were also provided with coaching skills that they could use to help them implement change in the organisation they

worked in. The participants provided ‘favourable’ and ‘positive feedback’ regarding the program and indicated that they would use the skills they developed to assist them with work problems and develop peer coaching programs for their department (Lumb & Breazeale, 2002).

Research examining the impact of primary prevention strategies has emphasised the importance that supportive supervisors can have on buffering their staff against stress (Evans & Coman, 1993; Greller, Parsons, & Mitchell, 1992). For example, Greller et al (1992) conducted a study to explore the effect of social support on officer’s level of stress, specifically exploring the role of occupational stressors and the type of social support that either increased or had a neutral effect on an individual’s stress levels. A total of 728 police officers completed questionnaires that asked participants to identify the frequency with which they had been exposed to stressful events, as well as, completing measures of social support according to family, co-worker, and supervisor / departmental support. The results indicated that social support from the supervisor acted to ameliorate the impact of work-related stressors.

Another primary prevention approach includes the provision of informal networks, or peer support, for the management of work-related stress (Brown & Campbell, 1994). Peer support in policing refers to the use of volunteer police officers, union representatives, or police chaplains, acting as ‘counsellors’ for their work colleagues. It is believed that having representatives from the actual organisation is more advantageous as they will have a better understanding of what stressful experiences a police officer goes through and they work in the same organisation (J. M. Brown & Campbell, 1994). Conversely it has been argued that a disadvantage of using peer support “is that such arrangements tend to be ad hoc, patchy and inconsistent” (Neidig, Russell & Seng, 1992, as cited in J. M. Brown &

Campbell, 1994, p. 109). Other problems associated with peer support counselling are concerns about confidentiality and it is debatable whether a ‘peer support’ system can function effectively in a hierarchical and disciplined organisation. It is difficult to report on the effectiveness of peer support programs that have been used with police officers as there is a considerable lack of empirical data available.

2.1.2 Secondary Prevention Approaches to Police Stress

This approach involves the identification and management of stressors by increasing police officers awareness and ability to manage stress through training and education programs. Essentially, the programs target individual factors (i.e. coping responses) which impact on stress levels and can vary the way employees perceive and respond to workplace stressors. The programs that are implemented are often individual-oriented, provide education about the nature of stress, and teach specific techniques for reducing physiological and psychological symptoms of stress (Murphy, 2003).

The most common types of secondary prevention SMIs are: progressive muscle relaxation, biofeedback, meditation, cognitive-behavioural skills training (i.e., stress management programs) (Murphy, 2003; Murphy et al., 1992; Sarason, Johnson, Berberich, & Siegel, 1979); alcohol and smoking reduction programs (Richmond et al., 1999); substance abuse programs (Al-Humaid et al., 2007); and physical fitness programs (Alkus & Padesky, 1983; Brown & Campbell, 1994). According to Cooper (2003) and Patterson (2003) secondary prevention programs are implemented because of the assumption that organisational stressors will not change thus the individual needs to develop and build up their own abilities to manage stressful work experiences.

Two examples of secondary prevention programs that have been used by police organisations will now be briefly described. Sarason et al. (1979) explored the effectiveness of cognitive-behavioural stress management program for anxiety and anger. Participants consisted of an intervention group and a control group with 9 trainee police officers in each. The program focused on training participants in developing a repertoire of adaptive and effective cognitive responses to help cope with stressors. Training involved engaging in mock situations in order to develop skills. Participants were rated by observers as 'superior' in their performance during mock situations, even though participants indicated they were more angry and anxious, and experienced more difficulty in controlling these feelings in the mock situations, in comparison to the control group participants. The authors suggest that higher self-ratings by participants in the treatment group simply reflect their increased awareness of their physiological, emotional and cognitive responses to such situations. Interestingly, this corresponds with key concepts of acceptance based SMI programs (which will be discussed later).

The second example involves the use of a stress inoculation procedure to teach anger-management techniques via stress inoculation training to trainee police officers (Novaco, 1977). The authors describe stress inoculation as a preventative approach that originates from cognitive behaviour therapy procedures. The program was implemented to target police officers intrapersonal conflict involving the experience and control of anger, as opposed to interpersonal conflict. In their article the authors stated that results were promising, however, specific results were not reported.

2.1.3 Tertiary Prevention Programs for Police Stress

Tertiary prevention involves programs implemented to treat, rehabilitate and assist individuals with their recovery form serious ill-health as a consequence of stress. Tertiary prevention interventions that have been used with police include: alcohol treatment programs (Stotland & Berberich, 1979); professional counselling including the use of Eye-Movement Desensitisation (EMDR) (S. A. Wilson, Tinker, Becker, & Logan, 2001), Employee-Assistance programs (EAP) (Brown & Campbell, 1994; Lennings, 1997; Murphy, 2003; Murphy et al., 1992; Stotland & Berberich, 1979), hypnosis and psychopharmacological interventions (Lowenstein, 1999); and Critical-Incident Stress Debriefing (CISD: Lennings, 1997; Lowenstein, 1999; Techman, 1990). A brief example of several programs will be discussed.

The first of the interventions to be discussed is EAPs. EAPs were developed to help employees of an organisation to work through stress and other problems that may interfere with job performance, so there is little disruption to the organisation. Kurke (1995) states that there are two main goals of EAPs. The first is to ensure the continuation of adequate job performance by employees, and the second is to improve employee's mental health and well-being as a result of interventions used. The only available published evaluation of professional counselling was conducted within a British police force by Powell, Edelmann, Campbell and Thrush (1992, as cited in Brown & Campbell, 1994). The authors examined approximately 100 referrals that were received by the counselling service and also examined therapists' ratings of clients. The majority of clients were males (aged 36 – 45) and 80% presented with stress and/or anxiety-related problems. Both therapists and clients agreed that clients benefited from the service, and 36% of clients said that the service

helped them remain in the occupation. Unfortunately, there was no specific outcome data presented as to how the counselling service helped the clients.

A number of psychotherapeutic interventions have been used with the police, with most studies conducted specifically targeted at treating stress and post-traumatic stress disorder (PTSD). For example, in one study 22 police officers with PTSD were randomly assigned to Brief Eclectic Psychotherapy (BEP) and another 20 to a wait-list control (Gersons, Carlier, Lamberts, & van der Kolk, 2000). Participants who received BEP made significant improvements at posttest and follow-up in comparison to the control group, including the reduction of PTSD symptoms and comorbid symptoms, as well as returning to work to resume normal police duties. Several case studies have also demonstrated the effectiveness of a range of interventions for police officers experiencing PTSD, such as exposure therapy (Tolin & Foa, 1999) and cognitive behavioural treatment (Cornelius & Kenyon-Jump, 2007). Overall, the results indicated that police officers experienced improvements in the frequency and severity of PTSD, anxiety and depression symptoms with symptom relief continuing in some cases beyond a 6 month follow-up.

There are also tertiary prevention approaches that involve the provision of counselling to police officers and their families. Woody (2006) and Miller (2007) offer a number of suggestions for conducting such interventions. First, interventions should be tailored in order to help the police officer identify appropriate and inappropriate application of the values and attitudes endorsed by the police culture (the impact of police officers values will be discussed in more detail throughout the thesis as it is an important component of the study). Second, it is important to promote the officers personal identity and coping abilities. Third, counsellors should help the officer understand intimate and interpersonal relationships and gain the skills needed to have meaningful, rewarding

relationships outside of work. Finally, it is important to provide assistance to the officer and their family members in order to help them understand the roles they play as the officer's primary social system, and to help them all learn to cope effectively with the challenges of police work (see Miller, 2007; Woody, 2006, for a detailed description).

2.2 Limitations of Current Police SMIs

Overall, it is mainly the tertiary prevention programs in the SMI literature that have been empirically examined for their effectiveness. In most cases it is these SMI programs that are consistently being used to combat individual stressors related to policing. Research literature supporting the implementation of primary and secondary prevention programs within police organisations is rather scant. In fact, many criticisms have been raised about the implementation and effectiveness of SMIs, across all three prevention levels, particularly in relation to methodological concerns.

For example, there is a plethora of literature that provides advice on how SMIs should function, from how the programs should be implemented to specific roles that employees (including managers) should take. However, there is limited guidance on how to design successful interventions and limited research exploring the effectiveness of stress management programs (Murphy, 2003; Patterson, 2003). Methodological concerns associated with SMIs include: lack of control over extraneous sources of variance, inadequate control group comparisons, lack of 'process research' in SMI programs (moderators and mediators of change) to help understand why they work, and difficulties obtaining appropriate samples (Bunce, 1997; Ivancevich et al., 1990). Other problems that impair the potential benefits of SMIs include minimal attempts to eliminate and / or reduce sources of organisational stress, minimal commitment by organisations to alter inherent

structures or work schedules, and finally, organisations may presume that they have met their obligations to reducing work-related stress simply by introducing stress management programs (Murphy, 1984, 2003).

Despite the push for organisations to introduce primary prevention measures to reduce stressors, it appears that these measures are not entirely successful, particularly in relation to organisational stressors. Thus, it is essential that individual-oriented interventions (i.e., secondary and tertiary prevention approaches) are included to assist police officers who are experiencing high levels of work-related stress. These approaches are more likely to target the psychological styles, or individual differences, of workers coping styles which play an important role in moderating the stress process (Bond, 2004; Ivancevich et al., 1990; Patterson, 2003). Campbell-Quick, Murphy, Hurrell and Orman (1992) argue that an individual's occupation and their ability to perform effectively in their work may have intrinsic value, which is an important aspect of psychological well-being.

Thus, it appears that an intervention program that directly tackles both emotional and psychological well-being of police officers, whilst also providing effective coping skills could prove to be essential to addressing levels of stress among police officers, particularly the emotional toll that stress has on police officers. An emotion-focused intervention would also be beneficial given the overwhelming police culture that minimises the acceptance and expression of a wide range of emotions. It is surprising that there are not many more individual-focused intervention programs that specifically address such issues.

Traditional SMIs that explore the role of emotions with police officers has been limited, particularly within police training. Most individual focused SMIs tend to focus mainly on enhancing police officers ability to cope with occupational strain (Bunce, 1997). Programs often rely on psycho-education and cognitive-behavioural principles that aim to

increase an individual's ability to adopt strategies that focus on changing the content of dysfunctional thoughts, reducing emotional arousal, and teaching about the physiology of stress – all in the effort of reducing psychological distress and increasing one's well-being.

More recently, individual-focused SMIs have emerged that target psychological distress in a different way. Rather than wholly focusing on the reduction of stress by changing the content and frequency of dysfunctional thoughts, these interventions focus on altering the way in which individual's relate to their thoughts, feelings, memories, and physiological sensations (Flaxman & Bond, 2006). At the heart of such interventions is the role of acceptance.

2.3 Acceptance Based Interventions

Acceptance based SMIs have been utilised to address work-related and non-work related stress, and have been found to be successful in the reduction of stress and distress (Bond & Bunce, 2000, 2003; Flaxman, 2006). These programs target emotional and psychological well-being with the goal being behavioural effectiveness in an employee's life, both in the organisation they work for, and outside of work.

"Psychological acceptance is a major individual determinant of mental health and behavioural effectiveness" (Bond & Bunce, 2003, p.1057). Acceptance based interventions are essentially emotion-focused interventions and they involve developing and encouraging the psychological acceptance of difficult and unpleasant thoughts and emotions. Psychological acceptance refers to a willingness to experience all psychological events, both pleasant and unpleasant, such as thoughts, feelings, memories, physiological sensations, without needing to change, suppress, struggle, avoid or control them (Bond & Bunce, 2000; Bond & Hayes, 2002).

Acceptance-based interventions have largely arisen due to findings that attempts to directly modify thoughts and emotions, through suppression and avoidance, can lead to an increase of the difficult and distressing thoughts and emotions the individual is struggling with. For the purpose of this study, the acceptance-based intervention is based on Acceptance and Commitment Therapy (ACT: S. C. Hayes, Strosahl, & Wilson, 1999). A more detailed description of ACT will be provided in the following chapter. We will now turn our attention to research regarding emotion regulation and avoidance, given that this research is relevant to ACT theoretical and practical concepts.

2.4 Emotion Regulation and Avoidance

The effect of emotional regulation including the suppression, reappraisal and avoidance of emotions, has been examined closely in order to explore the effect these coping styles have on an individual's psychological well-being. Gross (2002) refers to emotional regulation as the processes an individual adopts in order to influence the frequency and intensity of emotions and how these emotions are expressed. The regulation of emotion involves engaging in these processes to change the experience of emotion both physiologically, behaviourally, experientially, and psychologically.

Individuals are more likely to engage in emotion regulation when they perceive their emotions to be unhelpful and distressing. Emotion regulation can also involve engaging in processes that involve increasing one's experience of helpful or positive emotions. The processes of emotion regulation mainly involve cognitive reappraisal and emotional suppression. Cognitive reappraisal involves "construing a potentially emotion-eliciting situation in nonemotional [and positive] terms" (Gross & John, 2002, p. 304). Thus, engaging in cognitive reappraisal acts to change the way an individual thinks about

their emotions and reduce their response to their emotions, including the experience of emotion and behavioural expression of emotions. Emotional suppression is defined as "inhibiting ongoing emotion-expression behaviour" (Gross, 2002, p. 283). In other words, changing the way an individual responds behaviourally to an emotion-eliciting event, such as acting happy and smiling when they are really experiencing anger or sadness as a result of the event. The social, cognitive and affective consequences stemming from reappraisal and suppression have been extensively studied (see Gross, 2002; Gross & John, 2002; John & Gross, 2004).

To summarise, reappraisal has been advocated as being a more effective coping style then suppression (Gross, 2002; Gross & John, 2002; John & Gross, 2004). Reappraisal is associated with an increase in experiencing positive emotions and improved ability to cope with stressful and emotion-eliciting situations. John and Gross (2004) also surmise that the use of reappraisal is more likely to improve psychological well-being, enhance relationships, minimise symptoms of anxiety and depression, and increase one's ability to set goals and behave consistently with those goals.

Emotion suppression, in contrast, has been related to poorer outcomes in several areas. Empirical evidence suggests a link between emotional suppression and lowered psychological well-being (Gross, 2002; Gross & John, 2003), difficult and minimal social relationships (Butler et al., 2003; Gross, 2002), poorer memory (Richards, 2004; Richards & Gross, 2000), and an increase in symptoms of depression and anxiety as well as experiencing other mental health disorders, such as phobias, PTSD and generalised anxiety disorder (Becker, Rink, Roth, & Margraf, 1998; Ehlers & Steil, 1995; Shipherd & Beck, 1999; Thorpe & Salkovskis, 1995; Wegner & Zanakos, 1994). Suppression of emotions is also regarded as having a paradoxical effect, where the very emotion being suppressed,

actually increases the experience of the unwanted emotion, including the intensity of arousal (see Campbell-Sills, Barlow, Brown, & Hofmann, 2006). Evidence also exists to indicate that the same effect occurs for thought suppression. That is, suppressing a thought results in a paradoxical effect, where the thought being suppressed actually returns and results in an increase in the very thought that the individual is trying to avoid (Wenzlaff & Wegner, 2000). This was demonstrated in the 'white bear' (and similar) studies by Wegner and colleagues (Wegner, Schneider, Carter, & White, 1987; Wegner & Zanakos, 1994).

Recently it has been argued that regulating one's experience of emotions and thoughts using suppression, is a form of experiential avoidance (EA) (Blackledge & Hayes, 2001; S. C. Hayes, Strosahl et al., 2004; S. C. Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). EA refers to an individuals deliberate attempts to change the form or frequency of private experiences (e.g., bodily sensations, emotions, thoughts, memories, behavioural predispositions), and the contexts in which they occur, particularly if these experiences are unpleasant and/or distressing, regardless of the social, emotional, cognitive and behavioural consequences that may result (Blackledge & Hayes, 2001; S. C. Hayes, 2004; S. C. Hayes et al., 1999; K. G. Wilson & Murrell, 2003).

Essentially, EA occurs when an individual evaluates their private experiences as negative and is unwilling to experience this psychologically, and will engage in behaviour (i.e., drinking excessively, suppressing thoughts, distraction) to control or escape them. EA, as an emotion control strategy in the short term, may have little detrimental impact on an individual. However, if this particular strategy is employed over a long period of time and is applied rigidly and inflexibly, this could have serious implications for an individual's psychological well-being (Kashdan, Barrios, Forsyth, & Steger, 2006). Time, energy and effort is expended in the hope that unwanted private experiences are controlled or managed,

at the expense of engaging in meaningful values and goals in the present moment. In addition, the problem with EA (like suppression) is that it has a paradoxical effect in that attempts to regulate (i.e., by controlling, avoiding) difficult private experiences potentially increases the frequency and intensity of these unpleasant experiences and a sense of feeling inauthentic (Kashdan et al., 2006).

Research examining the impact of EA has grown considerably. For example, in one study the impact of EA processes was assessed using a biological challenge that involved participants inhaling 20% carbon dioxide enriched air over 4 inhalations (Feldner, Zvolensky, Eifert, & Spira, 2003). Forty-eight non-clinical participants were separated into two groups, participants high in EA and participants low in EA. The participants were then given directions to suppress or observe their emotional response. During the task, instruments were used to measure their physiological response, and participants were instructed to rate their level of anxiety. Overall, the results showed that high emotional avoiders (suppressors) were likely to respond to the task with higher levels of anxiety and affective distress. Both groups exhibited similar levels of physiological arousal. Lastly, high emotional avoiders reported less efficacy with regulating their emotional response – even though they reported following the directions given to them to suppress their emotional response. The authors concluded that individuals who perceive they have limited ability to regulate their emotions in response to difficult events may actually respond more fearfully to their own physiological and emotional responses to a stress-related event (Feldner et al., 2003).

EA has also been connected to a large number of psychological and behavioural disorders, including anxiety and mood disorders. Research findings on thought and emotion suppression, coping skills, and reason-giving provide support to the argument that

processes of EA impair psychological well-being and contribute to psychopathology (see S. C. Hayes et al., 1999; S. C. Hayes, Strosahl et al., 2004; Zettle & Hayes, 2002). In response to EA and its processes, approaches that advocate acceptance based strategies, such as psychological acceptance are increasingly being adapted as therapeutic approaches for both clinical disorders and non-clinical populations. Thus, dysfunctional coping strategies such as EA and its processes are abandoned in favour of wholly experiencing and willingly accepting (psychologically) one's private experiences. There are several therapeutic approaches that have adopted an acceptance-based approach to thoughts and feelings including Mindfulness-Based Cognitive Therapy (MBCT: Segal, Williams, & Teasdale, 2001), Dialectical Behavior Therapy (DBT: Linehan, 1993), and Behavioural Marital Therapy (Jacobson, 1992). For the purpose of this study we will focus on ACT and its use in acceptance-based SMIs.

2.5 Acceptance-Based SMIs

Acceptance-based SMIs were developed in order to address the "psychological styles that individuals bring to stressful work situations" (Bond & Hayes, 2002, p. 117), as well as address some of the methodological concerns that have been raised within organisational research. Empirically, it has been found that low levels of psychological acceptance are related to negative stress outcomes such as predicting poor mental health and productivity after one year's time (Bond & Bunce, 2003). Bond and Bunce (2003) found that psychological acceptance predicts such outcomes significantly more than other individual psychological styles such as Type A behaviour pattern, locus of control, and work related sources of stress. Bond and Bunce obtained these same results across a variety of work industries, including nursing, advertising, telemarketing, and government agencies.

Psychological acceptance occurs when individuals willingly experience distressing and difficult private internal events and refrain from trying to change or control these events. Instead, their attention is focused on the external environment (context) and on making effective overt behavioural choices that facilitate the accomplishment of their goals, or help them to act in line with their values (Bond & Bunce, 2003). Thus, behaviours that are engaged in are not based necessarily on the unwanted private events, but are based on meaningful values and related goals. For example, acceptance would be demonstrated if a police officer acknowledged their distress following an argument with a fellow employee and decided to resolve the issue as productively and cooperatively as possible. This response would be consistent and support a personal value such as maintaining a professional work ethic.

To the author's knowledge, acceptance based SMIs have not been used with police officers thus far. It seems that an acceptance based SMI would provide numerous benefits to police officers, both to the individual and the organisation. The project that is the focus of this thesis uses an acceptance-based SMI, called Mindfulness-Based Emotional Intelligence Training (MBEIT) (Ciarrochi & Blackledge, 2006b; Ciarrochi, Blackledge, Bilich, & Bayliss, 2007; Ciarrochi & Godsell, 2005) with police officers from the New South Wales Police Organisation.

Before describing this intervention, the following chapter will provide more background information on ACT, the foundation upon which MBEIT is based on. The chapter will also provide more empirical detail regarding acceptance-based SMIs. It is important to emphasise that MBEIT is a training program that is essentially ACT. One of the reasons for calling the intervention MBEIT were concerns voiced by those police liaising on the project that police recipients would be less responsive to an 'acceptance'

based program compared to an ‘emotional intelligence’ program (more detail about this issue will be provided in Chapter 4). This chapter will also provide an outline of the ACT intervention and detail specific methodological processes that were targeted in order to address some of the methodological concerns that were outlined earlier about SMIs.

Chapter 3

Chapter 3 - Acceptance and Commitment Therapy (ACT)

3.1 Introduction to ACT

In a culture that emphasises the need to think positively and 'feel good' as much as possible, it is often stressed that people should increase their positive emotions and cognitions, which will in turn lead to more pleasant and positive outcomes. Wilson and Murrell (2004) argue that a great deal of suffering arises from our attempts to control our private experiences that arise in relation to certain events, particularly if those private experiences are difficult and distressing. Thus, any negative thoughts and emotions must be regulated in order to live effectively and experience psychological well-being. Hayes et al., (1999) refer to this as the 'assumption of healthy normality', where being psychologically healthy is considered the normal 'homeostatic state', and psychopathology, or negative psychological processes, indicate abnormality. This assumption reflects the traditional medical model to health and well-being.

ACT takes a different stance and proposes that human suffering is a normal part of life. ACT is based on "the assumption of destructive normality: the idea that human psychological processes can themselves lead to extremely destructive and dysfunctional results and can amplify or exacerbate unusual pathological processes" (S. C. Hayes et al., 1999, p. 6). The pathological processes that are likely to lead to suffering and dysfunction are Experiential Avoidance (EA) and cognitive fusion. Cognitive fusion occurs when an individual's verbal processes (i.e., thoughts) excessively regulate their behaviour in ineffective ways due to the their inability or failure to notice the process of thinking (context) over the products of thinking (content) (Pierson & Hayes, 2007). This can result in psychological inflexibility.

Psychological inflexibility arises when the processes of EA and cognitive fusion act to reduce an individual's flexibility when responding to their unpleasant private (psychological) experiences, and to changing circumstances in their environment. When tangled with these processes, 'inflexible individuals' are less likely to engage in value-driven behaviours, and are more likely to persist with self-destructive behaviour that is not in line with their values and goals (S. C. Hayes et al., 1999). In order to control or remove these unpleasant experiences, the individual may engage in behaviour that is damaging to their physical, emotional and psychological well-being, (e.g., drinking excessively, avoiding situations). As previously noted, the paradoxical effects of attempts at controlling private experiences actually result in an increase in the intensity and frequency of those experiences, and may even result in psychopathology (S. C. Hayes, 2004; S. C. Hayes, Strosahl, Bunting, Twohig, & Wilson, 2005; S. C. Hayes et al., 1999).

As discussed earlier, within the police there is a strong emphasis on regulating one's 'unpleasant' and 'distressing' private experiences (i.e., thoughts, emotions, physical sensations, memories). It is more acceptable to use humour, anger, 'toughness', and isolation rather than show or express certain emotions that are often associated with weakness. EA can be quite detrimental for individual police officers, the organisation, their families and work colleagues. It seems that when suppression and avoidance are utilised as coping mechanisms, the result is psychological inflexibility.

ACT is based on a model that implicates language as contributing to psychological inflexibility and psychopathology, through such processes as EA and cognitive defusion (Blackledge & Hayes, 2001; S. C. Hayes et al., 2005; S. C. Hayes et al., 1999). ACT is commonly referred to as being part of the 'third wave of behaviour therapy' (see S. C. Hayes, 2001; S. C. Hayes, Masuda, & De May, 2003; S. C. Hayes et al., 2005) and as such

is differentiated from Cognitive-Behaviour Therapy (CBT), which is described as the 'second wave of behaviour therapy'. Whilst there are notable differences, several researchers argue that there is little difference between the two, and that at this stage third-wave therapies may be less efficacious than CBT (Hofmann & Asmundson, 2008; Ost, 2008). However, this debate still continues and for further information see Hofmann and Asmundson (2008), Ost (2008), Hayes (2004), Hayes et al. (2006), and Hayes, Masuda, Bissett, Luoma and Geurro (2004). What is clearly recognised is that the philosophical and theoretical basis of ACT is different to that of CBT, and preliminary evidence suggests that ACT and CBT may work through different mechanisms (S. C. Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hofmann & Asmundson, 2008). In short, the ACT model and intervention approach is based on a contextual theory of cognition and behaviour called Relational Frame Theory (RFT) (S. C. Hayes, Barnes-Holmes, & Roche, 2001). RFT and came from a practical philosophical tradition known as functional contextualism (FC).

3.1.1 The Philosophy of ACT: Functional Contextualism

Hayes (2004) outlines the main components of FC as being a "focus on the whole event; sensitivity to the role of context in understanding the nature and function of an event, emphasis on a pragmatic truth criterion, and specific scientific goals against which to apply that truth criterion" (p. 646). A detailed outline of FC is beyond the scope of this thesis, and readers are encouraged to refer to S. C. Hayes et al. (1999) and S. C. Hayes (2004) for further reading. What is important to understand is that FC promotes a philosophy of 'prediction-and-influence' and ACT clinician's use this to gain insight into client's problematic behaviour in order to explore and identify 'what doesn't work' and 'what works' in terms of helping clients attain their values and associated goals. To do this, ACT

clinicians focus on overt behaviour (which includes thoughts and feelings) in context, as opposed to examining the role of thoughts and feelings for their own sake (S. C. Hayes et al., 2005). The role of overt behaviour is examined in relation to the client's values and goals, and ACT therapists encourage their clients to abandon interest in the literal truth of their own thoughts or evaluations and instead accept their private experiences and move forward into a process of living according to their values (S. C. Hayes et al., 2005). Now that we have briefly explored the philosophical background of ACT, let's examine the theoretical basis of therapy, which is RFT.

3.1.2 RFT

RFT represents a theory and research methodology where human language and cognition is the primary stimulus being examined for its role in guiding human behaviour. RFTs "intellectual foundation comes almost entirely out of a contextual behaviour analytic perspective" (S. C. Hayes et al., 1999, p. 27). Briefly, underlying the principle of RFT is the notion that language and cognition are both dependent on relational frames. We derive relations between events and words, between words and words and between words and events. Thus, humans have learned to transfer meaning onto objects that are not related formally, but are related on the basis of arbitrary cues that control relational responding (Blackledge & Hayes, 2001; S. C. Hayes et al., 2001). For example, if a person learns that "X" and "Y" are the "same", then they are also able to learn that "woman" and "female" are the "same", even though these two sets of letters look very different. Not only can humans learn that 'woman' is the same as 'female', but that female is also the same as woman. Thus, RFT considers human cognition (language) to be bi-directional in nature.

Bidirectionality refers to the function of language as being dependent on a mutual relationship between symbols and events (Pierson & Hayes, 2007).

Based on this proposition of bi-directionality, RFT describes a theory of language and cognition that suggest that "psychological suffering is virtually ubiquitous in human beings primarily because of the way language works" (Ciarrochi & Blackledge, 2006b, p. 206). What this means is that psychological and emotional reactions to previous painful events can be brought to the present. Thus, when a human interacts verbally with their own behaviour, the psychological meaning of both the verbal symbol and the behaviour itself can change. For example, if a person verbally relates the word "relationship" and their experience of breaking up with someone, the word 'relationship' may trigger emotional and psychological reactions that they experienced during that incident, and even result in a worse or more negative experience. That is, based on their distressing psychological reaction to the word 'relationship', the individual will attempt to avoid similar situations in order to avoid more 'pain'. We evaluate this situation as 'bad' or 'distressing', or 'negative' and not only do we avoid the situation, but we may also try to avoid the painful thoughts and feelings, our private experiences, as well.

High avoidance is also associated with low emotional awareness (Ciarrochi & Blackledge, 2006a; Taylor, 2000). What this results in is a tendency to try to avoid and suppress the private experiences that we have in certain contexts, which then leads to what is referred to in ACT as fusion and EA. Paradoxically, fusion and EA increases psychological inflexibility and reinforces 'believability' of the evaluation. This results in an increase in barriers that lead to effective action and goal-directed behaviour.

3.1.3 Summary of Psychological Inflexibility: Fusion and EA

RFT and ACT propose that human suffering is a result of psychological inflexibility, which is predominantly made up of two main processes referred to as cognitive fusion and EA. According to these processes, thoughts, emotions, and other private events can excessively regulate behaviour in ineffective ways due to the individual's inability or failure to contact and experience other direct and indirect psychological functions (Strosahl, Hayes, Wilson, & Gifford, 2004). These private events now act as psychological barriers which reduces the individual's functioning. Consequently, individuals may be reinforced for engaging in behaviours that assist them to avoid these private events. However, over time the kinds of behaviours the individual can choose from end up costing them in many other ways. For example, a person fused with the thought, 'I can't attend social events because I will become overly anxious' may avoid such settings and therefore reduce the chances they will feel anxious in that particular setting. They also eliminate experiences that can be highly valuable and important to them, like attending social events.

To summarise, in RFT and ACT the goal is not to change the content of thoughts (verbal content) or reduce certain feelings, rather the goal is to change the context in which they occur so they no longer function as barriers to effective action (Ciarrochi & Blackledge, 2006a). This will be explained in further detail in the remainder of the chapter. ACT places a strong emphasis on values, clarifying the directions a client wants to move towards, and helping them develop the stance that allows them to move in a direction that creates a more valued life. For a detailed and comprehensive account of ACT readers are encouraged to refer to Hayes et al., (1999). The following section briefly outlines the ACT

treatment model that is utilised as a therapeutic approach to working with clinical and non-clinical clients.

3.1.4 ACT treatment model

There are several ACT processes that are targeted to increase psychological flexibility in order to enhance individual's effective behaviour in line with their identified values and goals. There is no correct order for addressing these processes and not all individuals need work in each of the domains (Strosahl et al., 2004). The ACT treatment model, referred to as the 'hexaflex', can be divided into two main components (see Figure 3.1). The first refers to acceptance and mindfulness components (acceptance, defusion, the present moment, and a transcendent sense of self); and the second reflect commitment and behavioural change components (values, committed action, the present moment and a transcendent sense of self).

The core ACT processes support each other and all are used to target psychological flexibility. Psychological flexibility refers to "the process of contacting the present moment fully as a conscious human being and persisting or changing behaviour in the service of chosen values" (S. C. Hayes et al., 2006, p. 7). To demonstrate the processes to clients or participants, clinicians and trainers use exercises for each process to enhance adoption and understanding of relevant skills (for more detail see S. C. Hayes et al., 1999; Strosahl et al., 2004). The skills employed by ACT clinicians include the use of metaphor, paradox and experiential exercises that are aimed to undermine the power of cognitive and linguistic processes. A brief description of each process will now be provided.

Acceptance

Acceptance involves developing and increasing an individual's willingness and acceptance of private experiences. Therapeutic interventions involve exploring the futility

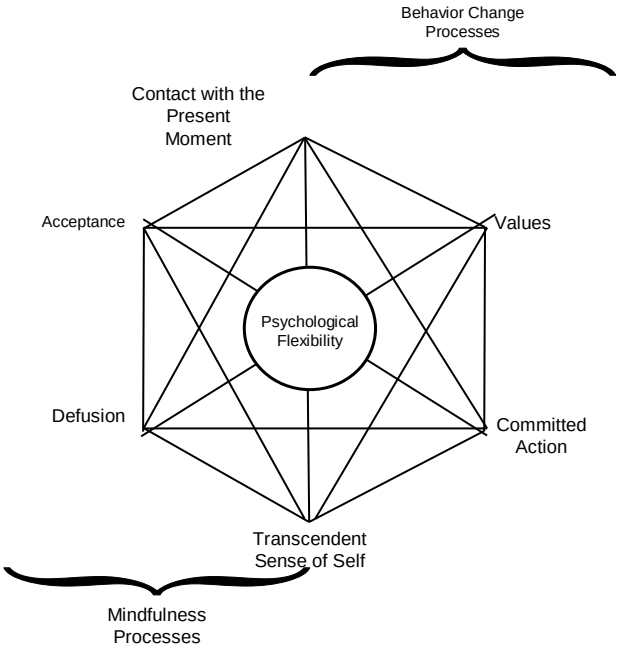

Figure 3.1 Six Core ACT Processes

of engaging in EA and cognitive fusion in an attempt to control private experiences, which can paradoxically increase the level of distress an individual experiences. Instead, individual's are encouraged to engage in purposeful and vital, value-driven behaviour, regardless of their private experiences.

Defusion

Fusion, the opposite of defusion, decreases sensitivity to environmental contingencies and one's own experience in a situation, which also results in an increase in psychological inflexibility. Defusion is a process that involves undermining language processes that promote fusion, unnecessary reason-giving, and unhelpful evaluations and thus function as psychological barriers to meaningful goals and values (Strosahl et al., 2004). Defusion involves teaching individuals the ability to see thoughts for what they are

and not what they say they are (S. C. Hayes et al., 1999), and this will be described further in the next chapter. By doing this, individuals become more willing and accepting of difficult and negative private experiences and are thus able to respond effectively to these and pursue their values and goals.

Getting in contact with the present moment

This process is equivalent to mindfulness. It involves individuals connecting with and being fully open to what is happening in the present moment, including difficult and negative private experiences, and connecting with one's values and living. According to Strosahl et al. (2004) the qualities that reflect this process are vitality, spontaneity, connection and creativity.

Self-as-context

In this process, individuals work on letting go of their attachment or fusion with a conceptualised self (i.e. I am boring; I am hopeless) and increase their experiential contact with a transcendent sense of self, or self-as-context. In this case, 'I' is constant and stable. Whereas an individual's verbal content or evaluations are the content of their private experience and is differentiated from their 'contextual self'. From this perspective, it is argued that acceptance and defusion can be engaged in and the content of an individual's experience need not be so threatening (Pierson & Hayes, 2007).

Values

Values refer to directions in life that individuals choose which guide their behaviour and result in enrichment, vitality and authenticity. When an individual is stuck and fusion and EA dominate, it is easy for individuals to get 'off track' and engage in behaviours that are inconsistent with their values. For example, an individual may value meeting people and engaging socially with others. However, if they experience a significant amount of

anxiety when they think about this, they are likely to avoid such experiences. Helping individuals to let go of the struggle and control over negative private events allows them to regain their sense of direction and work on engaging in behaviour that is consistent with their values. Willingness and acceptance of all unpleasant private experiences, which are part of being human, are important processes that assist the individual in pursuing values and engaging in valued behaviour (Strosahl et al., 2004).

Committed Action

When we live a life according to our values, this inevitably produces psychological barriers and psychological inflexibility. Committed action involves engaging in behaviour, in spite of difficult private experiences that may 'show up', that is consistent with valued ends. There will be failures in commitment and we do not always live up to our commitments from day to day. Thus, engaging in committed action can also result in barriers and distress. However, what commitment really involves is that in spite of the barriers, individuals will pick up where they left off, and take a direction that they value once again.

3.1.5 Empirical Support for the ACT Processes

There are several published studies that provide support for the therapeutic processes of ACT. While the numbers of studies are limited to focusing on the processes of acceptance, defusion, and values, they are evolving and are being conducted in order to establish ACT as an empirically supported psychotherapy. There is also a need for understanding the processes of change in worksite SMIs based on the recommendation of several review articles (Bunce, 1997; Murphy, 1996, 1999; van der Klink et al., 2001).

For example, Hayes et al., (2006), conducted a meta-analysis where the relationship between psychological flexibility, as measured by the Acceptance and Action Questionnaire (AAQ) (S. C. Hayes, Bissett et al., 2004; S. C. Hayes, Strosahl et al., 2004) and various quality of life outcomes including stress, pain, depression, anxiety and negative affectivity was explored. Correlational data revealed higher levels of psychological flexibility (i.e., acceptance and values-based action processes) were associated with a lower likelihood of developing a psychiatric disorder, better mental health, less pain related disability, and improved job performance.

In this same review, Hayes et al., (2006) examined several dismantling, or decomposition, studies conducted using ACT processes and suggest that this research indicates good mediational effects for the processes outlined by the ACT treatment model. Dismantling studies refer to research that is conducted in order to explore the impact of core processes of an intervention that are believed to contribute to treatment efficacy, and to examine whether the processes operate in the way that is prescribed by the theoretical underpinning of the intervention (S. C. Hayes et al., 2006). Several examples will be provided for each of the ACT processes that have been examined.

The effect of a cognitive defusion technique on negative self-referential thoughts has also been examined (Masuda, Hayes, Sackett, & Twohig, 2004). The “Milk- Milk” exercise was used (see S. C. Hayes et al., 1999) and involves rapidly repeating the word “milk” aloud until it loses all meaning and just sounds like a noise. The same technique is then used with a discomforting thought. The results obtained supported the hypothesis that this technique reduced the discomfort associated with, and believability of, a particular thought, in comparison to a distraction task or a thought control task.

Another study examined the impact of an ACT acceptance, defusion and values intervention using several ACT exercises on pain tolerance (Gutierrez, Luciano, Rodriguez, & Fink, 2004). This was compared to a cognitive and emotional change intervention. In the ACT condition, participants were provided with instructions and asked to disconnect any pain-related thoughts and feelings from literal actions by noticing their private events and being willing to experience them. In the cognitive condition the goal for participants was to change or control pain-related thoughts and feelings by focusing their attention toward positive thoughts and feelings. All participants were given general instructions about the pain task that linked their performance to a valuable goal (e.g., that information gained from participants during the task would benefit other individual's suffering from pain).

A total of 40 participants were randomly assigned to one of the interventions, and were paid to remain in the task as long as they could while pain levels were raised during the study using a electric shock stimulator. The activity involved an 'identity matching-to-sample' task where participants were required to look at a nonsense syllable and then choose a matching syllable from three comparison stimuli. Participants were provided with a token if they answered correctly, and they could choose to use these tokens to avoid receiving a painful electric shock. If participants chose not to receive a shock, then the activity would stop, while the opposite occurred for participants who opted to receive the electric shock. The results indicated that participants in the ACT condition demonstrated significantly higher tolerance of pain, and were more tolerating of pain and more willing to persist in the task even after they indicated that their pain levels were very high. The authors conclude that engaging in ACT processes increases individual's tolerance of pain and reduces the 'believability' of pain, particularly when focusing on important values.

They further suggested that it is not necessary to remove distressing cognitions and emotions as practiced within cognitive therapy (Gutierrez et al., 2004).

Mediational analyses are another way of examining the processes of an intervention that facilitate change and enhance positive outcomes. In the majority of ACT studies mediational analyses were conducted [following Baron and Kenny's (1986) steps for mediation, which will be explained in Chapter 4]. Several mediational studies using ACT-based interventions in an organisational setting have been conducted and will be discussed at a later stage (see section 3.2). Further information regarding ACT mediational studies can be found in the Hayes et al, (2006) review.

ACT has been used effectively to treat numerous clinical disorders and health related problems including: depression (Zettle & Hayes, 1986, 2002; Zettle & Raines, 1989); psychosis (Bach & Hayes, 2002; Gaudiano & Herbert, 2006); suicide (Chiles & Strosahl, 1995); social phobia (Dalrymple & Herbert, 2007); panic disorder and agoraphobia (Carrascoso, 2000); anxiety disorders in general (Eifert & Forsyth, 2005); substance abuse (S. C. Hayes, Wilson, Gifford, & Batten, 1998; S. C. Hayes, Wilson et al., 2004); smoking cessation (Gifford et al., 2004); epilepsy (Lundgren, 2004; Lundgren, Dahl, Melin, & Kies, 2006); chronic pain (Dahl, Wilson, Luciano, & Hayes, 2005; Dahl, Wilson, & Nilsson, 2004; McCracken, Vowles, & Eccleston, 2005); and borderline personality disorder (Gratz & Gunderson, 2006).

The application of ACT has not been limited to clinical populations and has also been utilised in programs designed to target work-related stress, with several empirical studies obtaining results that support the use of ACT for worksite stress (Bond & Bunce, 2000, 2001, 2003; Bond & Hayes, 2002; Flaxman & Bond, 2006). The following section will expand on the empirical research that has been conducted using ACT in organisations.

A selection of studies will be described in detail as they are relevant to the MBEIT approach that has been used in the current project.

3.2 ACT in Organisations: Work-related Stress

Acceptance-based treatments, such as ACT, have increasingly been utilised in organisational settings. One of the first randomised controlled trials using ACT as a worksite SMI was conducted in a large media organisation in the United Kingdom (Bond & Bunce, 2000). Ninety participants volunteered for the study and were randomly assigned to one of three groups: an ACT group, a wait-list control group, and an 'Innovation Promotion Program' (IPP). Bond and Bunce utilised a "2 + 1" method of psychotherapy delivery in which participants received three, three-hour sessions, two on consecutive weeks and the final session approximately three months later. This allows participants to conduct homework 'acceptance strategy' exercises that they learn about in the sessions, and then utilise these strategies in their work environment.

Several measures were used to assess outcome and process (mediation) variables. There were three process measures. The Acceptance and Action Questionnaire (AAQ; S. C. Hayes, 1996) assessed participants level of psychological acceptance, that is, their ability to accept their distressing thoughts and feelings and still pursue their goals. The Dysfunctional Attitude Survey (DAS; Weissman, 1979) indicated whether participants were cognitively vulnerable to depression and other psychological disorders. A measure of work change (Bond & Bunce, 2000) was used to examine the way in which participants handle work strain by innovatively modifying the way they do work or their work environment. Outcome measures included: the GHQ-12 (Goldberg, 1978) to assess psychological well-being or general mental health; the Beck Depression Inventory (BDI:

Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) to examine the presence and severity of participants' depression; and the Propensity to Innovate (Burningham & West, 1995) measure to assess participants' attitudes towards innovation and change at work. The authors hypothesised that the ACT and IPP interventions would prove to be effective programs to reduce worksite stress, via different mediating variables, in comparison to the control group.

As was predicted, the ACT program significantly improved participant's mental well-being and propensity to innovate, in comparison to the control group (Bond & Bunce, 2000). The IPP intervention significantly improved participant's mental health and innovativeness. Job satisfaction and motivation were also measured; however, the ACT and IPP interventions had no effect on either of these variables. Interestingly, psychological acceptance increased among participants in the ACT group and was also found to be the mediator of the results obtained, according to Baron and Kenny's (1986) tests for mediation. That is, the change in outcome was mediated by the acceptance of difficult thoughts and feelings, and not by a change in the presence of such thoughts, or by modifying work stressors. The results for the IPP intervention were found to be mediated by work change and not by acceptance.

In a separate study, Bond and Bunce (2003) explored the role of psychological acceptance to explain mental health, job satisfaction and performance in the work domain. As in the previous study, they hypothesised that acceptance would predict improvements in these 3 areas, up to one year later. Bond and Bunce also explored the interaction between psychological acceptance and job control, which is a variable that is also consistently associated with occupational health and productivity (e.g., Terry & Jimmieson, 1999).

Four hundred and twelve customer service centre workers participated in the Bond and Bunce (2003) study. The results showed that acceptance predicted improvements in mental health and performance over and above other factors such as job control, negative affectivity, and locus of control. In addition, participants with higher levels of acceptance were found to have improved levels of job control. More specifically, a high level of acceptance at Time 1 was associated with higher levels of job control at Time 1 and improved mental health and performance at Time 2. In relation to job satisfaction, the authors also examined whether psychological acceptance may be linked to job satisfaction. They found that once job control was accounted for then this relationship becomes non-significant as job control is a better predictor of job satisfaction than acceptance.

Bond and Bunce (2003) proposed that in the work environment, acceptance improves occupational health and productivity for employees by improving their ability to notice the extent to which they have control in work situations. As a result, these employees are less avoidant of difficult and distressing work situations, and through trial and error, they learn to engage in behaviour that is under their control and is likely to be more effective in the work environment. This acts to improve their mental health and work productivity (Bond & Bunce, 2003; Bond & Hayes, 2002). The same outcome can also be achieved for those employees who identify one of their values, and subsequent goals as being improvement in their performance at work.

Flaxman (2006) also conducted an ACT worksite SMI in an organisational setting in the UK. Three separate studies were designed to test a theoretical assumption relating to ACT, whereby improvements in general mental health can be obtained "by targeting the unhelpful *contexts* of [EA] and cognitive fusion (by promoting psychological flexibility), without having to modify the form or frequency of people's undesirable cognitions"

(Flaxman, 2006, p.131). An important part of this research involved investigating the moderators and mediators of change resulting from the intervention. Flaxman aimed to address some of the theoretical and methodological shortcomings of previous stress management process research, suggested by Bunce (1997), and described in Chapter 2. For example, to examine the specific processes that may contribute to therapeutic change for participants (i.e., acceptance or reduction in dysfunctional cognitions), and to compare different theoretical orientations within stress management literature (i.e., Acceptance-based with Stress Inoculation Training).

The first study involved 154 government employees who were randomly assigned to one of three conditions: 1. an ACT based training program; 2. a stress inoculation training (SIT) program; or 3. a wait-list control group. The '2 + 1' method of psychotherapy delivery was used, with participants in the first 2 conditions receiving 3 training sessions over 3 months. This particular delivery method involves providing participants with two training sessions that run consecutively over two weeks, and a third 'follow-up' session given at the end of three months. Several outcome and process measures were given at three different time points: Baseline (Time 1); 3 months after two training sessions (Time 2); and 3 months after the final training session (Time 3). The measures used included: the GHQ-12 (Goldberg, 1978) to measure general mental health; the Dysfunctional Attitude Scale (DAS) (Weissman, 1979) was used to indicate dysfunctional cognitive content. These same measures were used in all three studies. It was hypothesised that the mediator in SIT was dysfunctional cognitions, and that changing such cognitions will result in better mental health, while the hypothesised mediator of change in ACT is psychological flexibility.

The results indicated that over the 6 month period, both the ACT ($F(1, 44) = 17.11$, $p < .001$, $\eta^2 = .28$) and SIT ($F(1, 54) = 30.95$, $p < .001$, $\eta^2 = .36$) groups obtained significant reductions in psychological distress. As was obtained in the previous ACT studies, the improvements in general mental health for the ACT group participants were mediated by an increase in psychological flexibility, and not because of a decrease in dysfunctional cognitions. Change in the SIT group was partially mediated by a decrease in dysfunctional cognitions and not psychological flexibility (Flaxman, 2006). Flaxman argues that this reflects the theoretical differences between ACT and CBT interventions whereby participants in the ACT condition showed a larger reduction in 'believing' and needing to control dysfunctional cognitions than those in the SIT condition.

In the second study, Flaxman further explored the effect of an ACT-based worksite SMT on dysfunctional thinking and on learning at work. A total of 81 government employees were randomly assigned to an ACT group (n=50) or a wait list control group (n=31). A similar methodology was used as that in the previous study. The results revealed that participants in the ACT intervention significantly improved on measures of mental health and well-being, and showed a reduction in dysfunctional cognitions over a 7 month period. Similarly, the improvements in mental health were mediated by an increase in psychological flexibility. Flaxman (2006) also found that psychological flexibility "served as the mechanism by which ACT increased work-related learning" (p. ii).

In the third study, Flaxman sought to explore the type of impact that a participant's level of strain would have as a potential moderator of change in both the ACT and SIT interventions, in order to identify the characteristics of employees who would benefit more from worksite SMTs. Previous research and meta-analytic reviews exploring the moderating role of employee's level of strain and the outcome of SMT interventions have

found that employees with higher levels of distress are more likely to benefit from participating in SMTs (Saunders, Driskell, Johnston, & Salas, 1996; van der Klink et al., 2001). This potentially has implications for SMT research because it may be difficult to obtain significant results if participants enter the training with normal levels of distress, as opposed to higher levels of distress.

Data from the two previous studies were utilised for this analysis. Results indicated that the initial level of participant's strain did moderate the effects of both interventions on their overall mental health. Participants with an elevated level of strain (in comparison to the baseline) improved the most after participating in either the ACT or SIT interventions. Specifically, 70% of highly strained participants in both the ACT and SIT groups improved to a clinically significant degree on completion of the study. These findings raised questions about the potential benefits that can be obtained by participating in worksite SMTs particularly for those employees with only low levels of distress, as compared to employees with moderate to high levels of distress.

3.3 Summary of Acceptance-based worksite SMTs

The use of acceptance-based worksite SMT interventions in organisational settings has proven to be beneficial. These studies demonstrate that interventions that increase an employee's psychological acceptance and psychological flexibility result in improvements to employee mental health and well-being. More specifically they have produced reductions in strain, distress, and burnout; improvements in on-the-job learning; and an increase in productivity and behavioural effectiveness.

At this stage, there are no studies that have utilised an acceptance-based SMT with police officers, and there has been minimal research that has examined the impact of such

an intervention on police officers values. Given the plethora of both personal and work-related stressors that police officers face, especially the damaging effect of work-family conflict as was highlighted earlier, ACT based SMT interventions could be beneficial in several ways. Firstly, the MBEIT intervention may increase a police officer's ability to cope with distressing thoughts and emotions, as opposed to avoiding such experiences as is evident in the current police culture. Secondly, participants would have the opportunity to identify and hopefully engage with important and meaningful values that may have been neglected as a result of EA and cognitive fusion. Reconnecting with values may increase a police officers capacity to engage in effective behaviour to achieve relevant goals. Finally, the end result may have beneficial effects for the individual, the organisation and their family. The benefits beyond the individual will be expanded on in the following chapter. Before describing the MBEIT program there is a need to first describe the way in which values are conceptualised in ACT, as well as the theoretical and methodological issues associated with measuring values.

3.4 Values and Goals in ACT

ACT is not the first therapy that has included identifying values and developing goals as part of the therapeutic approach and it has also been a part of existential, positive psychology therapies, and CBT (Beck, 1970; Snyder & Feldman, 2000; Snyder et al., 1996; Yalom, 1980). Values and 'valuing' form an important part of ACT whereby the goal of therapists is "to help the client develop and maintain a behavioural trajectory in life that is vital and valued…and implement [valued life goals] in the face of emotional obstacles" (S. C. Hayes et al., 1999, p. 205). ACT is a behavioural technology (i.e., RFT) and values are described as "verbally construed global desired life consequences" (S. C. Hayes et al.,

1999, p. 206). These “life consequences” are quite abstract and global, yet they allow individuals to coordinate and direct their actions towards pursuing their values both in the short-term and long-term. How? Values allow individuals to have much greater control over their actions and environments (S. C. Hayes et al., 1999) particularly when they are accompanied by concrete verbal goals.

For example, an important value an individual may hold is to be a loving, caring, and nurturing parent. The individual can set short-term goals in relation to this each day, such as spending time with the children instead of checking emails, or reading a story to a child at night rather than watching the TV. Over the long-term a parent may develop a financial plan and commit finances to this plan in order to help their child attend university or purchase some property. Both of these goals (among many others) are all aimed to pursuing the value of being a loving, caring and nurturing parent.

There are several important features of values and goals, as described within ACT literature. Firstly, as values are more abstract and global, they can provide a “verbal glue that makes sets of verbal goals more coherent” (S. C. Hayes et al., 1999, p. 207). In other words, a single value can ‘explain’ why several goals that seem unrelated are actually aimed at pursuing the same value. Picking up on the previous example, an individual may set goals of working 5 days a week, maintaining a healthy and nutritious diet, exercising to keep fit, and planning for a family ‘adventure’ holiday, which can all be tied to valuing being a loving, caring and nurturing parent.

Secondly, unlike goals that can be set and achieved, values cannot ever be fully satisfied or achieved. Values are guiding principles that cannot be held or ‘ticked off’, unlike reading a book to a child or exercising for an hour every day. Having the value of being a loving, caring and nurturing parent is not something that you achieve by doing ‘X’

amount of things, which means it is done and you can move onto the next value. Values tend to be pertinent for a long period of time. That is, being a parent is a lifetime commitment, being 'loving' is something that an individual continues doing while they are a parent…if they 'choose' to, and even if at times a parent may scold their child. This is another important point about values, "valuing is a choice, not a judgment" (S. C. Hayes et al., 1999, p. 204). Choosing to engage in one's values can happen at anytime, even when confronted by distressing emotions, difficult cognitions, or changing situations. For example, parents can still choose to be loving, caring and nurturing parents to their children even in the context of separation and divorce, where many emotional and cognitive barriers can arise. In this situation, the value does not change, although perhaps certain goals may be changed, discarded, or developed.

An important part of the therapeutic intervention in ACT is values clarification, and there are several exercises that therapists may conduct with clients to help them identify their values. Values clarification exercises might ask clients to identify their values in a range of important areas of life such as relationships, employment, health and spirituality. Clients are also asked to identify relevant goals in each area, the barriers that may be present (i.e., unpleasant private events), and any actions that they would like to engage in more, or have engaged in when pursuing that particular value. Finally, clients are asked to rate or rank the importance of each value in relation to the extent they are working on them right now, and the level of success they have had with living consistently with this value.

As mentioned previously, the values component is consistently addressed throughout the ACT intervention. Part of the program also involves having participants complete a questionnaire to assist them in identifying their values. The 'Personal Values Questionnaire' (PVQ: Blackledge & Ciarrochi, 2005) is based on literature and research

related to Self-Determination Theory (SDT) (Deci, 1995; Deci & Ryan, 1985, 2000), personal strivings, and goals (Emmons, 1986, 1996). Specifically, the PVQ asks participants to identify their values in several areas (i.e., relationships, work, health), and also asks participants to indicate their reasons for choosing such values (extrinsic or intrinsic), to rate how successful they are in living their values, their level of commitment to their value, how important the value is, and whether they want to improve on their value. The 'reasons' for choosing values is based on the SDT literature, while the remaining features have previously been examined in literature and research that is relevant to examining personal strivings and goals. The next section provides an outline of these concepts and research that has been used to develop the PVQ (Blackledge & Ciarrochi, 2005) as used in the current ACT intervention.

3.4.1 Goals, Personal Strivings and Subjective Well-Being

The concept of 'values' that is espoused by Hayes et al (1999) resembles that of the concept of 'personal strivings'. Personal strivings are defined as "what a person is typically or characteristically trying to do" (Emmons, 1996, p. 315). More specifically, personal strivings are indicative of the 'superordinate abstracting qualities', which embody 'subordinate goals' that individuals use to guide corresponding actions (Emmons, 1986). An example of a personal striving may be "to be healthy and physically fit", with several goals about exercising and diet that direct an individual's behaviour in order to accomplish this striving. The impetus for examining the influence of values / personal strivings and goals is because the pursuit of them and their attainment is "a source of meaning and purpose and is closely associated with [subjective] well being and life satisfaction"

(Michalak, Klappheck, & Kosfelder, 2004, p. 195-196). Examining the influence of values on an individual's subjective well-being (SWB) is also an important aim of this study.

Research examining the effect of personal strivings on SWB has found that strivings that are personally meaningful to an individual are positively related to greater levels of SWB, while individuals who are pressured to pursue certain strivings may show little improvement in SWB or even a decrease in levels of SWB (Sheldon, Ryan, Deci, & Kasser, 2004). The research is based on SDT which describes the way in which an individual's motivation is linked to their pursuit of strivings and related goals (Ryan, Sheldon, Kasser, & Deci, 1996; Sheldon, Arndt, & Houser-Marko, 2003; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). In this case, individuals are endowed with two motive dispositions: intrinsic motivation (autonomous) and extrinsic motivation (controlled).

3.4.2 SDT: The motivation behind pursuing values and goals

Individuals who have intrinsic motivation and choose to engage in activities that reflect their strivings and goals are said to have an internal 'perceived locus of causality' (PLOC) (Deci & Ryan, 1985). They see their behaviour as being self-determined and autonomous, thus, they are responsible for enacting their goals. If they are successful in achieving their goals then they feel competent. Ultimately, the individual is said to experience a greater sense of autonomy. Autonomy, according to SDT, refers to goals that are pursued and willingly engaged in because they are freely chosen and valued by the individual (Carver & Baird, 1998; Deci, 1995; Sheldon et al., 2004), and they are performing an activity because it is inherently satisfying (Deci & Ryan, 1987; Michalak et al., 2004; Ryan & Deci, 2000).

However, not all behaviour is intrinsically motivating. On many occasions individuals will be required to behave as a result of external factors. In SDT, an external PLOC equates to 'controlling' motivations (Ryan et al., 1996). Extrinsic motivation reflects when an individual has the experience of being pressured and feels they *have* to do what they are doing, whether it be the way they think, feel or behave (Deci, 1995; Deci & Ryan, 1987; Sheldon et al., 2004). This implies a sense of lack of ownership of goals, or personal strivings for an individual. For example, when an individual engages in certain strivings or goals as a result of peer or parental pressure in order to obtain approval.

According to SDT, extrinsically motivated behaviours can become more intrinsic, or internalised, as a function of 'organismic integration'. Organismic integration reflects when individuals integrate different forms of extrinsic motivation. There are four different forms of extrinsic motivation, known as external regulatory processes, which vary in their degree of autonomy, and are situated along a self-determination continuum (see Figure 3.2). Deci and Ryan (1991) suggest that the adoption and internalisation of external regulatory processes is motivated by their own needs for competence, autonomy and relatedness (Ryan et al., 1996; Sheldon, 2001).

The four regulatory processes that have been identified are: External (extrinsic) motivation, introjected motivation, identified motivation and intrinsic motivation (also referred to as integrated regulation) (Ryan & Deci, 2000; Sheldon, 2001). Intrinsic motivation, on one side of the motivational continuum, reflects the adoption of behaviours that are inherently rewarding both emotionally and cognitively, interesting, pleasurable and enjoyable for the individual to pursue (Carver & Baird, 1998; Deci & Ryan, 1985; Ryan et al., 1996). Individuals who pursue goals for intrinsic reasons enhance their growth

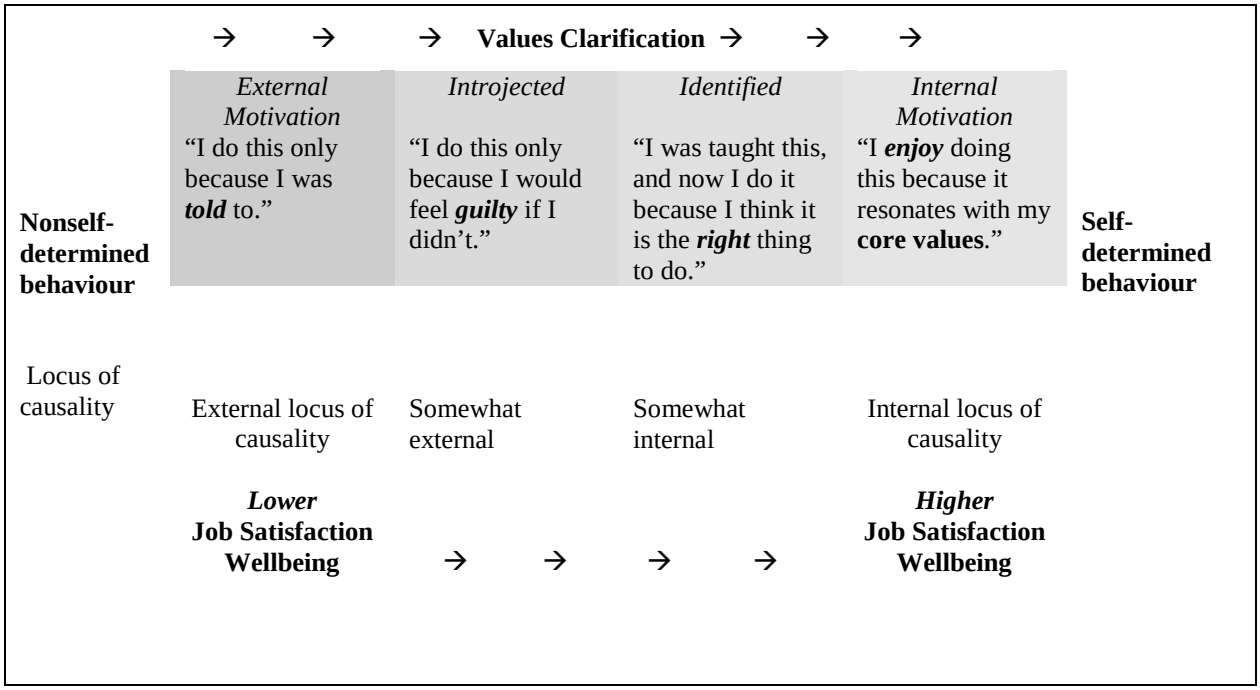

Figure 3.2. The continuum of self-determination with type of motivation and perceived locus of causality as the base for self-determined behaviour (Adapted from Deci & Ryan, 2002).

integration and experience satisfaction as a result of satisfying their psychological needs (Kasser & Ryan, 1996). Thus, according to SDT there are two ways behaviour can be internalised. First, if it is pursued for the interest and enjoyment in engaging in the behaviour, and second if it is pursued wholeheartedly as an expression of one's values, even if it is not enjoyable.

Moving along the motivational continuum from intrinsic motivation we find identified motivation. These motives derive from intrinsic motivation in that they refer to extrinsically motivated behaviours that are consciously internalised and endorsed by individuals. Such behaviours are believed to be valuable, meaningful and chosen for personal reasons (Michalak et al., 2004; Sheldon & Kasser, 2001).

On the opposite side of the motivational continuum is extrinsic motivation. Strivings and goals which are acted on because of controlled reasons are due to external or extrinsic factors. Thus, individuals engage in certain behaviours as a result of pressure or an outside influence rather then behaving in a way that reflects one's own initiative, autonomy or choice (Carver & Baird, 1998; Deci & Ryan, 1987). Extrinsic motivation also involves behaving in order to obtain external rewards (Kasser & Ryan, 1996), and as a result are more likely to experience less direct satisfaction (Sheldon et al., 2004). Extrinsic rewards, such as monetary rewards, using threats and competitiveness are often referred to as extrinsic controls, all of which are likely to undermine an individual's intrinsic motivation (Deci, 1995; Ryan et al., 1996).

Closely related to extrinsic motivation is introjected motivation. Introjected motivation is situated along the motivational continuum closer to controlled reasons, as it reflects more controlled reasons for engaging in certain strivings and goals (Carver & Baird, 1998). Introjected reasons reflect those goals that are pursued by individuals as a result of feeling guilt, anxiety or a desire to please others (Sheldon & Kasser, 2001).

3.4.3 Empirical Research into SDT, Personal Strivings and SWB

Research findings indicate that individuals who are described as autonomous and self-determined, and who perceive their actions as based on an internal PLOC are said to display greater creativity, cognitive flexibility, higher self-esteem and better physical and psychological well-being (Kasser & Ryan, 1996; Lee, Sheldon, & Turban, 2003; Ryan et al., 1996; Sheldon et al., 2004). In relation to work-related situations, Deci, Connell and Ryan (1989) found that managers who were oriented towards supporting their employee's

self-determination had a positive effect on the intrinsic motivation and perceived competence of their staff.

Overall, the findings demonstrate that individual's that exhibit self-determination, autonomy and an intrinsic PLOC are more likely to attain their personal strivings and goals (as consistent with inherent psychological needs). In addition, longitudinal research examining the consequences of making progress on personal strivings and goals also predicts increases in psychological well-being, anywhere from 5 days to several months after personal strivings and goals have been identified (Sheldon & Kasser, 1998). It also appears that as individual's mature, their strivings and goals are more consistent with autonomous and intrinsic motivations for pursuing such goals (Sheldon & Kasser, 2001). The motivation behind the pursuit of personal strivings and goals is one area that receives substantial research attention particularly with regard to its relationship to well-being.

3.4.4 Other Dimensions of Personal Strivings and Goals

Other dimensions of strivings and goals that have been examined in relation to their impact on SWB include: goal content, goal conflict, individual's levels of success, commitment, and importance of their identified personal strivings and goals. The PVQ focuses on the dimensions of success, commitment and importance and thus goal content and goal conflict will not be addressed. Readers are encouraged to refer to Emmons (1986, 1996), Elliot and Sheldon (1998), Ryan et al. (1996), and Sheldon et al. (2004) for further information on goal content and goal conflict. In relation to the importance of strivings and goals, Emmons (1986, 1996) found that individuals, who perceive their strivings as important and valuable, are more likely to report high life satisfaction and expect to be successful in the pursuit of their personal strivings.

Success is typically assessed by asking participants to estimate their likely success at achieving a goal, as well as their current level of success with attaining their goals. In relation to success, individuals who report either very high or low expectations of success are more likely to be unhappy than those individuals with 'intermediate expectations' (Emmons, 1986). Individuals who describe experiencing high negative affect were found to be more pessimistic about future success in attaining goals, regardless of past success (Emmons, 1986). Further, those who are successful in one particular valued domain that is important to them, such as achievement, or social values, also indicate feeling satisfied with life in general (Oishi, Diener, Suh, & Lucas, 1999).

Commitment is the final dimension of personal-strivings/goals briefly reviewed here. Brunstein (1993) described commitment as being "the extent to which personal goals are associated with a strong sense of determination, with the willingness to invest effort, and with impatient striving for goal implementation" (p. 1062). To assess commitment, individuals are asked to identify the level of willingness and determination they have to pursue personal goals (see Brunstein, 1993; Brunstein, Schultheiss, & Grassmann, 1998). Commitment has been found to mediate the relationship between the attainability of goals and SWB (Brunstein, 1993). For example, a strong sense of commitment to goals has been associated with high progress in attaining goals, which in turn results in increased SWB.

3.4.5 Assessing Personal Strivings

Sheldon's personal striving assessment is the most relevant for the purpose of this study. In this approach, individuals are asked to identify a set of personal strivings (approximately 10) and are asked to rate why they are pursuing each goal in terms of each of the four PLOC motives (Sheldon, 2001). These reasons relate to autonomous reasons

(identified and intrinsic motivation) and controlled reasons (external and introjected motivation). Participants rate each of these reasons along a 5 point Likert scale, according the degree to which they might pursue this striving for that reason. Sheldon et al. (2001) uses the PLOC continuum to assess the self-concordance of a person's goals. Self-concordance refers to when an individual identifies goals that represent the 'authentic' person, including their values and interests, as opposed to selecting goals that an individual feels forced or compelled to endorse because of controlled reasons (Sheldon, 2001). An aggregate self concordance score is computed by summing the identified and intrinsic ratings and subtracting the extrinsic and introjected ratings. Participants may then be asked to rate each personal striving in relation to level of importance, success, commitment, difficulty, and social desirability.

The assessment of values according to the PVQ is somewhat different to Sheldon's technique. There is no aggregate score computed to assess participant's level of motivation. Scoring involves obtaining a rating for extrinsic motivation (or extrinsic reasons) and intrinsic motivation (or intrinsic reasons). The purpose of scoring these items in this way is based on both SDT and ACT literature. For example, Vansteenkiste et al (2005) indicate that in SDT the extrinsically regulated items (extrinsic and introjected) are often combined to form a 'controlled motivation composite', in other words an extrinsic motivation score (or extrinsic reasons for pursuing values) (see also Michalak et al., 2004; Ryan & Connell, 1989; Sheldon & Kasser, 1998; Sheldon et al., 2004; Vansteenkiste, Lens, Dewitte, De Witte, & Deci, 2004). This scoring procedure is used for the extrinsic items of the PVQ. However, different items are used to obtain an 'autonomous motivation composite', or intrinsic motivation score (intrinsic reasons for pursuing values). In the studies listed above, an intrinsic score was obtained by summing the scores for the identified and intrinsic

regulation processes. For the PVQ, there are three items that are used to obtain a mean score for intrinsic motivation – identified, vital and fun reasons. It is argued that vital is similar to intrinsic reasons, while 'fun reasons' are also associated with intrinsic motivation because engaging in activities for fun reasons could be considered inherently satisfying (the PVQ is described in further detail in the following chapter).

More recently, Hildebrandt et al., (2008) have used the PVQ to explore the role of values and 'valuing' in the workplace with teachers and substance abuse counselors. The authors distinguished pliant valuing from appetitive valuing. Pliance is a term that is used in RFT to describe the effect of rule-governed behaviour and is defined as:

> "following a verbal rule based on a history of socially mediated consequences for the correspondence between the rule and the rule-follower's behaviour" (S. C. Hayes et al., 1999, p. 29).

Put simply, pliance occurs when an individual engages in behaviour as a result of outside influences or rules. An example may be when an adolescent gives in to pressure to have a cigarette because his/her friends are encouraging them to, and they want to gain their acceptance. Pliant valuing is the engaging in behaviour that is encouraged or enforced by external forces to receive some kind of social consequence (i.e., acceptance, reward). Hildebrandt et al. (2008) argue that pliant valuing leads to avoidant and narrow repertoires, less contact with positive reinforcers, and in the work environment the possibility of burnout, less job satisfaction, and higher turnover. These authors used the extrinsic items of the PVQ to indicate pliant valuing.

Intrinsic valuing, according to an ACT approach, is referred to as appetitive valuing. Appetitive valuing includes the three intrinsic items of the PVQ. Appetitive valuing reflects an individual who engages in valued living because it is inherently rewarding, and they are

enthusiastic and passionate about the values they have chosen. Hildebrandt et al. (2008) state that appetitive valuing leads to approaching and more flexible repertoires, which increases the amount of contact an individual has with positive reinforcers. For example, an individual who values eating healthily and engages in behaviour that supports this value, is more likely to experience the benefits of healthy eating and is more likely to continue engaging this behaviour, as opposed to the person who restricts their diet and regulates their eating habits. In the work environment, appetitive valuing is argued to reduce burnout, and increase job satisfaction, psychological health, and accomplishment (Hildebrandt et al., 2008). In the current study, the terms intrinsic and extrinsic will be used in preference to the terms pliant and appetitive valuing.

3.5 Summary of Values in ACT

Existing research points to a link between having and pursuing intrinsically motivated personal strivings and goals and positive subjective well-being. A principal aim of the current research is to examine participant's values across several 'life areas' using a similar assessment methodology to that used in the SDT literature. The PVQ is a values-based measure that is derived from the motivational continuum reflected by SDT. The PVQ is also an ACT based measure as values are considered to be inherently intrinsic to the individual and is central to the therapeutic approach, according to the ACT model. Another aim of the current study is to examine the kinds of values that are important to police officers, and the way in which their identified values impact on their subjective well-being. There has been limited research exploring the role of values in different 'life areas', other than work amongst police officers. Most of the research that has been conducted has examined the values of police recruits during training and then during their first year of

police work (see Cahill, 1995; Hazer & Alvares, 1981). It is believed that this research will contribute important information about what motivates police officers and how their ability to pursue their values impacts on their well-being, and their performance at work. Of most interest in this study is police officers family relationship and work values, particularly given the negative effects of work-family conflict (Allen et al., 2000; Jackson & Maslach, 1982; Torres & Maggard, 2003). The next chapter will outline the MBEIT program in more detail, including a discussion about the role of values in the program.

Chapter 4

Chapter 4: Mindfulness-based Emotional Intelligence Training (MBEIT)

4.1 MBEIT: ACT-based Stress Management Training

MBEIT is an acceptance-based SMT program that is used with non-clinical populations and is based on ACT theoretical and methodological concepts. Prior to describing the training program in detail, it is important to outline the purpose of describing the program as 'MBEIT' as opposed to an ACT training program. Currently in the NSW Police service, emotional intelligence, resilience, and effective leadership are topics that generate much interest and support from officers and management alike. The use of MBEIT to define and promote the program was considered to be more 'user-friendly' than promoting an ACT program, particularly given the highly emotive words of 'acceptance' and 'commitment'. In a police culture such terms may be received in a negative way, and police officers that may be interested may be criticised and ridiculed for their participation. Thus, MBEIT was chosen as it most closely describes the content of the program and the nature of the skills that will be targeted. For the purposes of this paper, the MBEIT intervention will be predominantly referred to as the ACT program / intervention.

The primary focus of this ACT program is on influencing, or changing, behaviour and increasing psychological flexibility using the 6 processes of the ACT model. This is one of the main factors that differentiates the ACT program from emotional (EI) and social intelligence (SI) theories. EI and SI theories commonly refer to people's potential, and how individuals differ in their in the way they handle emotional and social problems (Ciarrochi, Deane, & Anderson, 2002; Ciarrochi, Forgas, & Mayer, 2006). ACT is associated with EI. However, the central tenet of this ACT program is about promoting 'emotionally intelligent behaviour' (EIB) as opposed to an 'intelligence'. EIB occurs when individuals effectively engage in value-directed behaviour and choose to engage in this behaviour even in the

presence of difficult private experiences that may arise (Ciarrochi et al., 2007; Ciarrochi & Godsell, 2005).

According to the MBEIT model, it is argued that EI is composed of two important parts. Firstly, the ability to use emotions as information, and secondly, the ability to act effectively in the context of emotions and emotionally charged thoughts (Ciarrochi & Godsell, 2005). This second part is what constitutes EIB (Ciarrochi & Blackledge, 2006b). In ACT the goal is to identify the circumstances that promote effectiveness and reduce suffering. In relation to the MBEIT program, effectiveness is defined as the identification and achievement of goals that are decided by an individual. Reduction of suffering is not as easy to define. However, it is imperfectly indicated by the combination of high scores on negative indices of well-being (e.g., depression and anxiety), and / or an increase of scores on positive indices of well-being (e.g., life satisfaction) (Ciarrochi & Blackledge, 2006b).

Emotionally unintelligent behaviour occurs when emotions and related thoughts act to inhibit effective action. An example might be helpful here. If an individual feels sad, yet continues to do the things they value, they may be less likely to experience depression because their abilities to consistently engage in personally meaningful and vital activities would be expected to minimise depression over the long term. Similarly, if someone experiences anxiety about an upcoming test, and focuses on studying for it, rather than procrastinating, then they may be less likely to experience excess anxiety and regret. In contrast, if they try to avoid studying and avoid thinking about the test, then they may ironically experience more anxiety about the test in the long run.

Thus, attempts to manage emotions are often the problem, not the solution. In most contexts, it is possible to experience strong emotions, and yet still choose to act effectively. The MBEIT workshops are designed to promote this concept and everything done is about

intervening to help participants lead better, more vital lives (Ciarrochi & Blackledge, 2006b; Ciarrochi et al., 2007; Ciarrochi & Godsell, 2005).

In this chapter, the dimensions of MBEIT will be described including examples used in each dimension to assist readers in gaining a better understanding. Each of these dimensions are targeted as they are hypothesised to promote EIB. The dimensions are: Effective emotional orientation; Defusion from unhelpful rules, evaluations, and other symbolic experience; Being aware of emotions; and, Effective action orientation. A summary of each of the dimensions can be found in Table 4.1 (Ciarrochi et al., 2007). For further reading on MBEIT and the dimensions, refer to Ciarrochi and Blackledge (2006b) and Ciarrochi et al. (2007). Also outlined in this chapter are important methodological issues that formed part of the intervention and its analysis. Finally, the chapter will conclude with the aims and hypotheses of the study.

4.1.1 Dimension 1: Effective Emotional Orientation (EEO)

EEO involves accepting and being willing to have all of our private experiences when doing so enables the individual to engage in effective behaviour. In ACT, this is referred to as ‘acceptance’, as described in Chapter 3. According to the ACT model, an individual with a low level of EEO is likely to be struggling with cognitive fusion and EA. Thus, in this section of the workshop, participants are oriented to get in contact with the avoidance strategies they use to control their private experiences, and recognise the unworkability of these strategies. Participants also learn about an alternative to avoidance – acceptance, or willingness to experience unpleasant thoughts and feelings. Appendix E and G provide further information about EEO and other exercises that are used in the workshop (e.g. ‘The pervasiveness of emotional control’).

Table 4.1

MBEIT Dimensions: Description and Related ACT Constructs

MBEIT Dimension	Description
Effective Emotional Orientation	• Willingness to have emotionally charged private experiences (thoughts, images, emotions) • Accepting the inevitably of a certain amount of unpleasant affect and negative self-evaluation • ACT construct: Acceptance
Defusing from Unhelpful Rules, Evaluations, and other Symbolic Experience	• Observing emotionally charged thoughts, rather than looking through them. Seeing them as fleeting thoughts and not 'reality' • Notice that emotionally charged thoughts about life are not equivalent to life • Mindfulness - either internal and/or external • Letting go of needing to defend self-esteem • Recognising emotionally charged evaluations of the self • ACT constructs: Defusion, Contact with the present moment, Self as context
Emotional Awareness (or using emotion as information)	• Identifying emotions in self and others • Noticing the evaluations and thoughts that often occur with emotions • Noticing how emotions progress over time

	• ACT constructs: Self as context, Contact with the present moment
Effective Action Orientation	• Awareness of one's own values and related goals • Ability to take action consistent with goals and values, even in the context of difficult private experiences • Ability to sustain committed action in the face of frustration and failure • ACT constructs: Values, Committed action

4.1.2 Dimension 2: Defusing from Unhelpful Rules, Evaluations, and other Symbolic Experience

The primary focus of this dimension is assist participants in understanding and distinguishing between cognitive fusion and cognitive defusion, and to help them to learn to 'de-fuse' when doing so is helpful. As described in the previous chapter, cognitive fusion is the process whereby our verbal formulations (evaluations and rules) are presumed to direct our behaviour. For example, an individual might evaluate their anxiety as 'awful', which subsequently makes their anxiety feel even worse and the individual is more likely to engage in avoidance strategies in order to get rid of this experience. This same person may also have rules about how they 'should' be feeling, or what behaviours they 'must' adopt in order to reduce anxiety, such as 'I must hide my anxiety so nobody notices'. An individual may also engage in avoidance behaviour when they evaluate themselves in a negative way

(i.e., ‘I am a boring person, therefore I must avoid social situations as people find out that I am boring). Fusion may also involve ‘believing’ that certain thoughts and emotions cause behaviour. That is, a person who is angry with their partner could not act loving or calmly towards them, this is only possible when they *feel* calm and ‘loving’. ‘If I am angry, then this is going to lead to an argument’ or ‘Anxiety is going to make this situation worse, so I should avoid it’. Again, fusion with these thoughts may be connected with dysfunctional behaviours, which steers the individual from acting in a value-consistent way.

Defusion involves helping participants see problematic verbal rules and evaluations as they are - simply words and symbols of their experience, and not as solid and binding realities (S. C. Hayes et al., 1999). This does not involve changing the form or frequency of difficult and distressing thoughts, or advising participants about how to ‘get rid of’ such thoughts, rather participants are taught defusion strategies as a way of changing their relationship to these thoughts so the thoughts are seen as simply words. In this section, there is also a strong focus on individual’s developing skills to enable them to contact the present moment more fully, as opposed to being ‘bullied’ by their thoughts and emotions. In order to achieve this, participants engage in ‘mindfulness’ skills to assist defusing from problematic thoughts.

“Mindfulness involves intentionally bringing one’s attention to the internal and external experiences occurring in the present moment” (Baer, 2003, p. 125), and “nonjudgmentally” (Kabat-Zinn, 1994, p. 4). Mindfulness meditation is used to assist with defusion by helping participants learn to observe their thoughts (and other private experiences) that occur internally as well as events, or stimuli, that arise externally. Mindfulness meditation has been used both on its own and in combination with other therapies to treat a number of disorders and behavioural problems, including depression

(Segal et al., 2001; Teasdale, Segal, & Williams, 1995) and BPD (Linehan, 1993). It is beyond the scope of this thesis to go into further detail about mindfulness, however readers are encouraged to refer to previous texts mentioned as well as Kabat-Zinn (1990), Baer (2003), Brown and Ryan (2003), and Hayes, Follette, and Linehan (2004).

There are several exercises that are used to demonstrate defusion strategies which can be found in Appendix E and G (e.g., 'Finding the Descriptions, Evaluations, and Rules'; 'Milk, Milk, Milk'; Mindfulness (i.e., The Conveyor Belt); and Defusing from Self-concepts.

4.1.3 Dimension 3: Emotional Awareness

This dimension involves increasing participant's ability to identify their own emotions, to notice the thoughts that arise with different emotions, and to notice how emotions develop over time (Ciarrochi et al., 2007). It also involves helping participants develop skills to identify emotions in others. Emotional awareness is developed by increasing acceptance, mindfulness and defusion. Past research has found that people who are more accepting and mindful of their experiences also tend to be better at identifying their feelings (Baer, Smith, & Allen, 2004; K. W. Brown & Ryan, 2003).

In the ACT intervention there is no attempt to assist participants in identifying the reasons behind the causes and consequences of their emotions. It is hypothesised that by identifying reasons why an individual engages in certain responses to events, can act to reinforce the belief that their reasons can actually stop them from engaging in value-driven behaviour (Ciarrochi et al., 2007). Rather, exercises are conducted to assist them in accepting and becoming more aware of their emotions. This is achieved by having participants engage in reflective exercises where they write about their experiences in

relation to difficult events and situations that have occurred, or are occurring in their life, with the purpose of having them become more accepting and aware of these. One particular exercise that is conducted to assist participants with becoming aware of their private experiences is a mindfulness exercise called ‘Leaves on a stream’ (see Appendix G) (S. C. Hayes et al., 1999).

4.1.4 Dimension 4: Effective Action Orientation

The final dimension involves helping participants develop a more effective action orientation. In other words, participants engage in discussion and exercises that are aimed to help them clarify their values (as discussed in the previous chapter) and to make contact with what they identify they need in order to stay committed to, and behave consistently, with their values, even in the presence of unpleasant thoughts and emotions. Several exercises are used to assist participants with identifying their values and goals, such as the ‘What do you want your life to stand for?’ exercise (S. C. Hayes et al., 1999). Refer to Appendix E and G for examples of relevant exercises.

Participants also complete the PVQ (Blackledge & Ciarrochi, 2005), to identify values held in different domains such as health, career, education and relationships (see Chapter 5 and Appendix D for further information). Participants are also given a ‘homework diary’ after the two-day workshop where they are asked to identify a value each day, commit to engaging in effective behaviour in line with that value for the day, and be mindful of the private experiences that may arise and may seem like a barrier to effective action (see Appendix F).

4.1.5 MBEIT and Interpersonal Relationships Skills Workshop

The third day of the MBEIT workshop is focused on increasing participant's effectiveness in interpersonal situations, specifically targeting interpersonal situations that reflect organisational stressors. This component of the workshop is different to conventional social skills training programs (see L. L. Bilich & Ciarrochi, 2008).

'Interpersonal' Effectiveness Workshop: Model

The first two-days of the MBEIT workshop are designed for each participant to develop their acceptance and willingness skills (or psychological flexibility), learn about and utilise defusion and mindfulness skills, as well as, experientially connect with their values and engage in EIB that leads towards their values. This part of the program aims to develop intrapersonal skills. Based on the ACT model for therapeutic relationships, this is the first level that needs to be developed, in other words, the 'psychological stance' of the individual. The participant can then use the skills that they have developed to enhance their interpersonal relationships.

The second level reflects the skills that are used by the participant to improve the quality of interpersonal interactions. That is, the ability of the participant to put into play the ACT processes that they have developed during a social interaction. For example, an individual may practice being mindful and fully present during an interaction with another individual, as opposed to being fused with one's own problematic thoughts about what they perceive the other person is thinking or what the outcome of the interaction might be.

The final level involves the participant's ability to increase the ACT processes in the other person involved in the social interaction. In this level, the participant can model and reinforce the development of certain skills, such as acceptance or mindfulness, should

the individual happen to engage in such behaviours. In addition, participants can help others identify their values and encourage value-driven behaviour.

Each of these levels and the relevant ACT processes are targeted in an exercise called the 'experiential role-play'. This exercise is described extensively in Appendix I. There are two goals for this exercise. The first goal is for participants to discover what works for them via experiential feedback, as opposed to learning new rules or social skills. Secondly, participants are encouraged to use their acceptance and willingness skills in order to make room for unpleasant thoughts and emotions, and still engage in effective value-driven behaviour. Ultimately, it is anticipated that all ACT processes will be utilised in the role-plays and that participants will continue to develop their ability to use such skills in social situations.

Finally, participants attend a third MBEIT workshop which is simply referred to as a booster session. The booster session involves: reviewing content from both the 'intrapersonal' and 'interpersonal' MBEIT workshops via metaphors and discussion; engaging in additional exercises; and, exploring participants experiences of applying the skills they developed from the previous workshops. The next section of this chapter will outline important methodological issues that were applied to the current intervention. These include: delivery of the program; adherence to ACT program by facilitators; and identifying the mediators of the ACT program. These issues were covered as a result of the recommendations made by Bunce (1997) who outlined design flaws and methodological issues of past worksite stress management interventions.

4.2 Delivery of the ACT Program

The length of the program was approved by the NSW Police Service prior to its implementation in order to ensure that the length would complement police rosters and would enable participants to attend the workshops with minimal disruption. The use of the 2 + 1 method of delivery was considered to be the most appropriate design to use and this is why the program corresponds to previous ACT work-site SMTs, such as those conducted by Bond and Bunce (2000). This method also allows considerable time in between workshops to enable participants to practice some of the strategies they have learned.

It is important to note that interventions conducted in groups are quite different to working with an individual. Facilitators often lead the program and, to a certain extent, the structure of the workshop, and there is not the luxury of working closely with individual participants as there are time limits and issues of confidentiality. During this workshop, the facilitators were encouraged to be flexible with the structure and organisation of the workshop depending on what participants disclosed and how that might fit with the ACT model. Overall, the general outline of was followed, as outlined in Appendices G, I, and M.

Several other important points to note when working in group interventions, particularly in an organisational setting and with police officers, was that written exercises were often used to encourage participants to work on meaningful issues without needing to disclose this information to other group members. Some questions were directed to the groups in a general manner, as opposed to being specific to the individual. For example, what kinds of things do people do to try to fix / change / avoid emotions? At the beginning of each workshop, participants were asked to adhere to confidentiality rules, should any personal information be disclosed during the workshop. Also, participants were instructed that participation in any of the exercises, and even the training, was totally voluntary and

they could refuse to participate. In situations were participants were unwilling to complete an exercise, the facilitators would demonstrate the exercises with each other, and disclose their own experiences.

4.3 Adherence to the ACT Program

The present thesis seeks to address some of the recommendations suggested in several review articles about theoretical and methodological problems identified with past stress management interventions (see Bunce, 1997; van der Klink et al., 2001). One way of facilitating this is by examining adherence of facilitators to the ACT program and by operationalising the technical content of ACT.

Stiles, Shapiro and Elliot (1986) describe the operationalisation of technical content as a process called ‘manualisation’. There are three stages involved: 1. specifying the techniques to be used in a manual; 2. training the facilitators in the techniques to ensure their implementation; and 3. empirically assessing whether facilitators adhere to the manual. ‘Manualisation’ and in particular, the formal assessment of adherence of facilitators will assist in identifying the core processes that contribute to treatment efficacy and positive treatment outcome (Moncher & Prinz, 1991; Segal, Teasdale, Williams, & Gemar, 2002).

Whilst there have been empirical studies that provide support for certain ACT processes, namely acceptance, defusion and values, other aspects of the ACT model have not been specifically examined or evaluated collectively (S. C. Hayes et al., 2006). To address these limitations, the Functional Acceptance and Commitment Therapy Scale (FACT Scale: Pierson et al., 2005) was used to measure the presence of ACT processes engaged in during the intervention. The FACT Scale has been adapted from a variety of

adherence scales that have been used in empirical studies to assess therapist's adherence to particular interventions, including The Collaborative Study Psychotherapy Rating Scale (Hollon et al., 1988).

The FACT Scale was first used in an ACT intervention that assessed the use of an acceptance-based intervention for smoking cessation in comparison to nicotine replacement therapy (NRT) (Gifford et al., 2004). Briefly, the results indicated that whilst there were no differences between the two conditions at posttreatment, after one year participants in the ACT condition had better long-term smoking outcomes (Gifford et al., 2004). The authors also found that the outcomes for the ACT condition were mediated by improvements in participant's acceptance skills, as complemented by therapist's adherence to the ACT protocol as measured by the FACT Scale.

4.4 Mediators of Change in the MBEIT Program

Baron and Kenny (1986) defined the theoretical and analytical processes when examining the effect of mediation (for further information readers are encouraged to refer to their seminal article). Briefly, a mediator variable establishes a causal sequence between three (or more) variables, such that the mediator influences the outcome obtained through the independent variable (e.g., an intervention) (Baron & Kenny, 1986). The following figure (4.1) may help to illustrate how this works.

Previous ACT worksite stress management interventions have examined the role of mediators and moderators as a way of understanding the processes, or active ingredients, within an intervention that facilitate change. This study will also seek to identify the mediators of change, or processes that influence change as an outcome of participating in the MBEIT program. Based on previous ACT SMT studies, it is anticipated that

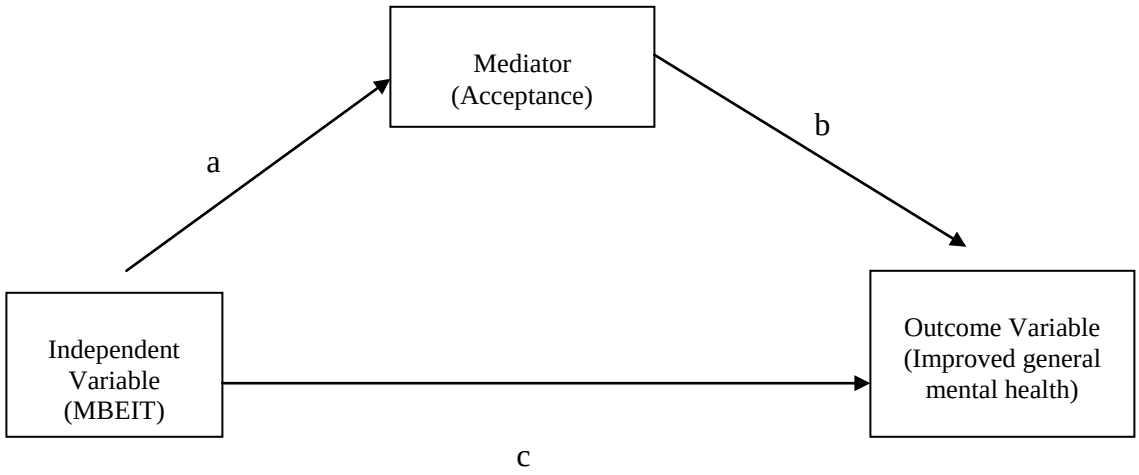

Figure 4.1. Mediator Model (adapted from Baron & Kenny, 1986, p. 1176)

'acceptance' will be the mediator of change.

4.5 Aims and Hypotheses of the current ACT study

The study is organised into three main sections. The first section will involve an investigation of the effectiveness of the intervention and the mediators of change, including an examination of adherence to the ACT-based intervention in order to evaluate whether ACT processes were put into play in the intervention. The second section will include an examination of police officers family, romantic and work values, in order to explore the impact of work-family conflict from a values perspective. The final section will include an exploratory analysis of the remaining value domains, including the way in which the PVQ variables relate to the outcome and mediation measures used in the current study.

With regards to adherence analysis, the aim was to determine the extent to which the facilitator's in the current study were adhering to the ACT (MBEIT) protocol. The

results obtained will be used to supplement the investigation of the effectiveness of the intervention.

This study will also seek to investigate the mediators of change in an ACT-based intervention. More specifically, one of the aims is to evaluate the psychological mechanisms by which the ACT program improves well-being and workplace effectiveness of NSW police officers. It is also hypothesised that:

1. Improvements in mental and physical health will be the primary result of increases in psychological acceptance, or psychological flexibility, as measured by the AAQ-2.
2. Participants in the ACT intervention will show significant improvements in behavioural effectiveness (increased innovativeness, reduced sick leave), less psychological distress (lower scores on the GHQ-12), and less stress and depression (lower scores on the DASS-S and DASS-D subscales).

Given the detrimental impact that work-family conflict can have on police officers, the organisation and their families, we are interested in examining the impact of the ACT program on participant's work, romantic, and family relationship values. More specifically:

3. It is hypothesised that participation in the ACT program will improve participant's success in these value domains, and increase their intrinsic reasons for choosing these values. This will be explored by examining whether any changes occur over time for these value domains on the PVQ.

Finally, an exploratory analysis will be conducted for all of the value domains of the PVQ and all the PVQ items. For example, we will examine how the PVQ items correlate with the same items at different time points (e.g., Time 1 and Time 2). Part of the

exploratory analysis will also involve examining the relationship between the PVQ items and the outcome and process measures used at Time 1 and Time 2.

Chapter 5

Chapter 5: Method

5.1 Organisational constraints on the design

Prior to describing the methodology of the current study, the following section briefly describes the intended design of the study and the organisational constraints that impeded the implementation of this design.

It was proposed that the study would involve the recruitment of 200 police officers. Participation would be entirely voluntary and the intervention would be advertised via email and memos to a wide variety of sections of the police force. With the possibility of attrition, it was expected that of the 200 recruited police officers who would be randomly assigned to either the intervention condition or the control condition, approximately 160 would complete the study with 80 participants in the intervention condition and 80 in the control condition. This sample size would give us over a 90% chance to detect a small to medium effect between wait-list and control groups (Effect size estimate = .35; (Bausell & Li, 2002). The aim was to also ensure that the groups were as equivalent as possible at the first measurement point of the study by relying on randomisation, including age, gender and rank of participants being similar across the groups. However, due to organisational constraints, (and despite a tremendous amount of effort on the part of the research team), many of these design ideals were not achieved.

Firstly, in order to obtain support for the intervention it was necessary to first conduct the intervention with several superintendents from the NSW police. It was important that the superintendents of several large LACs (local areas of command) across NSW were supportive of the program and would be willing to let their staff attend the workshops and participate in the study across the duration of the study. As a result, there were no superintendents in the control condition.

Secondly, it was difficult to maintain the numbers of participants in the control group who completed the assessments. Police officers are extremely busy and have a large amount of paperwork to complete on top of their other duties. Police officers see little benefit in completing questionnaires, particularly as they are often given surveys / questionnaires to complete. Although these demands and potential attrition was partly anticipated, the high rate of attrition was not expected.

Due to operational and organisational responsibilities of police officers it was difficult at times for participants to fully commit to attending the training workshops. At times police emergencies and ongoing police operations would mean that participants would miss workshops and not be able to complete measures. For example, at one stage a large anti-terrorism operation was taking place which involved several participants in the intervention group. On a separate occasion, one of the participants was called out to a situation during the workshop as he was the main police negotiator.

Lastly, recruitment was limited to police officers and employees with the equivalent rank of sergeant and above. Thus, participants consisted of individuals who were higher positions of responsibility and who had been in the police force longer. All of these constraints impacted on our ability to implement an ideal randomised control design. The following section describes the design that was used for the current study.

5.2 Design

Participation in the study was voluntary and participants were recruited via email advertisements and memos of the study that were sent to education and training officers in a wide variety of sections of the NSW police (see Appendix A). These officers then distributed the advertisement to officers in their section. Participants were also recruited

through training programs that were conducted as part of the typical work activities for the police, by the co-ordinator of the program. If police officers were interested in participating, they would contact the coordinator. Interested participants were then randomly assigned to either the intervention or control condition.

The method of intervention delivery was similar to that used successfully by Bond and Bunce (2000). The intervention involved attendance at group sessions in weeks 1 and 3 and a booster session at week 16. The session in week 1 consisted of two consecutive 6-hour days (i.e., 9 am to 3 pm, 4 ½ hours intervention; 1 ½ hour lunch and tea breaks). The sessions in week 3 and 16 consisted of one 6-hour day. Thus, it took each participant 4 months to complete the full program. Participants in both the intervention condition and the control group were assessed at 3 time points: pre-intervention (Week 1), short term follow-up (Week 16), medium-term follow-up (Week 28). Mediator and outcome variables were recorded at the beginning of each session of the intervention at the same time points (See Figure 5.1). From this point forward the three time points will be referred to as Time 1 (Week 1), Time 2 (Week 16), and Time 3 (Week 28).

Participants in the intervention condition also completed the PVQ (Blackledge & Ciarrochi, 2005) as part of the ACT intervention. This measure was given to participants at two time points during the intervention, week 1 and week 16. The values measure was provided to participants at the end of the second day in week 1 and at the beginning of the session in week 16. It was decided that participants would be provided with this measure at these times due to the length and extra demands of this measure. Thus, participants could complete the PVQ during the workshops. For this reason, control participants did not complete the PVQ.

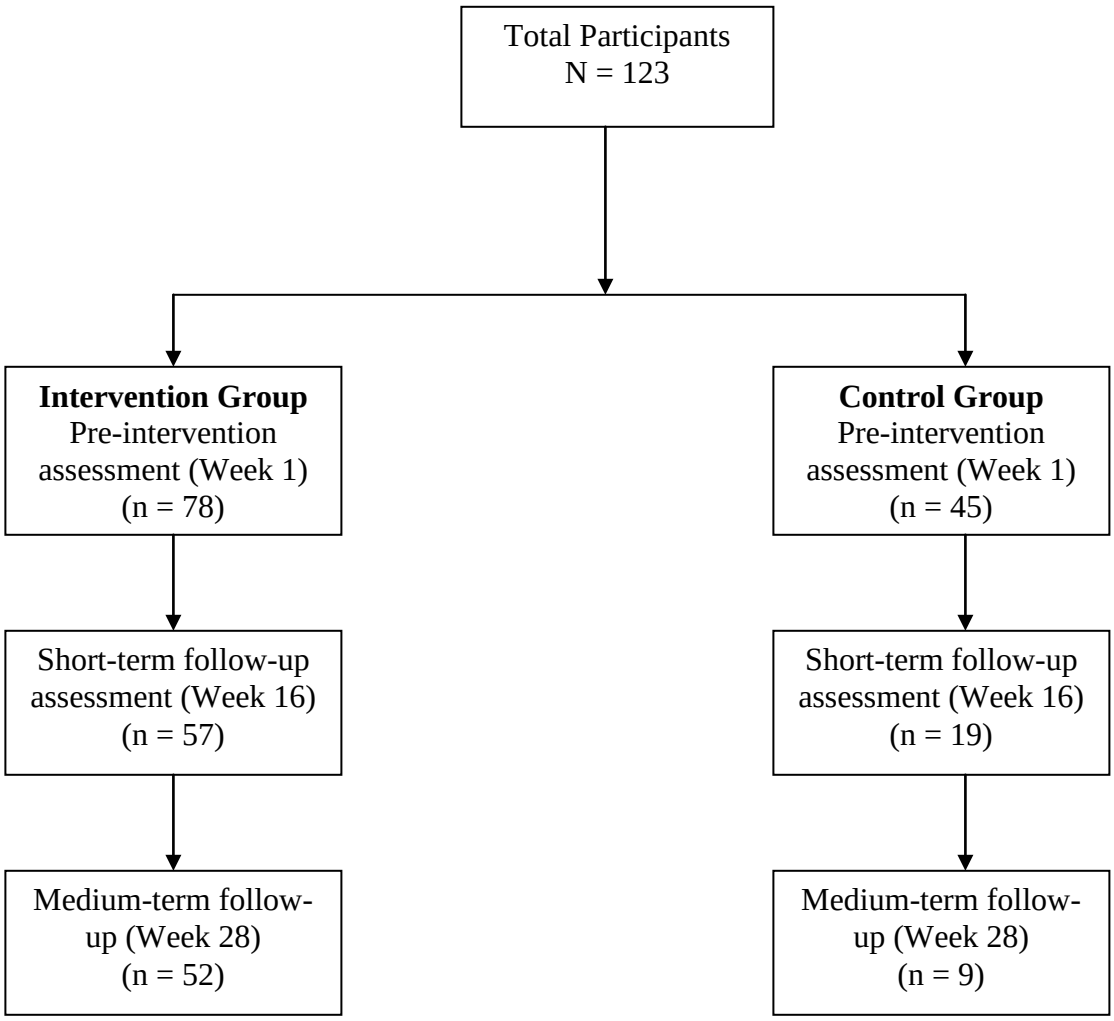

Figure 5.1. Participant completion and assessment timeline

5.3 Participants

A total of 123 police officers and civilian employees were recruited to participate in the study. Table 5.1 provides a breakdown of civilian and police officer numbers, gender, age, and other demographic information about the participants involved in this research. A total of 10 intervention groups were conducted, involving 5 – 12 participants in each group.

Table 5.1

Characteristics of Participants per Group at Initial Assessment

	Intervention group (N = 78)			Control group (N = 45)		
	M	N	%	M	N	%
Age (year)	42.18			38.87		
Gender						
Female		32	41.0		33	73.3
Male		46	59.0		12	26.7
Relationship Status						
Married		62	79.5		42	93.3
Single		5	6.4		2	4.4
Other[a]		11	14.4		1	2.2
Years of Schooling	12.13			12.40		
Education[b]						
Tertiary		40	51.3		21	46.7
(Associate) Diploma		19	24.4		14	31.1
Graduate Certificate		9	11.5		6	13.3
Police Courses		5	6.4		0	0
Years with Organisation[c]	15.06			16.63		

	Intervention group (N = 78)			Control group (N = 45)		
	M	N	%	M	N	%
Sick leave[d]	1.41			1.53		
Employment Details[e]						
Superintendent		5	6.4		0	0
Inspector		13	16.7		9	20
Sergeant		34	43.6		22	48.9
Public Servants[f]		19	24.3		1	2.2
Utilisation of health and psychological services[g]						
Illness	0.45			0.89		
Depression	0.01			0.00		
Injury	0.65			0.64		
Career Counselling	0.05			0.00		
Check-up	0.38			0.18		
Other Psychological	0.11			0.02		
Other health	0.50			0.71		

Note. [a] Other includes partner, separated, de-facto, divorced. [b] 5 participants did not respond for the Intervention Group, 4 participants did not respond for the Control Group. [c] 4 participants did not respond for the Control Group. [d] Number of sick leave days taken

over the past 3 months. [e] 7 participants did not respond for the Intervention Group, 12 participants did not respond for the Control Group. [f] Includes Grade 3, 7, 10 and 12. [g] Scores indicate average number of times treatment had been sought over the past 3 months.

Table 5.1 outlines the characteristics of participants from the Intervention and Control group at Time 1. Between-group comparisons were conducted between the intervention and control group participants at Time 1 in order to explore whether any significant differences existed between the two groups. Several analysis of variance (ANOVA) and Chi-square tests were conducted to explore the differences between demographic variables including: age, relationship status, gender, education, total years employed with the police, and number of times seeking psychological and medical help. These analyses were conducted with and without the 'Superintendents Group' who were participants from the Intervention group (see following paragraph for a description of 'Superintendents group).

Of all these variables, only one significant difference was obtained in relation to 'age', $F(1,121) = 7.43$, $p < .01$. As can be seen in Table 5.1, overall mean scores indicate that participants in the intervention group were older by close to 4 years. This is a small difference between the groups. However, six participants from the Intervention group were superintendents and they were not randomly allocated to the Intervention group. It was decided to keep superintendents together in the interests of similar organisational issues, pressures, and confidentiality. These six participants formed the 'Superintendents Group' in the intervention, and will be referred to as the 'Superintendents group' throughout this section. There were no differences in age between the two groups at Time 2 and Time 3 ($F(1,76) = 1.07$, $p = .30$, and $F(1,60) = 0.45$, $p = 0.50$, respectively).

5.4 Materials

Materials for Participants

For each workshop, participants were provided with a workbook that outlined and summarised the content that was covered. The first workbook '*The Social and Emotional Intelligence Program Workbook*' (Ciarrochi, Bilich, & Bayliss, 2005f),(see Appendix E) is broken up into chapters that reflect each of the EI dimensions, as described in Chapter 4. The chapters include: Effective emotional orientation; Using emotion as information; Unhooking from unhelpful thoughts and emotions; Unhooking from unhelpful self-concepts; and, Effective action orientation. Each chapter contained information and exercises that were covered during the workshop and could be used by the participant as a reference to return to in order to further their understanding, or assist them with any homework tasks assigned.

After the first workshop, participants were provided with a '*Practical Exercises Diary*' (Ciarrochi, Bilich, & Bayliss, 2005a) (see Appendix F). The diary is a 20 page A5 booklet that participants were encouraged to use to help them incorporate the information they gained, and apply the practical exercises they had learned throughout the workshop. Homework is an important component of ACT interventions in order to consolidate participant's learning and development of skills in the ACT processes discussed during the workshop (Twohig, Pierson, & Hayes, 2007). Participants were asked to fill in the diary each day for 14 days, which corresponded to when participants returned for Session 2 of the program.

In addition to the diary, participants were also given a CD that contained two Mindfulness exercises (see Appendix E): Body Scan (adapted from Segal et al., 2001) and Tin-Can Monster (adapted from S. C. Hayes et al., 1999). Participants were encouraged to

listen to each track daily as part of their mindfulness homework and in conjunction with engaging with their values, as noted in their Practical Exercises Diary.

The second workbook '*The Social and Emotional Intelligence Program Session 2 Handout'* (Ciarrochi, Bilich, & Bayliss, 2005e) (see Appendix H) was provided to participants as a resource that contained information and exercises relevant to using MBEIT in social situations. Several other handouts were provided to participants over the course of the training program including: Mindfulness cards, a S.T.O.P. bookmark (to prompt the use of various techniques learned during the program), and a variety of handouts used in the follow-up session (see Appendix H).

Materials for Facilitators

Facilitators were provided with three manuals that corresponded to each session of the training program. The manuals were referred to as '*The Social and Emotional Intelligence Program Facilitator Manual'* (Ciarrochi, Bilich, & Bayliss, 2005c) (see Appendix G), the '*Social and Emotional Intelligence Program Session 2 Facilitator Handout'* (Ciarrochi, Bilich, & Bayliss, 2005d) (see Appendix I), and finally the '*Social and Emotional Intelligence Program Follow-up Session Facilitator Handout'* (Ciarrochi, Bilich, & Bayliss, 2005b) (see Appendix M). The purpose of providing the facilitators with a manual for each MBEIT session is to ensure consistency and fidelity during the delivery of the program.

5.5 Adherence

Facilitators

The first workshop conducted was co-facilitated by the main author of the ACT program (JC), and the two main facilitators (LB, VB). One facilitator was a doctoral

candidate trained in ACT interventions (LB), the second facilitator (VB) was a sworn NSW police officer who was the coordinator of the program and also had a post-graduate psychology degree and was trained in ACT interventions. All subsequent workshops (n = 9) were conducted by LB and VB. Facilitators were audio recorded using digital recorders for the purposes of measuring adherence to the program.

Audio Recordings

The workshops were recorded by the facilitators using a digital recorder with uni-directional microphones. The use of such microphones was to ensure that the facilitator's voices were recorded and only minimal background noise is heard. The session recordings were transferred into MP3 format and were stored on a computer which required a password to access the data.

A total of 165 hours and 15 minutes of the ACT sessions were recorded. Thirty percent of the total recordings were randomly selected for each workshop. That is, across each of the 4 workshops approximately 12 ½ hours of audio recordings were selected. The same procedure was carried out for the other 9 workshops that were conducted. The length of the samples provided to the independent raters (not the presenters) was approximately 60 minutes in duration. All audio samples were rated using the revised Functional Acceptance and Commitment Therapy Scale (FACT-R).

The Functional Acceptance and Commitment Therapy Scale (Revised) (FACT-R Scale) (See Appendix J)

The FACT-R Scale (L. Bilich, Ciarrochi, & Blackledge, 2006) is a modified version of the original FACT Scale (Pierson et al., 2005) that is used to assess therapist's adherence to ACT interventions. The FACT-R Scale was revised in order to be consistent with MBEIT protocol. In addition, given that the ACT intervention is delivered to a group

of participants, the items concerning the therapeutic relationship, general assessment and therapist competence were omitted as it is too complex and difficult to rate when applied to a group intervention.

The FACT-R Scale is comprised of 9 items. Examples of items from the FACT-R Scale include: Reducing behavioral reactivity to cognitions, and Reducing behavioural reactivity to emotions. Raters are required to rate the frequency and extensiveness with which that process (or variable) occurred during the audio sample that they listened to. Samples were rated from: (1) = not at all, the variable never explicitly occurred, to (5) = extensively, the variable occurred with great frequency and was addressed by the therapist in a very in-depth manner. Thus, each rater starts rating each item from the samples as a (1). Raters only assigned a rating greater than '1' if they heard examples of the process occurring during the sample by the facilitator.

Six FACT–R Scale items assess therapist behaviours specific to ACT interventions, and three items relate to ACT incongruent processes such as challenging thoughts, providing a Cognitive Behavioural Treatment (CBT) rationale for treatment, and encouraging experiential avoidant change strategies. ACT incongruent variables receiving low ratings would indicate that therapists were adhering to ACT processes. The FACT-R Scale is accompanied by a rater's manual which provides users with a description of the each item's purpose, guidelines and instructions for rating each item, and examples of therapist behaviour for each item (see Appendix J).

Raters

At the time of this study, the only ACT-experts in the Wollongong area were affiliated with the study, and thus would not be unbiased raters. Consequently, six fourth-year psychology students, all female, were trained as raters. All raters were first provided

with a general introduction to the theoretical and clinical background of ACT. Raters then received approximately 12 hours of training in the use and scoring of the FACT–R Scale. Training was facilitated by one of the facilitators (LB). On completion of training, raters were required to complete a trial whereby two randomly selected samples of ACT sessions were rated using the FACT-R Scale. These samples were not used in the main part of the adherence analysis. Interrater reliability was calculated for these trials to ensure raters were competent and proficient in the use of the FACT-R Scale before testing began. All raters achieved Pearson Correlations of 0.70 and above before proceeding.

Raters were divided into groups of two. Each group was assigned thirteen samples, which equated to approximately 12 ½ hours of recorded workshop sessions. Raters listened to the audio samples, taking notes as required, and then completed the FACT-R Scale scoring sheet at the end of each sample.

5.6 Measures

All participants were provided with an assessment package (see Appendix C) on three occasions: pre-intervention (time 1); short-term follow-up (time 2), and medium-term follow-up (time 3). The assessment package comprised of:

Demographic Questionnaire: Participants were asked to provide information relating to age, gender, organisational position, marital status, and educational qualifications. Participants were also asked to provide information that was used to generate a participant code in order to protect their anonymity.

Sick leave and medical utilisation: Participants were asked to indicate how many times in the past three months they had visited a physician, specialist, or therapist, and how many sick leave days they had taken.

Mediating variables

Acceptance and Action Questionnaire-II (AAQ2; Bond, 2008): For information on the original AAQ and its validation see Hayes et al., (2004). The AAQ2 is a 10 item scale that is used to assess an individual's willingness to make contact with and accept distressing thoughts and feelings, whilst engaging in effective behaviour in the pursuit of their values and related goals. The scale contains statements such as, "I'm afraid of my feelings" and reverse-scored items such as "My thoughts and feelings do not get in the way of how I want to live my life". Participants are asked to respond to the statements on the AAQ2 using a 7-point rating scale ranging from 'Never true' (1) to 'Always true' (7), with the minimum score being 10 and the maximum possible score being 70. Scores are obtained by summing all the items. Low scores on the AAQ2 are indicative of experiential avoidance and emotional suffering, which reflects when an individual is unwilling to accept their psychological experiences and behave effectively.

Bond (2008) reports that the AAQ2 measure demonstrates adequate structure in relation to items used, reliability, and criterion related validity. The instrument is also associated with and assesses the construct of psychological flexibility to which it is theoretically tied. On this particular measure, higher levels of psychological flexibility are reflective of lower levels of stress, depression and anxiety, as well as psychological distress (Bond, 2008). In the present study, the AAQ2 had acceptable reliability at all three time points, with Cronbach alphas of 0.82; 0.89; and 0.89 at Time 1, Time 2, and Time 3, respectively.

Outcome variables

General Health Questionnaire – 12 (GHQ-12: Goldberg, 1978; McDowell & Newell, 1996). The GHQ is a 12 item scale that is typically used to assess an individual's general mental health, in particular, psychological distress (McDowell & Newell, 1996). Examples of items that are listed include, 'Have you recently lost much sleep over worry?' and 'Have you recently been feeling unhappy and depressed?' Participants are asked to respond to each item using a Likert scale that ranges from 'Not at all' (0) to 'Much more than usual' (3). Scores can range from 0 to 36, and the final score is calculated by summing all the items. Higher scores indicate greater psychological distress and mental ill-health. For example, Goldberg et al. (1997) found that the GHQ is fairly reliable in predicting the existence of psychological disorders with 78.9% sensitivity and 77.4% specificity. The GHQ-12 has been extensively adopted in occupational health research and has demonstrated excellent psychometric properties (e.g., Bunce & West, 1996; Flaxman, 2006; Hardy, Shapiro, Haynes, & Rick, 1999; Reynolds, Taylor, & Shapiro, 1993). In the present study, alpha coefficients for the GHQ were 0.86, 0.89, and 0.91 at the three assessment time points in this study.

Depression Anxiety Stress Scale (DASS21; Lovibond & Lovibond, 1995a): The DASS comprises of 21 items that are designed to measure levels of depression ("I felt that life was meaningless"), anxiety ("I felt close to panic") and stress ("I found it difficult to relax"). Participants are asked to indicate the extent that each statement applied to them over the past 2 weeks, and to rate their responses to each statement on a 4-point scale, ranging from 'Did not apply to me at all' (0) to 'Applied to me very much' (3). For the purposes of this study, only the depression and stress subscales were used (a total of 14 items) to reduce measurement demands on participants. Thus, the range of scores that could

be obtained for each subscale was 0 to 21, with the final score calculated by summing each of the items pertaining to that particular subscale.

It has been found that each of the DASS scales have very good reliability and validity in measuring the features of depression, stress and anxiety, and is able to distinguish between each of these three affective states (Antony, Bieling, Cox, Enns, & Swinson, 1998; P. F. Lovibond & S. H. Lovibond, 1995). There was acceptable internal consistency for both scales across each of the three time points in the study. For the stress scale, Cronbach alpha's were 0.85, 0.88, and 0.87; and for the depression scale Cronbach alpha's were 0.84, 0.85, and 0.89 at each time point respectively.

Propensity to Innovate Scale (Burningham & West, 1995): This scale consists of five items that assess participants' general attitudes toward innovation and change at work (e.g., "I try to introduce improved methods of doing things at work"). This scale was used to examine whether there were overall increases in participants attempts to deal with change and even promote change in the workplace and is representative of behavioural effectiveness. Participants respond to statements using a Likert scale that ranges from strongly disagree (1) to strongly agree (5), with a minimum score of 5 and a maximum score of 25 that is calculated by summing each item. A low score on this measure is indicative of higher propensity to innovate. In the present study, the Propensity to Innovate Scale had acceptable reliability at each of the three time points (Cronbach alphas: 0.80, 0.80, and 0.86).

Personal Values Questionnaire (PVQ; Blackledge & Ciarrochi, 2005): The PVQ (see Appendix D) was given only to participants from the intervention group (as outlined in the design section earlier). The PVQ asks participants to identify their personal values in nine different value domains including: Family Relationships, Work and Health. For each

value domain, participants are also asked a series of nine questions. The first five questions ask the participant to identify the reasons for holding the value, and these items relate to the motives outlined in SDT. Participants respond to this question using a Likert scale that ranges from “Not at all for this reason” (1) to “Entirely for this reason” (5). For the remaining four questions, participants are asked to rate the success (“0 - 20% successful (1)” to “81 – 100% successful (5)”), importance (“Not at all important (1)” to “Extremely important (5)”), level of commitment (“Not at all committed (1)” to “Extremely committed (5)”) and wanting to improve on this value (“Not at all (1)” to “Very much so (5)”).

At this stage there is minimal data related to the PVQ, however, initial studies utilising this measure with adolescents and adults (non-clinical) links the measure to well-being and success at living one’s values. In the present study, the PVQ had acceptable reliability, with Cronbach alphas of 0. 90 and 0.89 at Time 1 and Time 2, respectively.

Client Evaluation Survey (see Appendix K)*:* The survey consists of 36-items and was developed by the NSW Police Education service. In the current study only participants who completed all three days of face-to-face training received the survey. The survey is a standard evaluation form that is provided to participants who undergo any form of in-house training that is provided to the police. Participants respond to items (e.g., “I achieved what I wanted to get out of the workshops”), by selecting one of 6 responses from ‘Strongly agree’ to ‘Strongly disagree’, or ‘Uncertain’, and ‘N/A’. The items are not organised according to a scale. Total scores are obtained for each item, according to the responses selected.

5.7 Procedure

Individuals interested in participating in the workshop were required to contact the coordinator (VB) to express interest. Participants were randomly allocated to either the

intervention or control group, with almost twice as many participants being allocated to the intervention group to ensure adequate group sizes for the workshops. Random allocation was achieved by using a random number table. Participants were later informed if they would be attending the workshop or assigned to the control group. Participants in the intervention group were notified of workshop dates and participants nominated which course they could attend.

The groups were conducted either at the Police Training College in Goulburn NSW, or at Police Headquarters in Parramatta, NSW. Participants were informed early in the first day of the workshop that the facilitators would be recorded for the purposes of assessing facilitator adherence to the program. They were also told that facilitators were using uni-directional microphones to ensure that their voices would not be heard, other than minimal background noise. Whilst participants were given the option to withdraw from the program if they were uncomfortable with the sessions being recorded, no participant withdrew at any of the sessions because of this reason.

Participants provided informed written consent having read relevant information sheets that clearly stipulated the purpose and nature of the study (see Appendix A and B). They were informed prior to consenting that agreement to participate was voluntary and that all data collected would remain confidential. When participants were recruited for the control group, they were also provided with a consent form (see appendix N) prior to completing the assessment package.

The procedure for conducting the data analyses will be outlined thoroughly in the following chapter.

Chapter 6

Chapter 6: Results

6.1 Overview

The results are organised into three main sections. The first section is referred to as the Main intervention analysis. This section outlines the results for the outcome and mediational analyses conducted between the control and intervention groups and will investigate the effectiveness of the ACT program as a worksite SMT intervention. Also in this section are the results for the adherence analysis of the ACT program. A summary of the results of participant's responses to the 'Client Satisfaction Survey' is then presented. Lastly, this section will outline the effectiveness of ACT for improving participant's overall mental health and behavioural effectiveness.

The second section is referred to as the Main values analysis. This section seeks to identify whether the ACT intervention increased the extent people engaged in values for intrinsic reasons, and whether it improved participant's success at living their values. This will be examined only for the Work, Romantic and Family relationship values of the PVQ, and will be explored by investigating whether any changes occur from Time 1 to Time 2. The level of importance of these value domains as indicated by participants is then described.

The third section will provide more descriptive and exploratory information about participant's responses on all the PVQ value domains, and will be referred to as Exploratory values analysis. This section will explore the remaining value domains and PVQ dimensions (i.e., commitment and improve) to examine in what way these different dimensions of valuing are linked to mental health amongst police officers. This section will also present exploratory information in relation to the PVQ items and the outcome and process measures at different time points (Time 1 and Time 2).

6.1.1 Data Screening

Initial analyses involved examining the data descriptively to ensure that the data did not violate the distribution assumptions for parametric tests. The descriptive statistics of skewness and kurtosis indicated that the data associated with certain variables was skewed. Information about the data will be provided in each section. In order to deal with skewed variables, nonparametric tests were used in conjunction with each parametric test. We declared a result significant only if it was significant in both parametric and nonparametric analyses.

6.1.2 Characteristics of the Participants

The demographic characteristics of the participants were described in Chapter 5. This section will outline the characteristics of the participants according to the data obtained on the process and outcome measures used in the study. At Time 1 the means indicated an average GHQ-12 (psychological distress) score of 11.28, which indicates that most participants were responding to the 12 statements with ‘same as usual’ or ‘no more than usual’. A lower score indicates less psychological distress, thus better general mental health. Flaxman’s (2006) study also included a comparable ‘normal sample’ of participants. In comparison to the mean score of participants in Flaxman’s (2006) study, the average GHQ-12 score is significantly less than that of Flaxman (2006) where the mean score was 14.72 (t (122) = -7.37, $p < .01$). Likewise, there were no differences between the current study and Bond and Bunce (2000). The average score in this study was only slightly less than the average score (M = 12.17) obtained in the Bond and Bunce (2000) study. However, this result was not statistically significant (t (122) = -1.90, $p = .60$).

The average score obtained on the DASS Depression subscale was 2.68. According to the DASS severity ratings, this score falls in the 'normal' range of ratings. A score of 14 to 28 and above reflects a 'moderate' to 'extremely severe' score on this subscale (Lovibond & Lovibond, 1993). The scores on the DASS-D scale ranged from 0 to 20, with only one participant scoring above 14. Only three participants obtained a score on the DASS-D scale that would indicate 'mild' depression. Time 1 scores on the DASS Stress subscale averaged 5.78. This score also falls within the 'Normal' range for ratings. A score of 19 to 34 and above represents a 'moderate' to 'extremely severe' score on this subscale. On the Stress subscale, participant's scores ranged from 0 to 21, with only one participant scoring above 19. Only three participants obtained a score that reflected 'mild' levels of stress. Overall, the participants appeared to be psychologically healthy and not particularly distressed or depressed.

The mean obtained on The Propensity to Innovate measure (innovativeness) at Time 1 was 1.79. This score is significantly less than the mean reported by Bond and Bunce (2000) in their study, where the mean score at Time 1 was 3.82 (t (122) = -47.28, p <.01).

In relation to the meditation measure used, the average score on the AAQ-2 (psychological flexibility) was 51.94. The maximum and minimum scores that can be obtained on the AAQ-2 are 70 and 10, respectively. In previous ACT based SMIs, Bond and Bunce (2003) obtained a mean AAQ score of 58.61, while Flaxman (2006) obtained a mean AAQ score of 68.36. This indicates that the police sample in this study had significantly higher levels of psychological flexibility (t = (122) = -22.23, p < .01; t (122) = -9.03, p <.01, respectively). It is important to note however, that Bond and Bunce used a different version of the AAQ, the AAQ-16. At Time 1 participant's scores on the AAQ-2 ranged from 31 to 70.

Table 6.1 presents the means, standard deviations and correlations for the measures used and the main variables in the study at Time 1 for the whole sample. Non-parametric analyses were also conducted and the results obtained support the significant findings obtained by the parametric analyses. It is important to note that a lower score on the GHQ-12 measure indicates less psychological distress and better general mental health.

Participant Attrition

One hundred and sixty police officers expressed interest in participating in the study, while only 78 (63%) completed the first session of the ACT program. Between the first two measurement points (Time 1 and Time 2), which were 4 months apart, a total of 21 (27%) participants from the ACT group failed to return to the follow-up session. From Time 2 to Time 3, five (8%) participants from the same group did not complete questionnaires at Time 3. In relation to the control group, where 45 participants completed the first questionnaire, a total of 26 (58%) participants did not complete the same questionnaire at Time 2. At Time 3, of the 19 participants remaining in the control group, a total of 9 (47%) participants in the control group failed to return their questionnaires. Overall, of the 62 participants that failed to complete the study, 35 (78%) were in the control group and 26 (33%) were in the intervention condition.

Participants dropped out of the study for several reasons: taking long service leave or holidays; illness; work commitments; transfer to other Local Area Command (LAC) or section; unable to contact participants; and, lack of interest in attending further ACT workshops or completing questionnaires. Between-group comparisons of participants who dropped out of the study and those who remained indicated no significant Time 1 differences on any of the demographic, outcome, or mediator variables.

Table 6.1

Means, Standard Deviations, and Correlations for Measures and Main Variables at Time 1 (N = 123)

Variable	1	2	3	4	5	6	7
1. Age		.48**	-.10	-.01	-.02	-.09	-.14
2. Years with police			-.06	.06	-.08	-.14	-.16
3. Psych distress				-.52**	.74**	-.63**	.24**
4. Psych flexibility					-.52**	-.54**	-.24**
5. Depression						.72**	.15
6. Stress							.13
7. Innovativeness							
M	40.97	15.66	11.28	51.94	2.68	5.78	8.97
SD	6.66	8.42	5.17	8.19	3.08	3.86	2.38

Note. Psych distress = Psychological Distress (GHQ-12); Psych flexibility = Psychological Flexibility (AAQ-2).

**p< .01, two-tailed.

Due to participant attrition, the following group sizes were used to conduct the majority of analyses: Time 1 to Time 2: ACT = 57, and control = 19; Time 1 to Time 3: ACT = 52, and control = 9.

6.2 Main Intervention Analysis

6.2.1 Adherence Analysis

The raters consisted of six fourth year psychology students who were trained in the use and scoring of the FACT-R Scale (L. Bilich et al., 2006). It is possible that utilising post-graduate students as raters could be a limitation given they have less expertise in ACT. However, in Australia we simply do not have access to multiple ACT experts. It was also not appropriate that the facilitators of the program or other ACT experts involved in the study conduct the rating as this would potentially bias the results. Thus, it was decided that using post-graduate students was the most feasible option.

Several analyses were conducted to examine adherence to the ACT program. Firstly, correlational analyses were conducted in order to examine the level of interrater reliability of the FACT-R. The results are presented in Table 6.2. Overall, interrater reliability was moderate with Pearson correlations of 0.4 and above obtained for five of the 9 FACT-R items. In relation to the ACT incongruent processes, ‘Challenging cognitions’ (item 7), ‘Experiential avoidant change strategies’ (item 8) and ‘Thoughts and feelings cause action’ (item 9), there was an absence in variability of ratings given by raters, thus no result is presented here. That is, there was high agreement amongst raters that these processes were not present in the audio samples they reviewed.

Table 6.2

Interrater Reliability Results for the Functional Acceptance and Commitment Scale – Revised

Item	Interrater Reliability
1. Reducing Behavioural Reactivity to Cognitions	.68*
2. Reducing Behavioural Reactivity to Emotions	.30*
3. Control as a Problem	.54*
4. Values and Goals	.51*
5. Committed Action	.41*
6. Contingency Management	.44*

Note. *p< .05, one-tailed.

The second analysis involved exploring the facilitator's adherence to the ACT protocol by examining the means and standard deviations of each of the FACT-R items (see Table 6.3). The results indicate that the facilitator's consistently adhered to the ACT program, with items one through six receiving relatively high ratings amongst the raters. The highest rating was given to the ACT process of 'reducing behavioural reactivity to emotions', indicating that the facilitators devoted a considerable amount of time to working through this process. There were several ACT processes that obtained high ratings, while other ACT processes obtained lower ratings. This indicates that the facilitators were less likely to focus on these ACT processes in comparison to the other 4 processes.

Table 6.3

Adherence to ACT: Means and Standard Deviations for Ratings of FACT-R Items*

FACT-R Item	*M*	*SD*
1. Reducing behavioural reactivity to cognitions	3.30	1.14
2. Reducing behavioural reactivity to emotions	3.65	0.84
3. Control as a Problem	2.90	1.15
4. Values and Goals	3.13	1.07
5. Committed Action	2.06	0.93
6. Contingency Management	2.00	1.19
7. Challenging Cognitions	2.05	1.19
8. Experiential Avoidant Change Strategies	1.02	0.16
9. Thoughts and Feelings Cause Action	1.17	0.40

Note: *Ratings: (1) = not at all, the variable never explicitly occurred; (2) = a little, the variable occurred at least once (or few times) and was not addressed in an in-depth manner; (3) = somewhat, the variable occurred several times and was addressed at least once by the therapist in a moderately in-depth manner; (4) = considerably, the variable occurred with relatively high frequency and was addressed by the therapist in a moderately in-depth manner; and (5) = extensively, the variable occurred with great frequency and was addressed by the therapist in a very in-depth manner.

Finally, the results indicated that facilitators were more likely to adhere to ACT processes than to ACT incongruent processes, given that the items that reflected ACT incongruent processes obtained a considerably lower rating.

The next analysis examined the depth at which the ACT processes were discussed by the facilitators. This was assessed by examining the cumulative percentages for each item. A rating of '3' and above was chosen to indicate that facilitators discussed the processes in moderate to high depth, or that they occurred at high frequencies. The results indicated that 'reducing behavioural reactivity to emotions' was addressed most frequently and in an in-depth manner (76.9%). The ACT processes of 'reducing behavioural reactivity to cognitions', 'control as a problem' and 'values and goals' obtained a cumulative percentage of 53.8%, 43.6%, and 38.5% respectively. This indicates that these items were addressed in an in-depth manner, although this occurred at a lower frequency than the latter ACT process. 'Committed action' (12.8%), 'contingency management' (17.9%), and 'challenging cognitions' (2.6%) occurred less frequently than the other ACT processes, which indicates that they were only occasionally discussed at an in-depth manner. The remaining items, 'experiential avoidant change strategies' and 'thoughts and feelings cause action' were not able to be calculated due to a lack of variability in ratings (or high agreement, as discussed earlier).

The final adherence analysis of the ACT protocol involved examining which ACT processes occurred collectively throughout the intervention. In other words, the extent to which the facilitators discussed certain ACT processes in conjunction with other ACT processes was explored. This was conducted by performing Pearson's correlation to obtain inter-item correlations between each of the FACT-R items. Table 6.4 presents the results.

Table 6.4

Correlations between the Frequency with which Different ACT Processes Occurred: Items from the FACT-R

FACT-R Item	1	2	3	4	5	6
1. Reducing behavioural reactivity to cognitions	--	.46**	.57**	-.25	.06	-.02
2. Reducing behavioural reactivity to emotions			.40*	-.24	-.25	-.22
3. Control as a problem				-.32*	-.06	-.64
4. Values and goals					.62**	.30
5. Committed action						.56**
6. Contingency management						

Note. **p< .01, one-tailed. *p< .005, one-tailed.

The findings indicate that the facilitators were more likely to discuss and work through the three ACT processes of ‘reducing behavioural reactivity to cognitions’, ‘reducing behavioural reactivity to emotions’ and ‘control as a problem’, within an hour. The ACT processes that co-occurred most frequently were ‘values and goals’ and ‘committed action’, which suggest that the facilitators would often discuss and link these processes together in the ACT program. When the facilitators discussed the ACT processes of ‘values and goals’, and ‘committed action’, they tended not to focus on experiential control as a potential problem (‘control as a problem’). Finally, all three of the ACT incongruent items

('challenging cognitions', 'experiential avoidant change strategies', 'thoughts and feelings cause action') could not be calculated due to the absence in variability of ratings. Overall, it appears the intervention was ACT consistent.

6.2.2 Intervention Analysis

The following section outlines the results obtained when exploring the effect of the ACT intervention on the outcome and mediation measures that were utilised. The results obtained will determine whether mediational analysis should be conducted, particularly if a significant change in the AAQ-2 is obtained over time. Each measure will be discussed separately, with several analyses conducted to explore the outcome over the three time points. Table 6.5 outlines the means and standard deviations obtained for each of the measures across the three time points. In this section, pre-intervention, short-term follow up (16 weeks / 4 months), and long term follow up (28 weeks / 7 months) will be referred to as Time 1, Time 2, and Time 3, respectively. These will now be described.

1. Time 1 to Time 2: The first analysis will examine the effect of the ACT intervention on the outcome measure from Time 1 to Time 2, using a 2 x 2 mixed design analysis of variance (ANOVA), with Group (ACT vs. Control) reflecting the between subjects factor, and Time (Time 1 vs. Time 2) representing the repeated measures factor. This first analysis will be followed by within-, and between-group, simple effects tests if significant results have been obtained. This analysis was conducted separately from the one described below, as there were higher number of completions and larger sample sizes for Time 1 and Time 2.
2. Time 1 to Time 3: The next analysis will explore the effect of the ACT intervention of the various outcome measures from Time 1 to Time 3, using a 2 x 3 mixed

design ANOVA (Group x Time). In this analysis all 3 time points will be examined. Like the previous section, this will be followed by within-, and between-group simple effects tests depending on whether significant results were obtained.

For each of the analyses conducted, estimates of effect size (eta-squared [η^2]) are also included in the reporting of results. According to Cohen's (1988) criteria η^2 values of .01, .09, and .25 reflect small, medium, and large effects respectively.

Table 6.5

Means and Standard Deviations for the Outcome and Mediator Variables across the Three Time Points

	ACT			Control		
	N	*M*	*SD*	*n*	*M*	*SD*
Psychological distress (GHQ-12)						
Time 1	78	0.99	0.48	45	0.78	0.37
Time 2	57	0.82	0.45	19	0.94	0.49
Time 3	52	0.92	0.50	9	0.76	0.47
Psychological flexibility (AAQ2)						
Time 1	78	5.07	0.87	45	5.39	0.74
Time 2	57	5.15	0.91	19	5.60	1.01
Time 3	52	5.20	1.04	9	5.60	0.90
Depression (DASS-D)						
Time 1	78	0.47	0.55	45	0.30	0.30
Time 2	57	0.41	0.47	19	0.35	0.42
Time 3	52	0.38	0.53	9	0.43	0.52
Stress (DASS-S)						
Time 1	78	0.90	0.63	45	0.75	0.48

	ACT			Control		
	N	*M*	*SD*	*n*	*M*	*SD*
Time 2	57	0.79	0.57	19	0.85	0.72
Time 3	52	0.78	0.61	9	0.67	0.56
Innovation (PI)						
Time 1	78	1.78	0.51	45	1.79	0.38
Time 2	57	1.79	0.53	19	1.90	0.55
Time 3	52	1.88	0.61	9	1.91	0.33
Sick leave utilisation						
Time 1	78	1.39	2.38	45	1.21	2.32
Time 2	57	1.28	2.98	19	0.58	1.12
Time 3	52	1.53	3.26	9	0.67	0.87

Note. GHQ = General Health Questionnaire-12; AAQ2 = Acceptance and Action Questionnaire – 2; DASS-D = Depression Anxiety and Stress Scale- Depression Subscale; DASS-S = Depression Anxiety and Stress Scale – Stress Subscale; PI = Propensity to Innovate; ACT = Mindfulness-Based Emotional Intelligence Training.

Psychological Distress (GHQ)

Time 1 to Time 2

The GHQ-12 was used as a measure of general mental health, and for the purposes of this study, higher scores indicated high levels of psychological distress. It was hypothesised that participants in the ACT intervention would show improvements in general mental health over time. Descriptive analysis indicated that the data for the GHQ-12 at Time 1 was positively skewed (1.42, SE = .22). Thus, non-parametric analyses were also conducted. Firstly, the results of the repeated measures ANOVA revealed a significant Group by Time (Time 1 – Time 2) interaction for the GHQ-12 (F (1, 73) = 5.04, $p < .05$, η^2 = 0.60). This indicates that a significant decrease in psychological distress from Time 1 to Time 2 was obtained for participants in the ACT group in comparison to participants in the control group. Figure 6.1 depicts the interaction graphically. Non-parametric analysis involved transforming the data into ranks and conducting a repeated measures ANOVA using the rank means for the GHQ-12 (Conover & Iman, 1981). The results supported the previous finding, and indicated that there was a significant Group by Time (Time 1 – Time 2) interaction for the GHQ-12 (F (1, 73) = 4.45, $p < .05$).

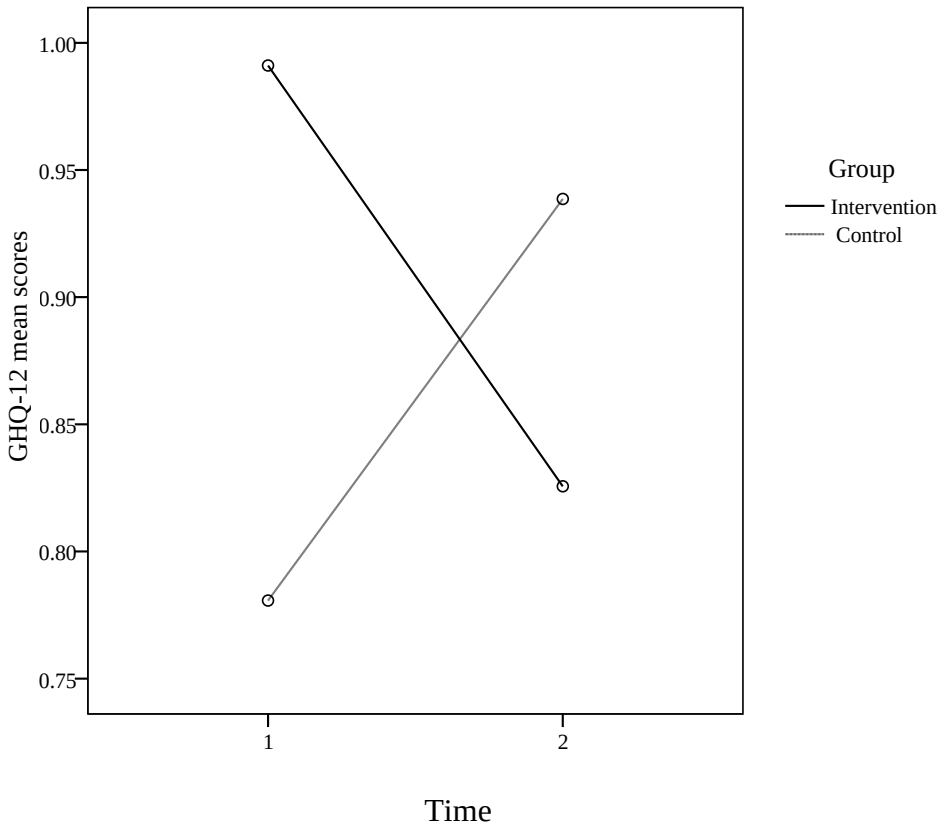

Figure 6.1. Changes in general mental health (GHQ-12) in each group from Time 1 to Time 2.

Within-group analyses found a significant decrease in psychological distress from Time 1 to Time 2 for the ACT group (F (1, 55) = 4.93, $p < .05$, $\eta^2 = 0.59$) but no significant change for the control group (F (1, 18) = 1.94, $p = .16$, $\eta^2 = 0.26$).

Time 1 to Time 3

There was no significant Group by Time interaction for the GHQ variables across three time points (F (2, 51) = 1.36, $p = .26$, $\eta^2 = 0.26$). Further analyses revealed no significant reductions in psychological distress from Time 1 to Time 3 in either group (ACT: F (1, 51) = .08, $p = .77$, $\eta^2 = .002$; Control: F (1, 8) = .07, $p = .79$, $\eta^2 = .009$). Non-parametric analyses were not conducted given the non-significant results obtained.

Analyses of Psychological Distress without the Superintendents Group

Given that 'Superintendents' could not be randomly assigned to the Intervention group, a second analysis was conducted to explore if the effect remained once the results were analysed without the superintendent group. A 2 x 2 repeated measures ANOVA was conducted which revealed a significant effect for the GHQ-12, F (1, 66) = 6.89, p = .01, η^2 = 0.73. The results indicated that there was a significant Group by Time (Time 1 – Time 2) interaction for the GHQ-12 (F (1, 66) = 5.56, $p < .05$) (similar to the result obtained previously). Further analyses revealed that within-group analyses found no significant change in psychological distress from Time 1 to Time 2 for the ACT group (F (1, 67) = 2.26, p = .14), or for the control group (F (1, 18) = 2.85, p = .15). Given this result, non-parametric analyses were not conducted. Thus, the effect of a reduction in psychological distress remains robust across the ACT group and the control group, even with the removal of the superintendent group of police officers. However, when the superintendent's data was not included in further within-group analyses the significant result was not maintained.

The impact of removing this group from the analysis was examined for each of the remaining measures, however no other significant results were obtained, and thus specific results will not be reported for each of the following measures regarding the removal of the superintendents from the analyses.

Depression

A second outcome measure that was used consisted of the Depression Subscale of the DASS, whereby higher scores indicate higher levels of depression. It was hypothesised that levels of depression would significantly decrease for participants in the ACT group over time. Descriptive analysis indicated that the data for the Depression subscale of the DASS was skewed for both Time 1 (2.17, SE = .29) and Time 2 (1.89, SE = .29). Thus,

non-parametric analyses were also conducted. A repeated measures ANOVA revealed a non-significant result for the DASS-D scores from Time 1 to Time 2 (F (1, 66) = .15, p = .70). A non-significant result was also obtained when analysing the Group by Time interaction for the DASS-D variable across the three time points (F (2, 51) = .42, p = .66, η^2 = .11. Non-parametric analyses were conducted which revealed non-significant results, thus, no further comparisons or non-parametric tests were carried out.

Stress

The stress subscale of the DASS was the third outcome measure used, with higher scores indicating higher stress levels. Similar to the previous variable, it was hypothesised that stress levels would significantly reduce over time for participants in the ACT intervention. Descriptive analyses revealed the data to be skewed at both Time 1 (1.01, SE = .29) and Time 2 (.82, SE = .29), thus non-parametric tests were conducted in conjunction with the parametric tests. An ANOVA analysis examining the interaction on Group by Time (Time 1 to Time 2) DASS-S scores was non-significant (F (1, 74) = 1.34, p = .25, η^2 = .21). Analyses also revealed a non-significant result for the Group by Time interaction for the DASS-S variables across the three time points (F (2, 51) = .02, p = .98, η^2 = .05). Non-parametric analyses were conducted and the results supported the non-significant results obtained. Like the previous measure, DASS-D, no further analyses were conducted.

Propensity to Innovate

One of the measures used to explore behavioural effectiveness was the Propensity to Innovate Scale. Participants who obtain low scores on this measure are more likely to be innovative in their work and apply innovative strategies to improve their work setting. Following participation in the ACT intervention, it was hypothesised that participants would show increases in innovativeness over time. Descriptive analyses revealed that the

data for this measure was not skewed, thus non-parametric tests were not conducted. Both Group by Time ANOVA analyses examining the interaction from Time 1 to Time 2 (F (1, 74) = .77, p = .38, η^2 = .14) and between all three time points (F (2, 51) = 1.18, p = .32, η^2 = .25) on this measure were not significant. Thus, as with the previous measures, no further analyses were conducted.

Sick Leave

Another outcome measure that was used to examine behavioural effectiveness was participant's self-reported responses to accessing sick leave in the past 3 months. Participants responded by indicating how many 'sick' days they had taken in the past 3 months. A low score on this indicator reflects increases in behavioural effectiveness as participants are less likely to access sick leave due to stressful situations that occur whilst at work. It was hypothesised that following participation in the ACT intervention, a significant reduction in sick leave would be obtained. The data for sick leave was not skewed. Results indicated that there was no significant difference between the control and intervention group across Time 1 to Time 2 following a Group by Time ANOVA analysis (F (1, 73) = .33, p = .57, η^2 = .09). Further analyses also revealed a non-significant result for the Group by Time interaction for the sick leave taken over the three time points (F (2, 51) = .35, p = .71, η^2 = .10). Thus, no further analyses were performed.

Psychological Flexibility

The AAQ-2 was used as a measure of psychological flexibility, with higher scores indicating participant's increasing willingness to make contact with and accept distressing thoughts and feelings while engaging in effective value-driven behaviour. Thus, it was hypothesised, as in previous research, that participants would show increases in psychological flexibility (psychological acceptance) following participation in the ACT

intervention. Descriptive analyses indicated that the data for the AAQ-2 was not skewed, thus non-parametric tests were not conducted. The results indicate that there was no significant Group by Time (Time 1 to Time 2) interaction for the AAQ-2 (F (1, 73) = .46, p = .50, η^2 = .10). Like the results obtained for the previous measures, further analyses also indicated that there was no significant Group by Time interaction for psychological flexibility across the three time points (F (2, 51) = .14, p = .87, η^2 = .07). Due to the non-significant result obtained, no further comparisons were carried out.

The AAQ-2 was used to test the potential mediation effect. That is, it was hypothesised that significant results obtained for the outcome measures would be mediated by an increase in participant's psychological flexibility. Psychological flexibility is indicated by a decrease in total AAQ-2 scores. In order to conduct mediational analyses, a significant effect needs to be obtained when exploring the overall change in AAQ-2 scores over the three measurement points. As already discussed, there were no significant results obtained for the overall Group by Time interaction for the AAQ-2. This result was consistent even after removing the superintendents group from the analysis. Given the non-significant results obtained for this measure, the mediation hypothesis was not supported.

6.2.3 Participant's Satisfaction with the ACT Program

The evaluation form asked participants to respond to 30 statements concerning the ACT program (see Appendix K). The results that will be presented in this section were selected based on statements that related to the overall effect of the ACT program on participants, particularly in relation to how the program impacted on both their professional and personal life. Table 6.6 presents participant's responses to six of the thirty questions. These questions were chosen as they reflect participant's responses in relation to the impact

that the workshop had on both their professional and personal life. Readers are encouraged to refer to Appendix L which presents participant's responses to all 30 statements.

Table 6.6

A Selection of Police Officers Responses to the Client Evaluation Survey

	Strongly Agree	Agree	Disagree	Strongly Disagree	Uncertain	N/A	No Response
Q5: This program has helped me to develop skills that will be useful in my professional life	26	23			1		2
Q7: I anticipate I will be able to perform my duties better as a result of the workshops	3	29	1		12		7
Q9: The workshop content was personally relevant (i.e. relevant to my life)	23	23	1		1		4
Q15: As a result of the workshop I have improved my ability to communicate with others	9	24			15	1	3
Q18: I have attempted to impart skills and knowledge taught in this course to others in my place of work	1	29	11		8		3
Q29: I would recommend the course to others	26	17	6		1		2

When asked about the impact of the ACT program and the skills they had learned throughout the training, there was an overwhelmingly positive response. Over 80% of participants agreed (including strongly agreed) that the workshop was beneficial for both their professional and personal life (see Table 6.6). This is an important result given the impact that stress has on police officer's work and family life, as highlighted by the work-family conflict literature. It is possible that certain skills that participant's had gained during the workshop may have facilitated the improvements they have experienced in their work and personal life. For example, approximately 60% of participants agreed that the workshop has helped improve their ability to communicate with others.

Interestingly, about 60% of participants stated that they have attempted to impart skills and knowledge gained from the workshop to other police officers they work with. Close to 70% of participants agreed that they learned a lot about themselves over the course of the workshop, and over 90% stated that the learning experiences provided in the workshop were interesting and valuable (see Appendix L). The participants commented favourably about the delivery of the workshop by the facilitators and the content included in the course, and over 80% of participants indicated that they would recommend the course to other police officers (see Table 6.6).

6.3 Main Values Analysis

Only participants in the Intervention condition were provided with the PVQ at Time 1 and Time 2. The PVQ asked participant's to identify their values and answer questions in relation to their values. The PVQ contained 9 value domains and participants

were asked to identify their values in relation to these areas. The 9 value domains were: Family Relationships; Social Relationships; Romantic Relationships; Work; Education / Personal Development; Community / Citizenship; Religion / Spirituality; Recreation / Leisure; and Health and Well-being. There were also several items that asked participants to answer questions in relation to their values. These items included: identifying the reasons why they held that particular value [Extrinsic reasons (Items 1 and 2) and Intrinsic reasons (Items 3, 4, 5)]; how successful they were with living this value (Success = Item 6); their level of commitment to this value (Commitment = Item 7); how important the value was (Important = Item 8); and, whether they would like to improve their progress on this value (Improve = Item 9).

Initial analyses involved examining how many participants answered each of the value domains at Time 1. Of the 9 value domains assessed, close to 50% of the participants in the Intervention group did not respond to the value domains of Religion / Spirituality and Community / Citizenship. Given that a substantial number of participants did not respond to these domains, these values were not included in any further analyses.

The values results section is divided into 2 parts. The first section focuses on participant's responses to their work, family and romantic relationship values, in particular, whether a change occurs over time (Time 1 to Time 2) in relation to participants success with, and reasons for choosing, their values (extrinsic and intrinsic). This is of particular interest given the impact of work-family conflict on police officers. Thus, any potential changes may be indicative of the impact of the ACT program on these areas in police officers lives.

The second section will provide more descriptive and exploratory analysis of participant's responses to the remaining value domains of the PVQ, including a summary of which values police officers rate as being most important. This section will also provide a summary of the way in which the PVQ variables correlate with each other, and the outcome and mediation measures utilised over the two time points (Time 1 and Time 2). This analysis is important as there has been no research that explores police officers values across a range of value domains (other than work).

6.4 Analysis of Work and Relationship Values: Success and Reasons

Initial data analysis revealed that the data for the majority of PVQ variables at Time 1 and Time 2 were positively skewed. Thus, we utilized both parametric t-tests and nonparametric Wilcoxon sign rank tests to evaluate if the intervention had an impact on values. In the following section results will be considered significant only if they were significant for both the parametric and non-parametric tests used. Specific statistical results for the non-parametric tests will not be included in this section. We also acknowledge that given the number of comparative analyses conducted, there is a possibility of Type 1 error. However, we have reported the results here as these analyses are preliminary and relatively exploratory.

For this analysis, it is important to note that an overall extrinsic and intrinsic variable was not calculated for the PVQ data. As outlined in Chapter 3 (section 3.4.5), previous studies have combined extrinsic variables and intrinsic variables in order to assess personal strivings, or in this case, values. It was decided not to combine the intrinsic (identified, vital, fun) and extrinsic (extrinsic, introjected) variables because they

were not consistently moderately correlated with each other (i.e., all below r = .40). Thus, combining them may have masked important differences between intrinsic and extrinsic reasons for holding certain values.

6.4.1 Family Relationship Values

The majority of participants in the Intervention group provided a response when asked to write their 'Family Relationship Values'. At Time 1, a word count of participant's responses regarding their family relationship values revealed a total of 1051 words, with an average mean of 13 words written per participant. Many participants used similar words to describe their value, such as 'build' or 'strengthen' their family relationships, by being 'supportive', 'loyal', 'honest', 'understanding', and 'nurturing'. Specific examples included: "Be an involved, supportive, nurturing and loving father to my son"; "Honest, open, supportive and loyal relationships"; "Provide a nurturing environment that is loving, tolerant and shows respect for each member of the family"; and, "To have open, honest, loving relationships with lots of communication and fun".

In relation to extrinsic and intrinsic reasons for choosing family values, overall there was no significant change from Time 1 to Time 2 (see Table 6.7). It was predicted that over time participants involved in the ACT intervention would increase their success in living this value. A significant change in 'Success' from Time 1 to Time 2 indicates a positive result that may be attributable to the ACT intervention. Descriptive analysis of the data indicated that it did not violate the distribution assumptions for parametric tests. Thus, in order to conduct this analysis a univariate repeated measure ANOVA was used.

The results indicated that participants were significantly more successful in living their family relationship values over time, F (1, 55) = 6.09, $p < .02$, $\eta^2 = 0.68$ (see Table 6.7). Given the significant result that was obtained for success from Time 1 to Time 2 in this value domain, further analyses were conducted to explore whether the change in success over time explains the significant changes in psychological distress between Time 1 and Time 2 for the Intervention group, as described earlier (see Figure 6.1). The difference between Time 1 and Time 2 scores for the 'success' variable in the Family relationship values domain was calculated. This was correlated with the overall change in scores on the GHQ-12 measure from Time 1 to Time 2. The results indicated that there was no significant relationship between the two variables (χ^2 (N = 55) = -0.06, p = 0.63). Thus, no further analysis was conducted. This suggests that increasing levels of success with one's family relationship values is associated with participation in the ACT program, but does not explain why participant's overall general mental health improved over time. No other significant results were obtained.

Table 6.7

Comparison of Means and Standard Deviations between Family Relationship, Romantic Relationship and Work Values according to PVQ Variables

	Family Relationship Values				Romantic Relationship Values				Work Values			
	Time 1		Time 2		Time 1		Time 2		Time 1		Time 2	
PVQ items	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1.Extrinsic	1.23	0.55	1.23	0.79	1.33	0.74	1.25	0.58	1.65	1.02	1.41	0.85
2.Introjected	1.87	1.15	1.89	1.20	1.78	1.05	1.69	1.09	1.26	0.56	1.80	1.15
3.Identified	4.50	0.64	4.41	0.87	4.23	1.03	4.33	0.90	4.20	0.86	4.14	0.94
4.Vital	4.38	0.78	4.36	0.75	4.46_a	0.68	4.58_a	0.66	4.23_b	0.70	4.34_b	0.69
5.Fun	4.14	0.80	4.12	0.85	4.20_b	0.81	4.36_b	0.82	3.72	1.06	3.94	0.82
6.Success	3.47_b	1.15	3.77_b	1.11	3.41	1.24	3.60	1.19	3.50	1.17	3.50	0.95
7. Commit	4.46	0.68	4.55	0.68	4.35	0.85	4.57	0.65	4.23	0.71	4.13	0.74
8. Important	4.75	0.48	4.77	0.47	4.59	0.60	4.67	0.60	4.00	0.76	4.12	0.76
9. Improve	3.91	1.23	3.56	1.16	3.83	1.23	3.81	1.31	3.70	1.01	3.69	1.07

Note. 1. Extrinsic reasons; 2. Introjected reasons; 3. Identified reasons; 4. Vital reasons; 5. Fun reasons; 6. Success with values; 7. Committed to value; 8. Importance of value; 9. Wanting to improve. [a] Represents significant differences between time periods within a particular value domain with $p < .01$. [b] Represents significant differences between time periods within a particular value domain with $p < .05$.

6.4.2 Romantic Relationship Values

Romantic relationship values consisted of building relationships that are 'intimate', 'romantic', 'loving', 'caring', 'passionate', 'accepting', and 'fun'. Examples of participant's romantic relationship values include: "I value a loving, honest and supportive relationship with my wife"; "A relationship that continues to grow and develop spiritually, physically, sexually, emotionally"; "Supportive, consistent and committed relationship"; and "Totally loving, encompassing passion, respect and understanding". At Time 1, a total of 821 words (average 10 words per participant) were written by participants when describing this value.

Analyses were conducted to examine whether changes occurred from Time 1 to Time 2, and several significant results were obtained. However, for each of the significant results it was necessary to also conduct non-parametric statistical analyses as the data was skewed. For example, the data was skewed for 'vital reasons' at Time 1 and Time 2 (-1.12, SE = .27; -1.73, SE = .32, respectively), and for 'fun reasons' at Time 1 and Time 2 (-.99, SE = .27; -2.01, SE = .32, respectively). Like the previous value domain, univariate repeated measure ANOVAs were used to conduct the analyses. In relation to Romantic relationship values, from Time 1 to Time 2 participants endorsed vital reasons significantly more for their romantic relationship values $F(1, 53) = 8.04$, $p < .05$, $\eta^2 = .79$ (see Table

6.7). This was also the case for fun reasons in the same value domain, F (1, 54) = 5.28, p <.05, η^2 = .62 (see Table 6.7). The result for vital and fun reasons was also supported by the non-parametric analyses conducted. This suggests that participant's reasons for choosing romantic relationship values because they were vital and fun increased following the intervention.

There was no significant change over time in relation to extrinsic reasons for choosing romantic relationship values. Analyses using a univariate repeated measure ANOVA also revealed a significant change over time in participant's commitment to their romantic relationship values, F (1, 54) = 5.59, $p < .05$, η^2 = .64. A Wilcoxon Signed Rank test was also conducted as the data was considerably skewed for this variable at Time 1 and Time 2 (-1.19, SE = .27; -1.16, SE = .32, respectively). The result supported the parametric test conducted (Z = -2.26, $p < .05$). Thus, over time participants were more committed to their romantic relationship values following the intervention.

6.4.3 Work Values

On the whole, participants wrote more in this value domain then in any of the value domains, with the total word count at Time 1 being 1228 words (average 16 words per participant). The 'Work values' that participants wrote about varied between the kind of worker they would like to be, to how they would like to treat and be seen by others, to the kind of work they would like to do that would 'make a difference' for other people. Examples of work values included: "Appreciated and valued for the professional way in which I conduct my teaching practice and other ventures"; "Continue working in human services and human rights sector, be a reliable, honest, respectful, supportive, trustworthy, loyal colleague and friend"; "I want to improve the workplace to make a difference. I

would like to be seen as hard working, competent, confident – a leader"; "Improve the work experience for myself and my staff. Develop my and my staff skill, abilities, and capabilities, provide a capacity to be an effective organisation"; "To progress up the career ladder through personal and professional development"; and, "Bring skills to the workplace that are valued. Make a difference in people's lives. Be recognised for my contribution and rewarded for efforts. Openly express myself".

Analyses revealed only one significant result when examining the reasons for choosing work values from Time 1 to Time 2. A repeated measures ANOVA indicated that from Time 1 to Time 2 participants endorsed vital reasons significantly more for their work values (F (1, 55) = 5.15, p <.05, η^2 = .61) (see Table 6.7). This suggests that over time participant's vital reasons for choosing their work values increased.

6.5 Values Exploration

This section will present descriptive information about PVQ value domains and PVQ items that is largely exploratory. Firstly, a summary of the findings obtained across the remaining value domains for each of the PVQ variables will be presented, including a summary of the values police officers rated as being most important. Secondly, correlational analyses were conducted to examine how the PVQ items correlate for each of the value domains at Time 1, Time 2, and from Time 1 to Time 2. Lastly, further correlational analyses were conducted to explore the way in which the PVQ items correlate with the outcome and process measures used in the study according to each value domain at Time 1 and Time 2.

As this section is largely exploratory in nature, the data was not subjected to stringent controls. However, given the data has been found to be skewed for several

variables, it was decided that non-parametric analyses would also be conducted. In this case, Pearson's correlation is the parametric test, while Spearman's Rho is the non-parametric test, and both will be used for every correlational analysis. Given the large amount of data that was examined and the exploratory nature of this section, it was decided that only a summary of results will be presented.

6.5.1 PVQ Values: What is most Important?

The information discussed in this section can be found in Tables 6.7 and 6.8. Participants were asked to rate how important each of the PVQ value domains were to them based on a 5-point Likert scale. The value that police officers rated as most important was family relationship values. This was followed by romantic relationship values, then health / physical well-being values, and Leisure / Recreation values. These values were all rated as being extremely important (> 4 on the Likert scale). The remaining three value domains were also rated highly, with social relationship values rated above work values, followed by Education / Personal development values.

6.5.2 Summary of PVQ Value Domains

The following section provides a brief summary of how the remaining value domains were rated for each of the 9 PVQ items, including a summary of the qualitative data given by participants regarding the descriptions they wrote for those value domains. Table 6.8 outlines the descriptive statistics obtained when analysing participant's responses to each of the remaining value domains according to the PVQ variables at Time 1.

Social Relationship Values

Participants used terms such as ‘reliable’, ‘supportive’, ‘close’, ‘loyal’ and ‘consistent’ to describe the kinds of social relationships that participants wanted to build. Specific examples included: “I value open and honest relationships with my friends”; “Caring, supportive, honest, trusting, accepting without jealousy”; “Relationships that connect and are meaningful, not superficial…being there for them in good and difficult times”; and, “To be supportive, honest and open and to value others opinions without criticism”. At Time 1, participants wrote a total of 756 words for this value domain, which equated to approximately 9 words per participant.

Descriptively, participants rated each of the intrinsic reasons for choosing to value their social relationships relatively equally (see Table 6.8). Participants were less likely to endorse this value for extrinsic reasons. As can be seen in Table 6.8, participants indicated that they were moderately successful in acting consistently with this value, and were less committed to this value than family relationship values.

Education / Personal Development Values

The content of values in this domain either reflected achieving further education, or personal growth in relation to ‘life skills and experience’. Specific examples include: “Being able to draw on most of my skills and life experiences as well as apply them in new learning and work contexts”; “Complete a doctorate”; “Face new ways of doing things, informed debated, critical analysis / reflective practice, experiential learning”; “Open and receptive to others ideas and willingness to try them”; and, “To continue to learn new skills aimed at improving my performance at work”. A total of 1192 words were written by participants (average of 15 words per participant) at Time 1 to describe their values in this domain.

Table 6.8

Descriptive Statistics of Participants Responses to each Value Domain According to the PVQ Items at Time 1

	Social Relationships		Education / Personal Development		Leisure / Recreation		Health / Physical Well-being	
PVQ items	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1.Extrinsic	1.19	0.54	1.23	0.58	1.13	0.38	1.40	0.81
2.Introjected	1.60	0.96	1.42	0.83	1.66	1.13	1.97	1.16
3.Identified	4.26	0.76	3.88	1.07	4.05	1.02	4.09	1.00
4.Vital	4.19	0.67	4.12	0.76	4.45	0.60	4.43	0.72
5.Fun	4.17	0.69	3.81	0.84	4.54	0.68	3.81	1.00
6.Success	3.37	1.04	3.19	1.05	3.10	1.28	3.01	1.21
7.Committed	4.00	0.81	3.91	0.79	4.03	0.91	4.00	0.94
8.Important	4.25	0.79	3.97	0.79	4.34	0.81	4.41	0.75
9.Improve	3.58	1.15	3.67	0.96	4.10	1.09	4.07	1.15

Note. 1. Introjected reasons; 2. Extrinsic reasons; 3. Identified reasons; 4. Vital reasons; 5. Fun reasons; 6. Success with values; 7. Committed to value; 8. Importance of value; 9. Wanting to improve.

As can be seen in Table 6.8, education / personal development values were mainly endorsed for vital reasons. Participants did not choose to follow this value for extrinsic reasons. Participants indicated that they felt just as successful and committed to this value domain, as they did with their work values, and also rated this value similarly in wanting to improve.

Recreation / Leisure Values

At Time 1, participants wrote a total of 1170 words for this value domain, which equated to approximately 15 words per participant. When writing about their recreation / leisure values, participants wrote about wanting to increase the amount of time they spent engaged in recreation and leisure activities both on their own and with their family. These activities related to sporting, creative, and relaxing activities. Examples of values in this domain include: “Music, dancing, cooking and exercising”; “To actively allocate time to activities that allow me to be creative and expressive”; “Active life to support children’s activities”; “To enjoy sport and not worry about scores etc., to play with son and enjoy this important time and treat it as important”; and “Active, creative, exploring and experiential”.

Like the previous domain, recreation / leisure values were mainly endorsed for intrinsic reasons as opposed to extrinsic reasons (see Table 6.8). Participants were also highly committed to this value domain. Of all the value domains in Table 6.8, descriptive data indicates that participants rated this value domain as being the domain that they most wanted to improve.

Health / Physical Well-being Values

Participant’s values in this domain mainly pertained to activities and goals that they viewed as being important to themselves and for their family. Most participants were very specific about what behaviours they needed to engage in to pursue their ‘Health / physical

well-being values'. For example: "Stop smoking, and increase exercise, get better sleep and eat healthily"; "I need to exercise more, drink less and lose weight"; "Spend more time with family doing outdoor activities – help get fit"; "Would like to do more exercise and relaxation exercises, to improve my stress levels and not just to get fit"; and, "Maintain a steady weight, eat sensibly, exercise and sleep well". Overall, participants wrote a total of 985 words at Time 1, with each participant writing an average of 12 words.

When comparing this value domain to others, 'Health / Physical well-being' was another value domain that participants indicated they wanted to improve their progress with (see Table 6.8). It was also the value domain that participants indicated they were least successful in achieving, in comparison to the other value domains. Finally, this domain was not valued for extrinsic reasons. Rather, reasons participants valued their health / physical well-being because of intrinsic reasons, with vital reasons being the most important reason.

6.5.3 Exploring the Value Domains of the PVQ: Relationship between PVQ Variables over Time

This section will present a summary of correlational analyses (supported by equivalent non-parametric tests) that were conducted to examine how the PVQ variables correlate for each of the value domains at Time 1, Time 2, and from Time 1 to Time 2. The results will be presented according to each of the main PVQ variables, for all of the value domains. The variables are: Extrinsic variables (refers to both extrinsic reasons and introjected reasons); Intrinsic variables (refers to identified, vital and fun reasons); Success; Commitment; Importance; and Improve (wanting to improve on one's values). The results that will be presented in this section will provide a summary of the overall pattern of the large number of correlations conducted.

Extrinsic variables

The majority of correlational analyses revealed that for each value domain at both Time 1, Time 2, and from Time 1 to Time 2, the extrinsic variables of extrinsic and introjected reasons correlated significantly positively across value domains and with each other. When examining the relationship between extrinsic reasons at Time 1 and Time 2 and the remaining PVQ variables, it was found that extrinsic reasons were more likely to be associated with lower levels of success with, commitment to, and placing importance, on values. Endorsing extrinsic reasons was also associated negatively with choosing values for intrinsic reasons (vital, fun, and identified).

Intrinsic variables

Overall, like the extrinsic variables, the intrinsic variables were found to be positively related to each other across each of the time points that were measured. Almost consistently across each of the value domains, analyses indicated that endorsing values for vital and fun reasons was associated with higher levels of commitment to, and importance placed on one's values. This result was not so consistent for choosing values for identified reasons. Lastly, the intrinsic variables tended to be positively correlated with success with living one's values.

Success variable

Success was strongly associated with the same variable (e.g., success) across each of the Time points for all the value domains. Success was also positively associated with higher levels of commitment and placing importance on one's values for the majority of value domains across each of the time points. Finally, it was found that success tended to be negatively associated with wanting to improve one's progress on their values.

Commitment, Important, and Improve variable

Firstly, the commitment, important, and improve variables at Time 1 were strongly correlated with that same variable for each of the value domains at Time 2. In relation to commitment, for each of the value domains at both Time 1 and Time 2, commitment was positively related to placing more importance on one's values. Finally, analyses indicated that for certain value domains, placing importance on these values was positively associated with wanting to improve one's progress in that particular value domain (i.e., work, recreation / leisure, and health values).

6.5.4 Exploring the Value Domains of the PVQ: Relationship between PVQ Variables and the Outcome and Process Measures

The following section will present a summary of the findings of correlational analyses (supported by equivalent non-parametric tests) that were conducted to examine how the PVQ variables correlate for each of the value domains with the outcome and mediation measures used in this study. Analyses were conducted for Time 1 and Time 2 variables. Like the previous section, the results will be presented according to each of the main PVQ variables, for all of the value domains. An overall summary of the results will be presented given the large number of correlations conducted. Although the overall pattern of relationships are described, please note that not all of the correlations are significant.

Extrinsic Variables

Overall, the extrinsic variables were more likely to be associated with less innovativeness and psychological flexibility. Choosing values for extrinsic and introjected reasons was also associated with higher psychological distress, depression and stress levels.

Intrinsic Variables

In relation to the outcome and process measures, choosing values for vital and fun reasons was associated with less psychological distress, depression and stress. Lastly, endorsing a value for identified reasons was associated with higher levels of innovativeness.

Success Variable

Of all the PVQ variables that were explored in this section, results indicate that the success variable had the most significant and consistent correlations for both Time 1 and Time 2 analyses. For example, success tended to be negatively related to psychological distress, depression, and stress. For the majority of value domains it was also revealed that success tended to be associated with increased psychological flexibility. Finally, a higher level of success was positively related to increases in innovativeness.

Commitment, Important, and Improve variable

In relation to the outcome and process measures, being committed to, and rating a value as being very important tended to correlate with less psychological distress, less depression, less stress, and increased psychological flexibility. Lastly, being committed to, and placing importance on one's values tended to be positively associated with increases in innovativeness and less psychological distress for several value domains.

The 'improve' variable is the final variable of the PVQ measure and asks respondents to indicate the extent to which they wanted to improve their progress on a particular value. In relation to the process and outcome measures used, it was found that wanting to improve was associated with increases in stress, depression and psychological distress for the majority of value domains. Finally, wanting to improve in a value domain tended to be associated with less psychological flexibility for certain value domains (i.e., relationship values, work, and recreation / leisure value domains).

Chapter 7

Chapter 7: General Discussion

Policing is a stressful occupation with numerous operational and organisational stressors that impact upon an officer's psychological well-being and affect their performance whilst at work. This results in a flow-on effect whereby the officer's personal and working relationships can be detrimentally effected, as well as impacting negatively on the organisation (Brough, 2005; J. M. Brown & Campbell, 1994; Evans & Coman, 1993; Evans et al., 1993; Jackson & Maslach, 1982; Patterson, 2003; Youngcourt & Huffman, 2005). There is also a considerable amount of literature that highlights the difficulties police officers have with work / family balance and / or conflict, as it is commonly referred to (Allen et al., 2000; Burke, 1993; Greenhaus et al., 2003; Miller, 2007; Thompson et al., 2005). What complicates this effect even more is that police officers are prone to using avoidant coping strategies when dealing with stress and difficult emotions, as a result of the ingrained police culture that supports the regulation and suppression of such emotions (J. M. Brown & Campbell, 1994; Lennings, 1997; Violanti & Aron, 1995). Given the problems with emotional issues, there has been a strong impetus to deliver emotion-focused interventions with the police in order to enhance an officer's ability to understand and cope with difficult emotions, and workplace stress more effectively (Haarr & Morash, 2005).

In the current study, an emotion-focused stress management intervention (SMI) was delivered to 78 police officers, while 45 police officers formed a control group. The intervention was called Mindfulness-Based Emotional Intelligence Training (MBEIT), and was based on a therapeutic approach called Acceptance and Commitment Therapy (ACT). There are only a handful of studies that have examined the effectiveness of a worksite ACT-based SMI, and even less research exploring the effectiveness of an emotion-focused intervention used with the police, including identifying important values that police officers

have and how they influence well-being over time. An important aim of the study was to investigate whether some of the findings obtained by Bond and Bunce (2000, 2003) and Flaxman (2006), would be replicated, in particular, whether acceptance would also be identified as the mediator of change in this study. It has been argued that examining mediation is an important step to enhancing the theoretical and methodological sophistication of psychological research (Bunce, 1997).

The following discussion is organised into five main sections. The first section (Section 7.1) presents an overview of the main intervention analysis including the adherence analysis, with a discussion about how the findings link to previous research and where the current findings differ. The second section (Section 7.2) provides an overview of the results of the main values analysis, including a discussion of the exploration of police values. Section three (Section 7.3) discusses the methodological limitations of the research and provides suggestions for future research. The next section (Section 7.4) presents a discussion regarding the use of an ACT-based intervention with the police, and in particular, design and implementation issues, as well as a discussion of the importance of addressing emotions and work-life balance within the police. This will be followed by a general conclusion (Section 7.5).

7.1 Summary of Main Intervention Analysis, Theoretical Implications and Recommendations

As described in Chapter 3, there have been several studies conducted that have emphasised the positive benefits of ACT-based interventions used within the workplace for stress and burnout. This particular study was designed to replicate Bond and Bunce's (2000) study with employees from a UK media organisation, and Flaxman's (2006) study

conducted with government employees, with several variations. These variations included: applying the ACT-based SMI to police officers; increasing the length of the intervention; utilising several different outcome and process measures, including a measure of values; and, an investigation of therapist adherence.

The results of the main intervention indicate that ACT was effective in improving police officers general mental health. Specifically, from Time 1 to Time 2, participants reported experiencing less psychological distress, according to the results obtained on the GHQ-12. This result is consistent with previous research which has demonstrated support for the use of worksite ACT-based interventions for enhancing employee's general mental health (Bond & Bunce, 2000, 2003; Flaxman, 2006; Flaxman & Bond, 2006). However, these results were not maintained at a seven-month follow-up (Time 3). Of all the outcome measures used (e.g., depression, stress, sick leave, innovation) significant results were only obtained for the GHQ-12.

These findings are contrary to the results obtained by Bond and Bunce (2000), and Flaxman (2006). These researchers found that the improvements in general mental health were maintained at a longer term follow-up (6 months for both studies). In addition, Bond and Bunce found that at Time 2 participants showed increases in levels of innovativeness and decreases in levels of depression, although these results were not maintained at Time 3 and Time 4 assessment points (Week 3 and Week 27 respectively).

A second important aim of this research was to examine the mechanisms or mediators of change by which the ACT program is hypothesised to improve mental health. It was hypothesised that psychological flexibility, or acceptance, would be the mediator of change in this current study, and that higher levels of psychological flexibility would mediate changes in participant's general mental health. Analyses revealed that acceptance

levels did not change significantly across any of the time periods. In the previous ACT-based SMI literature, acceptance was found to be the mechanism by which changes in general mental health occurred (Bond & Bunce, 2000; Flaxman, 2006).

Findings from the present study, in relation to mediation, are not consistent with this prior research. Mediational analyses are an important method used to assess the effect of theoretically important processes that influence the outcome obtained. In the current study, the use of the AAQ as a measure of acceptance may not have been the most effective measure of mediation, particularly with the population used in this study. More will be discussed about this shortly. The result obtained in the current study is unexpected given previous research using ACT-based SMIs have generally found that acceptance, as measured by the AAQ, is the mediator of change for the outcome results obtained (Bond & Bunce, 2000; Flaxman, 2006).

In addition, unlike Bond and Bunce, and Flaxman, it is also difficult to conclude whether a change in participant's general mental health was a result of decreases in dysfunctional thinking and / or controlling difficult thoughts. In the previous studies, Bond and Bunce utilised the Dysfunctional Attitude Survey (Weissman, 1979), while Flaxman used two different measures, the Thought Control Questionnaire (Wells & Davies, 1994) and the Metacognitions Questionnaire (Cartwright-Hatton & Wells, 1997). The current study did not utilise a relevant instrument to measure changes regarding the believability of unpleasant thoughts. What is proposed is that the ACT-based intervention changed or moved other ACT processes other than those measured by the AAQ. For example, it is possible that the results of the intervention were affected by a change in values – one of the ACT processes on the hexaflex and one focus of the intervention.

7.1.1 Unique Characteristics of the Police Sample

In this section we will explore the impact that the characteristics of the police sample may have had on the results, particularly the non-significant result whereby acceptance did not appear to mediate the outcomes obtained. The police officers that were involved in the intervention could be considered quite high functioning and high achieving individuals as the majority of participants that attended were either at the rank of sergeant and above (or the equivalent unsworn police employee level). Thus, in all likelihood, many of the participants were quite 'effective' already, as they had received promotions and were already working in positions where they were managing others and performing higher duties. The results obtained on each of the outcome measures at Time 1 also lend support to this, and indicated that the baseline levels of mental health were relatively high (see Chapter 6). For example, at Time 1 the average level of depression among both the intervention and control group participants was in the 'normal' range. This is also the case for participants stress levels.

In relation to general mental health, participant's revealed an average score on the GHQ-12 that reflected 'same as usual' or 'no more than usual' responses. Participant's overall scores on the AAQ indicated that they were quite psychologically flexible already. Finally, according to results obtained on the Propensity to Innovate scale, participants indicated that their level of innovation was quite high. There was also very little variability in average scores from Time 1 to Time 3 for all participants in each of the outcome and process measures. This is slightly different from Bond and Bunce (2000) and Flaxman (2006), whereby scores on the GHQ were between 1 to 3 points higher, respectively. In the study conducted by Flaxman and Bond (2006), participants indicated higher levels of mental ill-health than the general working population, which they argued may indicate the

presence of a minor psychiatric disorder. Thus, it appears that the sample of police officers in this study were relatively 'psychologically' healthy and high functioning.

Masuda et al. (2007) argue that ACT is particularly effective for individuals who are psychologically inflexible and who thus show high levels of cognitive fusion, experiential avoidance, and little value-driven behaviour. The participants for the current study appeared to be relatively high functioning to begin with, and this may have attenuated results.

The term 'low strain' has often been used to define a group of participants who would be considered to be at quite 'mentally healthy' already (Murphy, 1996). In the study conducted by Flaxman (2006), he found that low strain participants "diluted the observed outcome effectiveness of the ACT intervention" (p. 160). In this case, the level of strain moderated the impact of ACT on participant's mental health, and when he separated participants into high and low level strain groups, approximately 60 – 70% of high strain participants experienced clinically significant improvements in general mental health. Thus, future research should access participants of both high and low levels of strain to fully examine the impact of the ACT program. It would be hypothesised then that individuals who are experiencing high levels of strain would benefit more from the ACT program.

However, significant effects for the GHQ-12 outcome measure were obtained in the current study. That is, even in a relatively 'low strain' participant group, the ACT program led to improved mental health. This finding is promising and consideration should be given to offering the ACT program to all employees. Thus, in future, sample sizes will need to be large enough to include both high and low strain employees as indicated by Flaxman (2006), and van der Klink et al., (2001).

A second issue that may have limited the number of significant findings obtained, which also relates to the population targeted in the study, concerns the influence of the police culture on police officers. The police culture may support the use of behaviour that reflects emotional avoidance, repression, and putting across a 'Macho' persona that is rational and non-emotional (Alkus & Padesky, 1983; J. M. Brown & Campbell, 1994; Copes, 2005; Davey et al., 2001b; Pogrebin & Poole, 1991). Police officers may be more intolerant of their internal affect and attempt to minimise the external expression of difficult emotions by appearing cool and collected, while adhering to strict police rules, procedures and behaving in a way that reflects the police culture.

They may also adopt a coping style in stressful situations that reflects a problem-focused coping style. This is supported by the fact that there are several research studies that have identified that this is the predominant coping strategy used by police officers (see Anshel, 2000; Demerouti, Geurts, Bakker, & Euwema, 2004; Evans et al., 1993; Hart et al., 1995). The difficulty may be when police officers excessively rely on this coping style which may result in them under-reporting symptoms of stress or other emotional difficulties, while they attempt to deal with these difficulties in an over compensatory manner by over-rationalising, being non-emotional and further detaching from the problem (Violanti, 1993, 1996; V. Williams, Ciarrochi, & Deane, 2008). In several studies, the police culture is quite influential in reinforcing this style of dealing with behaviours, especially in relation to socialising new recruits to the police organisation (see Alexander, 1999; Cahill, 1995; Hazer & Alvares, 1981; Patterson, 1999; Violanti, 1993). This may have influenced the way in which participants responded to the measures used.

Future ACT interventions with the police should focus more intensely on identifying emotions that police officers experience, and the 'style' that police officers use

when it comes to the expression of such emotions. Using the ACT processes, as identified in Chapter 3, more work can be done with the police to assist them with understanding the distinction between having a feeling, expressing a feeling and acting on a feeling. For example, the workshop could include more mindfulness exercises that assist police officers in identifying this distinction, while using 'defusion' exercises to assist them with their ability to act effectively in spite of emotions.

Lastly, a comment needs to be made about the fact that the effect obtained on the GHQ was not maintained at Time 3. As has already been mentioned, this was a particularly high functioning group of participants. Given there were no significant findings obtained for the AAQ, or improvements in acceptance, it could be said that experiential avoidance for this group was not so much of an issue, rather they struggled with balancing their work and family / life commitments. Whilst this was not directly assessed, a discussion of the effect that work / life balance can have on police, and potentially on the results obtained, will be outlined in Section 7. 2.

7.1.2 Adherence Findings

It is considered an important part of empirical research of an intervention to investigate therapist adherence. Such an investigation can either lend support to a therapies core processes by providing evidence that the therapist did engage in the core processes prescribed by the theory, as opposed to processes that are proscribed by the theory (Moncher & Prinz, 1991). Thus, an important aspect of conducting this research was measuring adherence to the ACT intervention.

Several ACT studies have adopted adherence measures in order to provide further support to their findings and to ensure that the intervention being delivered was ACT-based, with the main ACT core processes being delivered throughout the intervention

(Blackledge, 2004; Blackledge & Hayes, 2006; Gifford et al., 2004; S. C. Hayes, Wilson et al., 2004; Zettle & Raines, 1989). In the current study, the FACT-R Scale (L. Bilich et al., 2006) was used to measure adherence to the ACT intervention. The results indicated that the FACT-R demonstrates a reasonably acceptable level of reliability, with interrater reliability among the six raters being statistically significant. It has been suggested that therapist adherence scales should obtain a correlation of .70 and above to be considered to have high interrater reliability (see Hill, O'Grady, & Elkin, 1992; Segal et al., 2002). However, other researchers have argued that interrater reliability correlations of .04 and above are acceptable in influencing the validity of an adherence scale (Startup, Jackson, & Pearce, 2002). Thus, according to this argument, the reliability of the FACT-R Scale can be considered moderate.

In the current study, raters assessed the facilitators as adhering closely to the ACT protocol. Of the six processes investigated, 'Committed action' and 'Contingency management' (or homework) were only moderately targeted. Future interventions will need to increase the level at which these processes are targeted, including integrating them seamlessly with the other processes. For example, contingency management could be incorporated more by highlighting participant's values that are being served by doing the homework. This is also the case for contingency management and committed action, whereby discussion could revolve around the importance of engaging in homework as this demonstrates commitment to a value that participants have identified they would like to improve. Lastly, more discussion could be included regarding participants problematic self-evaluations and 'fused' thoughts that arise when they think about having to do homework, or whilst they are engaging in homework tasks.

Interestingly, when the facilitators discussed the ACT process of ‘values and goals’ it appears that they did not focus on ‘control as a problem’ at the same time. This may have affected the findings obtained. That is, when ‘control’ is discussed in the ACT protocol, there is an implicit message that control behaviours need to be reduced by increasing acceptance, while talking about ‘committed action’ involves encouraging participants to activate value-based behaviour. It may be important, in future workshops, to outline in more detail the way these three processes work together. The police evaluations show that participants were engaging in more value-driven behaviour, but this is not reflected in the data, in particular, it was not found that psychological flexibility or acceptance mediated the changes.

In relation to the ACT incongruent items, raters indicated that the facilitators did not engage in these processes. This suggests that ACT related processes can be distinguished from other therapeutic processes relevant to other therapies, such as CBT.

7.1.3 ACT Measures used in the Intervention

This next section will discuss specific issues regarding some of the measures used in the current study, particularly the AAQ-2 and the DASS.

AAQ-2

In the current study there was no significant change in AAQ-2 scores (i.e., acceptance levels) across all three time points. Thus it is difficult to say whether the improvement in general mental health was mediated by an increase in acceptance and less experiential avoidance. There may be several reasons why this particular measure did not support the hypotheses and outcome findings.

The AAQ-2 is a ten-item version of the original AAQ that contained 49 items. The original AAQ has been found to be a reliable measure and has been validated in numerous

ACT intervention studies (see S. C. Hayes, Strosahl et al., 2004). According to Hayes, Strosahl et al., (2004) the AAQ items were designed to assess whether individuals are engaging in strategies that were designed to control distressing cognitions and emotions, such as avoidance, as well as identifying whether individuals use excessive negative evaluations of private experiences and negative self-references. However, these authors also caution that the problem with the revised AAQ measures, like the AAQ-2, is that they can be relatively insensitive when used as a process measure. Bond and Bunce (2000) obtained a significant finding where acceptance was identified as being the mediator of change in their ACT-based worksite SMI. However, these authors used the 16-item version of the AAQ, and they suggest that this particular version be used to ensure reliability. In the current study, this particular version of the AAQ may have been more sensitive to changes in the outcome measures and may have resulted in significant findings. Future studies may need to continue using either the full version of the AAQ, or the 16-item version.

A second issue concerning the AAQ-2 is that it may have poor face validity when used with a police population. In a recent study where the AAQ-2 was completed by police officer participants, Williams (2007) suggests that certain items on the AAQ may denote "weakness in the policing context" (p. 42). Police officers tend to present an image of themselves as being in control, strong, and non-emotional (Evans et al., 1993), thus, participants may have responded in a manner that portrays themselves as such. Williams et al. (2008) suggest that the use of the AAQ with police officers may need to be evaluated further, in particular examining the use of emotionally-laden language within certain items. For example, "I am afraid of my feelings", "Emotions cause problems in my life", and "I worry about not being able to control my worries and feelings". A police-specific AAQ measure may need to be developed which presents items that incorporates terminology used

by the police regarding emotions, emotional expression, and particular avoidance strategies that police engage in.

Further, there are several other ACT studies that have obtained non-significant results when using the AAQ as a process measure. These studies involved clinical and non-clinical populations. Blackledge and Hayes (2006) conducted a quasi-experimental study assessing the effects of a two-day Acceptance and Commitment Therapy workshop on various aspects of functioning in the parents of children diagnosed with autism. A total of 20 parents / guardians participated in the study, and were required to complete several measures at different time points: 3 weeks before the workshop, one week before, one week after, and three months after. Participants were provided with the several outcome measures including the Beck Depression Inventory-II (BDI-II) (Beck, Steer, Ball, & Ranieri, 1996), the General Health Questionnaire-12 (GHQ-12) (Goldberg, 1978), and the Parental Locus of Control Scale (Campis, Lyman, & Prentice-Dunn, 1986). Two meditational measures were also used, the Automatic Thoughts Questionnaire – Believability Scale (Hollon & Kendall, 1980), and the Acceptance and Action Questionnaire-9 (AAQ-9) (S. C. Hayes, Wilson et al., 2004).

The author reports that no significant changes occurred while waiting for treatment. From pre to post, significant improvements were obtained on the BDI-II and the BSI, and these results were maintained from pre to follow-up. Mediational analyses revealed non-significant results for both the AAQ and ATQ from Pre to Post, while a significant effect for the AAQ was found from Pre to Follow-up (although this effect was small). This result was obtained despite extensive adherence ratings which indicated the presence of all ACT-consistent processes during the intervention. The authors concluded that the results provide ‘relatively consistent evidence’ that the ACT intervention improved the psychological well-

being of the participants and that these improvements were maintained over a 3 month time frame. It was argued that the main mechanisms through with the changes occurred were based on a reduction in experiential avoidance and cognitive fusion. Thus, there is a need for further research to examine the role of other ACT processes that may act as mediating processes.

Block (Block, 2002) conducted a study in which she compared cognitive behavioural group therapy (CBGT) with ACT group therapy for college students with a fear of public speaking. Thirty-nine participants were randomly assigned to either the CBGT condition (n = 13), the ACT condition (n = 13), or a control group (n = 13). Participants were given several social anxiety outcome measures to complete, and several other outcome measures including the Quality of Life Inventory (QLI) (Frisch, Cornell, Villanueva, & Retzlaff, 1992), and a Behavioral Performance Task (BPT), an exposure related task in which participants were asked to remain in front of the group for a set length of time. There were several process measures also given to participants including the AAQ, and the Anxiety Control Questionnaire (ACQ) (Rapee, Craske, Brown, & Barlow, 1996) (to measure perceived control over anxiety-related events).

The results indicated that the participants in the ACT condition and the CBGT condition reported experiencing significant reductions in anxiety from pre-treatment to post-treatment. Interestingly, the results indicated that the ACT group did not significantly improve on self-reported avoidance or life satisfaction in comparison to the control group, which was contrary to the author's hypothesis. However, in comparison to the CBGT condition, ACT participants showed less behavioural avoidance to a social situation. In addition, results for both intervention groups showed that no significant differences from pre-treatment to post-treatment were found for the AAQ or the Thought Control

Questionnaire (Wells & Davies, 1994). Thus, meditational analyses were unable to support the hypotheses that the improvements in the outcome measures were a result of increases in experiential acceptance, and a decrease in attempts to control or suppress private experiences.

A third clinical study conducted by Hayes, Wilson et al., (2004) compared methadone maintenance alone (n = 38) to methadone maintenance with either ACT (n = 42) or an Intensive 12-step Facilitation program (n = 44) for polysubstance abusing opiate addicts who were still on methadone. Participants were provided with several measures to complete including the Addiction Severity Index (McLellan, Luborsky, Woody, & O'Brien, 1980), the BDI (Beck et al., 1996), the Symptom Checklist 90-R (SCL-90-R) (Derogatis, Lipman, & Covi, 1973), and the AAQ (S. C. Hayes, Wilson et al., 2004). The results indicated that both the ACT and ITSF interventions reduced objectively assessed drug use as compared to the methadone maintenance group only. Hayes, Wilson et al (2004) report that process of change (mediation) data was collected but the information was not included in the research article. In a later article, Hayes et al (2006) indicates that the ACT intervention failed to change the AAQ. Lastly, an ACT-based cross-sectional study conducted Chapman, Specht, and Cellucci (2005), failed to find that experiential avoidance was a mediator between borderline personality disorder and self-harm.

Essentially, what these studies point to is that whilst changes have occurred on outcome measures following an ACT intervention, changes in the AAQ are not consistently found and thus it is difficult to conclude that changes in acceptance have mediated the results obtained. A recent empirical review chapter of the AAQ as a measure of acceptance and experiential avoidance (Ciarrochi, Bilich, & Godsell, in press) reported a number of studies found the AAQ only partially mediated outcome effects in ACT interventions.

The lack of consistent AAQ mediation effects could be a result of different ACT processes being more prominent and potentially mediating treatment effects. For example, a reduction in behavioural avoidance, or engagement in valued living may be more important in some contexts. Ciarrochi et al (in press) argue that the AAQ, as a measure of psychological flexibility (acceptance), assesses factors that are related to psychological flexibility, in this case experiential acceptance and fusion with thoughts. Thus, the AAQ is somewhat limited in measuring or assessing directly an individual's ability to "persist or change in behaviour in the pursuit of goals and values" (Ciarrochi et al., in press, p. 12). It appears that there are larger conceptual issues that still need to be resolved and further psychometric research is still required.

DASS

Like the AAQ2, no significant results were obtained for the depression and stress subscales of the DASS, whilst significant results were obtained for the GHQ. Previous ACT-based SMIs used the BDI to examine levels of depression among participants (see Bond & Bunce, 2000). There are two possible reasons as to why no significant results were obtained for the subscales of the DASS. Firstly, it is possible that participants may have answered items on this measure in a similar way as they did to the AAQ-2. Participants may have been more sensitive to the emotion-laden items of the DASS and answered in a certain way that reflected a police officer that was coping with their emotions. For example, there are items on the DASS that ask participants to indicate the extent to which they felt "touchy", "agitated", "down-hearted and blue", "life was meaningless", and "nervous". There were also items that specifically relate to 'emotion-laden' cognitions such as "I felt that I wasn't worth much as a person", "I was unable to become enthusiastic about anything", and "I felt that I had nothing to look forward to". The DASS appears to be about

affective states, which ACT does not directly target. ACT focuses on improving psychological flexibility which is reflected in improvements across each of the ACT processes, as opposed to specifically changing mood states or cognitions. On the other hand, the GHQ presents items that reflect being stuck and not active in one's life, which relate more to the construct psychological flexibility. The GHQ appears to be more sensitive to ACT interventions and has been used in several ACT studies (Blackledge & Hayes, 2006; Bond & Bunce, 2003; Flaxman & Bond, 2006). A second reason as to why non-significant results were obtained on the DASS is likely to reflect the fact that participants were already high functioning and were not experiencing high levels of strain.

Future research examining the impact of MBEIT on police, and specifically examining the mediators of change, may need to consider including other psychological measures, as already discussed. Several other measures may also prove to be helpful, which will now be discussed briefly.

In order to identify stress levels among police officers, it may be necessary to include a police specific measure rather than a general measure of stress, such as the DASS. Within the police literature a common measure that has been used for this purpose and is more specific to police tasks and related stress is the 'Police Daily Hassles Scale' (PDHS: Hart, Wearing, & Headey, 1993) or the Police Stress Survey (Spielberger, Westberry, Grier, & Greenfield, 1981). Briefly, the PDHS includes 25-items that reflect both organisational and operational 'hassles' (i.e., demands) and asks participants to indicate the degree to which they felt 'hassled' over the past month according to each item, with high scores indicating a higher level of demands. The Police Stress Survey asks participants to indicate the extent to which they agree or disagree certain routine occupational stressors are present.

Finally, another measure that could be utilised in future research is a measure of police officers coping strategies. The aim of the current study was not about identifying coping strategies, such as problem-, or emotion-focused strategies, that may be used by police to deal with stress, as previous research has been conducted in this area (for examples see Anshel, 2000; J. M. Brown & Campbell, 1994; Evans et al., 1993; Haarr & Morash, 2005; Hart et al., 1995; Patterson, 2003; Sarason et al., 1979). What may be interesting to explore in future is the way in which a specific coping measure could be used to identify the predominant coping style used by police and explore how this relates to the AAQ, to the values measure, and to work-family conflict.

7.1.4 Conclusion

The ACT intervention led to improvements in general mental health among police officers. This was not the case for psychological distress, sick leave, or innovation, where improvements were not evident. Noteably, significant improvements in mental health ratings were obtained even though the participants appeared to be quite high functioning prior to participating in the program. This study provides preliminary support for the use of workplace ACT-based SMIs amongst police. However, there were no positive results found to reflect acceptance as being the mechanism of change, or the mediator. It is possible that other theorised ACT processes contributed to improved mental health. For example, there were significant improvements in family relationship values amongst those who received the intervention. In the next section, a detailed discussion of the importance of values work will be discussed.

7.2 Values: Summary of Findings, Recommendations and Implications

An important part of the ACT program involves helping participants develop what we have termed emotionally intelligent behaviour (EIB). As a reminder, EIB describes the ability of an individual to act effectively in the context of emotions and emotionally charged thoughts, especially when the emotions are distressing (Ciarrochi & Godsell, 2005). Acting effectively implies that an individual has identified personally meaningful values and relevant goals and is engaging in behaviour aimed at achieving these goals whilst also accepting difficult thoughts and emotions that arise. Goals form an important part of values as they consist of concrete activities / actions that once achieved indicate that an individual is living their values.

Engaging in value-driven behaviour is expected to provide individuals with an "inherent sense of purpose and vitality" and well-being that will be sustained over time (S. C. Hayes et al., 1999, p. 209). Thus, it was an important part of this research to include the PVQ in order to investigate police officers values, and the impact the ACT program may have had on officer's values over a period of time. It was hypothesised that following participation in the program, officer's would exhibit an increase in success with living their values. In addition, in line with past research regarding reasons for choosing values and goals, it was assumed that in the current study a relationship would exist between values for intrinsic reasons and greater well-being, and the opposite effect would occur for choosing values for extrinsic reasons. Given that the PVQ was only provided to intervention participants, the scope of this discussion is limited to the Intervention group. It is recommended that future research examine the impact of the ACT program on police officers values for both the intervention and control group participants.

Based on the analyses conducted it was observed that of the nine value domains investigated, over time participants increased their success with family relationship values following their participation in the ACT program. Based on statistical analyses conducted it is not possible to state that this result was mediated or related to an overall improvement in general mental health as assessed by the GHQ. However, it could be argued that being successful in one's values may improve an individual's general mental health. It could also be possible that being successful with family relationship values may also have a positive impact on an individual's ability to function effectively at work.

7.2.1 Values and Well-being

Recent literature exploring the impact of work-family conflict and work-family balance has found that work-family conflict is a strong negative predictor of psychological well-being (Brough, 2005). A review of research related to work-family conflict concluded that "as work-family conflict increases, job satisfaction decreases…organisational commitment decreases…[and is] related to a decrease in life satisfaction" (Allen et al., 2000, p. 301). While life and job satisfaction were not explored explicitly, the findings indicate that both work and relationship values are important to police officers. However, police officers are more likely to engage in family relationship values, which implicitly may improve their success in both these value domains, and may have more of an impact on an individual's well-being. Greenhaus et al., (2003) also found that an individual's quality of life is higher for those who are more engaged or more satisfied in their family than work, while it is lower for individuals who reflect the opposite pattern.

Although work / family conflict was not assessed specifically, the emphasis on family relationship values in the current study is quite relevant to the literature in this area.

The findings of the current study demonstrate that following the ACT intervention, participants indicated that overall, they were more successful with their family relationship. It is possible that participants became more oriented to their family relationship values, and thus committed more energy and effort into engaging with their values in this particular domain. Given there is a relationship between engaging in 'family relationship values' and improved well-being, it appears that family can be an important source of well-being for an individual. Thus, it is possible that in the current study, the improvements in the GHQ reflect this relationship.

Improvements in a police officers family relationship values are also likely to have beneficial effects for the organisation they work in. As discussed earlier, research has linked work-family conflict to negative outcomes for police officers families, as well as poorer general mental health and psychological burnout for the police officer (Allen et al., 2000; Brough, 2005; Martinussen et al., 2007; Miller, 2007). Policing is by nature an inherently stressful occupation, but with the addition of work – family conflict, significant financial costs could fall on the organisation (e.g., stress leave). Thus, it is important that organisations recognise the detrimental impact that work – family conflict can have, and implement programs and policies that act to address these issues.

The aim of the ACT program was to assist officers in building psychological flexibility when confronted by difficult emotions and cognitions, and to improve their effectiveness in engaging in value-driven behaviour. It appears that this outcome may have been achieved to some extent. Officers in the intervention overwhelmingly reported in the client evaluation survey that the program had helped them in their personal life, had improved their communication ability and increased their level of awareness and insight

into themselves and their behaviour. The program may have helped participants focus, or re-focus, on certain values which gave them a sense of meaningful direction and purpose.

The participants in the current study also indicated that their reasons for choosing their own personal values were mostly intrinsically oriented. That is, they chose their values because they were vital, meaningful, fun and inherently rewarding to them. There is a plethora of theoretical literature and research that shows that individuals who are more intrinsically oriented, and who strive for values that are meaningful and vital to them, are more likely to show lower levels of psychopathology and negative affect, are more open to experience (cognitive flexibility), show an increase in self-esteem and positive affect, and such striving is also a major source of psychological well-being (Biswas-Diener, Diener, & Tamir, 2004; Brunstein et al., 1998; Deci & Ryan, 1987, 2000; Kasser & Ryan, 1996; Michalak et al., 2004; Oishi et al., 1999).

Individuals who are more intrinsically oriented are also likely to be more capable of coping with stress and problematic situations because they are goal focused and have the capacity to exert sustained effort over time as they continue to strive for their goals (Michalak et al., 2004; Sheldon et al., 2003; Sheldon & Elliot, 1999). “The process of moving toward one’s aspirations may be more important to well-being than the end-state of goal attainment” (Diener, Suh, Lucas, & Smith, 1999, p. 283). This conceptualisation is strongly supported by the ACT therapeutic approach whereby values are chosen by individuals and provide purpose and direction for one’s behaviour over their lifetime (S. C. Hayes et al., 2005).

In relation to ACT, experiential avoidance and cognitive fusion and inaction as a result of distressing feelings and thoughts is more likely to result in value-incongruent behaviour (Masuda et al., 2007). Such individual’s are more likely to avoid meaningful

activities, such as their own relationships with family members or work colleagues, and possibly present themselves in a certain way to avoid disapproval or social rejection (John & Gross, 2004). John and Gross (2004) describe this as presenting an inauthentic self. An inauthentic person is more likely to engage in suppression, a form of experiential avoidance, which could result in "an impoverished social network and the erosion of the individuals social support, particularly in terms of its socioemotional aspects (John & Gross, 2004, p. 1318). Given the findings obtained in the current study, this particular sample of police officers do not appear to engage in a high level of experiential avoidance, or choose their values based on extrinsic reasons.

In the current study, the exploration of the content of values was limited to examining which of the PVQ life domains were actually more prominent. Police officers responded least to the values of spirituality and community / citizenship. In relation to community values, many police officers commented on the PVQ measure that they felt that their occupation already meant that they were heavily involved in engaging in community and citizenship behaviours. Thus, they did not feel that they needed to contribute any more, or change what they were doing. As for the PVQ domain of spirituality, the majority of participants indicated that they did not respond to this domain because they were not religious and / or did not have any spiritual beliefs.

Finally, a brief comment will be made as to why participant's level of success with other PVQ value domains did not occur. Following the ACT intervention, participants indicated that they were significantly more successful at living their family relationship values and no other significant results were obtained for any of the remaining values. This is not to say that the other value domains were not important to participants. In fact, participants conveyed that each of these value domains were very important, they were very

committed to these values, and they also wanted to improve their progress in these value domains. Thus, even though there was no significant change in success, it is possible that participants were still engaging in value-driven behaviour for each of the remaining domains. What they really wanted to work on the most was their family relationship values.

7.2.2 Link between the PVQ and other key ACT measures

Part of the values analyses involved examining the way in which the items of the PVQ correlated with the outcome and process measures used in the study. As stated in Chapter 6, not all correlations were significant; however, a general pattern was evident.

Firstly, the extrinsic variables (i.e., extrinsic and introjected reasons for choosing values) were found to be related to negative indices of well-being (i.e., depression and stress) and to lower levels of acceptance, poorer general mental health and less innovativeness. These same variables were also negatively related to success, commitment and high importance ratings given to values. Secondly, intrinsic variables of the PVQ, which included choosing values because they are meaningful, fun and important to me, was found to have the opposite effect to that found for the extrinsic variables. That is, intrinsic items were associated with better general mental health, higher levels of innovativeness and acceptance, and lower levels of depression and stress. Intrinsic variables were also found to be associated with higher self-reported success with values, higher commitment and importance.

This result reflects the theoretical and practical findings related to Self-determination theory (SDT). Theoretically, an individual who engages in behaviour for intrinsic reasons is more likely to experience personality integration, greater creativity, and enhanced well-being (Ryan & Deci, 2000; Sheldon, 2001). This is further supported by

practical research which has found that individuals who describe their actions as based on intrinsic reasons are more likely to be autonomous and self-determined, and have been found to display greater creativity, cognitive flexibility, higher self-esteem and better physical and psychological well-being (Kasser & Ryan, 1996; Lee et al., 2003; Ryan et al., 1996; Sheldon et al., 2004). In addition, intrinsic values have been found to be positively correlated with positive affect, while negatively correlated with negative affect (Ingledew, Wray, Markland, & Hardy, 2005). These findings support the results obtained in the current study.

An interesting finding was that 'wanting to improve' on one's values was related to increases in depression and stress, and less success with living one's value. The fact that wanting to improve related to negative indices of well-being and lower levels of success is consistent with an ACT conceptualisation of what happens when an individual is not engaging in a value-driven life (S. C. Hayes et al., 1999; Strosahl et al., 2004; K. G. Wilson & Luciano, 2002; K. G. Wilson & Murrell, 2003). For example, it is argued that when an individual becomes aware that they are not living their values, feelings of distress and sadness may arise, along with related thoughts. These feelings arise as a result of connecting with the inherent pain of not doing something that is meaningful and vital to them. These private psychological experiences are quite normal in the context of not living a valued life, however, it can result in increases in experiential avoidance and cognitive fusion, and thus the individual may engage less in value-driven behaviour in order to escape and avoid the difficult private experiences. Meanwhile, engaging in value-driven behaviour does not necessarily reduce the experience of difficult psychological content, rather, it seems that individuals experience greater overall well-being given they are engaging in personally meaningful values and behaviour. Thus, including a follow-up

component of the MBEIT program would be very helpful to assist individuals in working through difficult private experiences while still pursuing their values. These issues will be elaborated in Section 7.4.

7.3 Research Limitations and Additional Recommendations

There were several methodological limitations of the current study and issues relating to the selection of measures and participants, as well as the shortcomings identified in the assessment of adherence to the ACT program have already been discussed. However, there are several other limitations of the present study.

Firstly, the current research relied exclusively on self-report measures of outcome variables during the intervention, and after the completion of the intervention. It is important to include more objective measures when researching the effect of worksite stress and programs implemented to help workers manage this stress (Murphy, 1984, 1999). It would have been useful to include measures of directly observable behaviour change. This may be obtained in the form of participant's sick leave, and participant's performance evaluations or appraisals, such as 360 degree performance ratings. Essentially the 360 degree feedback process is where information about an individual's workplace behaviour and the impact of their behaviour on other's is obtained from the individual's workplace colleagues, including supervisors, and fellow team members (Koebelin, 1999; Lepsinger & Antoinette, 1997). According to Bayliss (2008) these kinds of performance appraisals have been used in the NSW Police, however, they are quite labor intensive to conduct, and it is likely that not all colleagues will want to participate. Still, such ratings could identify significant changes following participation in the ACT program, such as whether supervisor – staff interactions and interactions with other work colleagues had improved, and whether

participants had engaged in behaviour that reflected their identified work values and related goals.

It is also a concern that there was such a large drop-out of participants from the control group from Time 1 to Time 3. Some of the reasons for this were due to staff changing work locations, not returning the questionnaires within a reasonable time period, and losing interest in the study. It is also important to note that the nature of the majority of a police officers work is very busy, and may involve a large amount of paper work, as well as being away from the station doing their policing duties. As a result it was easier to obtain the intervention participants measures because they were completed at the beginning of a group session. Future research should consider providing an incentive for police officers to complete measures, particularly those in the control condition, given that this burden is likely to occur over and above usual duties. For some the incentive of being offered a place in the program may be sufficient.

Despite the high level of attrition between the two groups in the study, there were no significant differences found on the study variables between those participants who did not complete and those who remained involved in the study. In spite of these limitations, most hypotheses were able to be tested and positive results were found for mental health outcomes. The trial has provided rich information to refine the program further and a modified program has been implemented within the NSW police organisation (and will be discussed shortly).

7.4 ACT Program Implementation and Implications for the NSW Police Organisation

Policing is stressful and the most significant job-related stressors are usually organisational stressors as opposed to operational stressors. Organisational stressors are

associated with strict adherence to policies, procedures and the ‘chain of command’, which has long been associated with policing. Deci and Ryan (2000) argue that organisations that provide support for employees and encourage autonomy, as opposed to excessively controlling employees behaviour, are more likely to increase their employee’s satisfaction with work, increase their intrinsic motivation and improve their well-being.

Logistically and realistically, it is unlikely that police organisations would change significantly to increase employee autonomy. However, this could prove to be particularly beneficial for police organisations, especially the NSW police organisation, given that in the current environment it has been identified that there are a high number of police officers taking sick leave and who are currently absent from duties due to stress (Bayliss, 2008). The question then is how the police organisation can facilitate such ‘autonomy support’, given the authoritative and hierarchical nature of the police force, where control is such an inherent quality of the organisation and the police culture. What is needed is the implementation of a program that develops and promotes beneficial coping strategies to help police officers deal with stress more effectively, as opposed to utilising avoidance-based strategies that over time can have such detrimental consequences for the individual, the organisation and the individual’s family (see Chapter 1). The importance of organisations addressing work / family balance is also increasingly being recognised, with several countries adopting workplace health models that include this as an important component of employee well-being (Wang, 2006).

A recent study of 60 NSW trainee police officers followed them from the recruitment phase into the workplace to examine the impact of avoidant coping strategies upon the participants (V. Williams et al., 2008). It was found that individuals lacking in acceptance-based emotion-focused coping strategies such as mindfulness and emotion

identification skills were more likely to experience poorer general mental health. The MBEIT (ACT-based) program could be considered as an important first step that can be used to encourage the use of a more effective coping strategy in a culture where avoidance and suppression is the common and accepted coping strategy. Participants involved in the current program have also indicated that they have experienced improvements in their relationships, by way of better communication both personally and professionally, and succeeding in living family relationship values. This is certainly a positive step to improving work / family balance and reducing stress.

Whilst, this is a good first step, in order to improve the success of organisational interventions to tackle occupational stress, the approach must be comprehensive and involve three main elements: the involvement of employees; strong commitment from management; and a supportive organisational culture (Bond, 2004; Demerouti et al., 2004; Murphy, 1999, 2003). Given the potential benefits of the program, it will be also be important for the organisation to consider the implementation of the ACT program across all ranks of police officers, including recruits. There may need to be modifications made again to make the program more relevant to the different stages of a police officers career (i.e., from recruit to Inspector to Commander). At this stage, the NSW police organisation has committed to improving the problems that exist in relation to occupational stress and sick leave, by implementing programs that enhance ‘emotional intelligence, ‘resilience’ and ‘leadership’. Hence, there appears to be a proactive approach and commitment from the organisation.

The program at this stage is a modified version of the original ACT program and has been limited to higher ranking police officers such as Inspectors and above. The program is advertised as a ‘Resilient Leadership Program’ and has been reduced to a one-

day session. In this session, the focus is on improving or enhancing leadership skills, and all the components of the ACT intervention are included to facilitate the development of leadership skills. There is still a heavy emphasis on values and identifying goals and committed action in relation to participant's identified values, while developing skills (i.e., mindfulness, cognitive defusion and social skills) to deal with difficult psychological content that may arise. Anecdotal reports (Bayliss, 2008, personal communication) indicate that many of the participants find the workshop very helpful and have asked about follow-up courses and/ or personal coaching to assist with skill development, problem solving and guidance in relation to both personal psychological barriers and work-place barriers that disrupt their ability to engage in value-driven behaviour.

Deci and Ryan (2000) argue that providing a context that supports satisfaction of individual values and promotes individual differences such as acceptance are important for helping individuals to achieve their values, which can then facilitate intrinsically motivated behaviour. The ACT program appears to be beneficial in supporting participant's values, particularly in relation to improving police officers family relationships. This may simultaneously improve work-family conflict and lead to more balance between work and family commitments, and thus less stress overall.

7.5 Conclusion

There is no question that policing is a stressful occupation, and if managed poorly can result in detrimental consequences for the police officer's health and well-being, their family and social relationships, and the organisation in which they work. Adding to this is the problematic nature of certain coping strategies that some police officers use, of which avoidance seems to be the main culprit. This particular strategy is often reinforced by a

police culture that emphasises the importance of police being strong, rational, and non-emotional. While there have been numerous programs implemented to reduce the impact of stressors and improve police officer's coping abilities, in the current study a program that directly targets emotions was investigated. The program is based on ACT theory and practical strategies, and was used to increase police officers use of acceptance-based emotion-focused coping strategies. Part of this research also involved investigating the mediators of change in an ACT-based worksite stress management intervention.

The results obtained indicated that the ACT program is effective in improving police officers' general mental health. Unlike previous research using ACT-based SMIs which found acceptance to be the mediator of change, this was not confirmed in the current study. It is possible that improvements in mental health may be due to other ACT processes. For example, participants' reported significant increases in their level of success with engaging in their family relationship values, which may be inadvertently related to improvements in well-being. This pattern reflects the influence of important ACT core processes believed to be involved in improving an individual's physical and psychological well-being and enhancing psychological flexibility.

Future research using the ACT program should be conducted with police officers who may be experiencing higher levels of strain or stress than the police officers in the current study. It is possible that this relatively high functioning group diluted the potential effect of the ACT program (as has been found in previous research, Bunce, 1997; Bunce & Stephenson, 2000; Flaxman, 2006). Additional research using the ACT program may also need to consider the inclusion of other measures, such as other acceptance based measures, or a police specific AAQ, as well as utilising more specific police measures that explore the impact of organisational and operational measures. Finally, it is recommended that research

be continued with this particular population especially given promising improvements in mental health and some value domains, even though participants were quite high functioning.

There is an increasing need for effective worksite SMIs to be implemented within police organisations, particularly those that target avoidance of emotions which is so inherent within the police culture. The ACT program, in a modified form, is continuing to be used with the police and anecdotal feedback indicates that the program is beneficial. It is important that the organisation support and show employees their commitment to such programs and their ongoing evaluation in the future.

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Appendices