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# ***RE:SOLVE***

*An acceptability and feasibility study of problem solving therapy for young people at risk of self-harm.*

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**Joanne Blackett**

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## ***Abstract***

In this thesis I have presented an iterative mixed methods programme of work designed to respond to the problem of self-harm among young people in New Zealand. My overall aim was to test the acceptability and feasibility of RE:SOLVE problem solving therapy for young people at risk of self-harm and for the practitioners who delivered the intervention. The programme of work is made up of seven studies in total. The first four studies evaluated the acceptability and feasibility of a client manual and practitioner training manual both prior to and during the open trial. The fifth study tested whether it was acceptable and feasible to train practitioners in the RE:SOLVE problem solving therapy intervention via a one day workshop. The sixth study was an open trial of the RE:SOLVE problem solving therapy intervention in a clinical context and the seventh study was an evaluation of the training, the open trial, and the RE:SOLVE programme by practitioners who took part.

The results showed that the client workbook and the practitioner training manual were found to be acceptable and feasible to the young people and practitioners who used them. The training workshop was found to be acceptable in terms of content although the feasibility of learning the entire content in a one day workshop was not established. The open trial had a number of limitations such as a small sample size, no control group and no randomisation. Two thirds of participants completed the therapy and assessments with one third not completing. This is of concern because it is difficult to engage and retain young people at risk of self-harm in therapy. For those who completed all assessments, the results showed statistically and clinically significant reductions in levels of depression and suicide from pre to post test. All other measures showed consistent improvements although they did not reach statistically significant levels. The intervention showed promise but it needs to be tested in a randomised control trial.

## *Dedication*

This work is dedicated to my spirited mother,  
Along with all of those who have gone before me;  
And to my engaging and inspirational son,  
Along with all of those who have come after me.

## *Acknowledgements*

It is a privilege to be able to undertake a PhD and it is not a solitary endeavour, although at times it can be a lonesome one. Rather, it is a process that involves energy and input from an entire community and I wish to acknowledge some of the wonderful people who have supported me.

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# ***Chapter One: Introduction***

## ***Overview***

In this thesis I investigate whether problem solving therapy is an acceptable and feasible intervention for young people at risk of self-harm. I also investigate whether problem solving therapy is acceptable and feasible for the practitioners who work with these young people. In this first chapter I provide an introduction, and overview of, the entire thesis. I begin by providing a working definition of self-harm for the purposes of this work, followed by an outline of the problem of self-harm and suicide in New Zealand/Aotearoa and a brief discussion of why suicide and self-harm among young people is a problem. I then provide a short description of problem solving therapy, consideration of what studies have been done before in this area, followed by an overview of the chapters in the thesis.

## ***Definition of suicide and self-harm***

To explore the problem of suicide and self-harm it is important to define these terms in the context of this work. This is a contentious area and definitions vary. For example, in the United States, suicide attempt is commonly used to denote self-harm with intent to die and is differentiated from non-suicidal self-injury which is defined as self-harm without intent (Hargus, Hawton, & Rodham, 2009). Deliberate self-harm, or self-harm, is more commonly used in Europe, and encompasses all acts of intentional self-injury or self-poisoning regardless of intent (Hargus et al., 2009; Kapur et al., 2006), although more recently the term “deliberate” has often been dropped. The New Zealand Suicide Strategy separates out self-harm into attempted suicide and deliberate self-harm. Attempted suicide is described as an intentional act of attempted suicide that is non-fatal. Deliberate self-harm is differentiated from this as being “...behaviours that may or may not result in serious injury, but are not intentionally fatal.” (Associate Minister of Health, 2006, p3).

The key area of contention here is suicidal intent and how it can be understood or attributed. Determining suicidal intent (or lack of) is notoriously difficult. The intentions of someone who is suicidal, or who has harmed themselves, may not be singular or clear (Andriessen, 2006) and fluctuating mood states affect how easy it is to gain accurate information from young people about their intentions (Fortune, 2006). People may also have ambivalence around their intent to die or their retrospective analysis of their intention may change after they have received clinical attention (Fortune, 2006). As Moorey (2010, p 136) notes, “people cannot always remember or describe their emotional state and wishes prior to the event”. Further, using method as a proxy for determining intent is also problematic

(Fortune, 2006) because a person may have a strong intent to die, but choose a non-lethal method, or have a low intent to die but choose a potentially lethal method (Fortune, 2006; Goldston, 2003, in Daniel and Goldston, 2009). Intentions can also vary, with adolescents who engage in multiple episodes of self-harm reporting that their motives and intent varied across episodes (Hargus et al., 2009).

Irrespective of intent, all self-harm behaviour carries a heightened risk of repeat self-harm and future death by suicide compared to the general population (Goldman-Mellor et al., 2014; Hargus et al., 2009; Kapur et al., 2006). In an anonymous self-report cross sectional study of 15 and 16 year olds in a UK study, there was considerable overlap in the vulnerability factors across students who experienced suicidal thoughts, had engaged in self-harm without intent, and who had engaged in self-harm with intent, with few distinguishing characteristics between them (Hargus et al., 2009). At the same time there were considerable differences in vulnerability factors between those who had never had suicidal thoughts or behaviours and those on the self-harm continuum (Hargus et al., 2009). This is consistent with findings from a longitudinal New Zealand study in which those who had either experienced suicidal ideation or suicide attempt in adolescence all had an increased risk of subsequent suicidal ideation, suicidal behaviour, and major depression in young adulthood (Fergusson, Horwood, Ridder, & Beautrais, 2005). Additionally there was a dose response, with those having engaged in self-harm being at greater risk than those who had thoughts only, who in turn were at greater risk than those with no thoughts or behaviours (Brezo et al., 2007; Fergusson et al., 2005). These combined findings support the understanding of suicidal behaviour as being on a continuum which nevertheless all carries a heightened risk of fatality (Beautrais, 2000; Fergusson et al., 2005; Hargus et al., 2009; National Institute for Health and Care Excellence (NICE), 2011).

Non suicidal self-injury has emerged recently as a category distinct from other categories of self-harm (Washburn et al., 2012) and it has been included as a unique diagnostic category in the DSM V. However there are a number of potentially troubling aspects to this definition. First, it does not appear to address the difficulties with determining intention. For example, there is a strong association between non-suicidal self-injury and suicidal behaviour and around a third of people engage in non-suicidal self-injury while having suicidal thoughts (Kapur et al, 2006). Further, self-cutting that results in hospital treatment is associated with a stronger risk of future death by suicide than self-poisoning in adults and adolescents (Kapur et al, 2006). Therefore this makes the name “non-suicidal” self-injury misleading. Second, the definition of non-suicidal self-injury is restricted to burning,

cutting, stabbing, hitting or excessive rubbing. It therefore stands to exclude people from potential help given that self-harm methods change over time and this unique category does not reflect this reality. Third, non-suicidal self-injury is seen as being largely an emotional regulation tool but this can be equally true for any self-harm episode. Further in any one person motivations may be multiple (e.g. relief from distressing emotions, wanting to die, wanting to punish oneself) and may vary from episode to episode. Finally, given that there is no established effective treatment, it gives a young person the burden of a diagnostic label without necessarily being able to connect them to useful evidence based help.

Therefore an assumption of elevated risk should underpin any definition of self-harm and promote broad inclusiveness of those who may be at future risk of self-harm. For the purposes of this project, self-harm is defined as any deliberately initiated act of self-harm with non-fatal outcome regardless of intent or motive. This includes, but is not limited to, self-poisoning, self-injury, self-strangulation, and attempted hanging. When referring to or reporting from other papers, the terms used in that article are also used in this paper, hence there is some variation in terms. A potential risk of self-harm in this study was assumed if the young person had a history of self-harm, expressed thoughts of wanting to harm themselves, or if they presented with depressive symptoms or significant anxiety. The inclusion of depressive symptoms and anxiety was based on recognition of mental health factors being strong risk factors for self-harm, even though the majority of people who experience depressive symptoms and anxiety do not go on to harm themselves. For example, Rodham et al. (2004) note that prevention and treatment of self-harm should focus on reducing the problems that lead to self-harm, helping young people improve their problem solving and manage emotions, as well as ask for help.

### ***The nature of the problem***

#### *National data*

The problem of self-harm and suicide among young people in New Zealand/Aotearoa is important. Every year in New Zealand/Aotearoa, around five hundred people die by suicide. In 2011, there were 478 suicides with more than three times the number of deaths for males (369) than for females (109) (Ministry of Health, 2014). In addition, over two and a half thousand people across New Zealand/Aotearoa are recorded as spending time in hospital following an episode of self-harm every year, and females accounted for nearly twice the number of these presentations than males (Ministry of Health, 2014). Along with differences according to gender, deprivation is a factor, with those living in the greatest levels of deprivation having both higher rates of death by suicide (14 deaths per 100,000) and higher

rates of hospital presentations for self-harm (82.2 per 100,000) than those living with the least deprivation (8.4 deaths per 100,000 and 38.6 per 100,000 self-harm presentations) (Ministry of Health, 2014).

#### *Youth data: Completed suicide*

While suicide is undoubtedly an issue for people of all ages, over twenty per cent of completed suicide occurs in the 15 – 24 age group. For example, in 2011, 124 (25%) of all suicides occurred in young people aged 15 – 24 years old (93 male, 31 female) (Ministry of Health, 2014). Suicide is now the leading cause of death for this age group as well as accounting for nearly a third of all deaths for this age group (Ministry of Health, 2014). Further, our youth suicide rates are high by international standards. International comparisons can be difficult due to differing methods of data collection and classification, issues of religion, social class, occupation of suicide victims and confidentiality (Andriessen, 2006). Nevertheless, when compared with other OECD countries, the rates of death by suicide for both young males and females in New Zealand/Aotearoa are the second highest (Ministry of Health, 2014). A disproportionate number of these young people are Maori, with Maori youth dying by suicide at a rate 2.4 times higher than that of non-Maori youth (Ministry of Health, 2014).

#### *Youth data: Self-harm*

In addition to these deaths, in 2011, 834 (31%) of all 2,647 recorded self-harm hospitalisations were for young people aged between 15 and 24 (Ministry of Health, 2014). The greatest number of hospital presentations following self-harm were made by those in the 15-19 year old age group, with those in the 20 – 24 year old age being second (Hatcher, Sharon, & Collins, 2009; Ministry of Health, 2014). The rates for female presentations (212 per 100,000) are more than twice those made by males (80.8 per 100,000). This is consistent with international findings. For example in a systematic review of the international prevalence data, a mean proportion of 9.7% of adolescents reported having attempted suicide at some point in their lives, and 29.9% reported they had thought about it (Evans, Hawton, & Rodham, 2005a). Females were found to be significantly more likely to report suicide related behaviour (Evans et al., 2005a). Looking across all ethnic groups in New Zealand there were 181 (76 male, 105 female) hospitalisations for Maori; 43 (15 male, 28 female) for Pacific people; 36 (10 male, 26 female) for Asian people; and 574 (160 male, 414 female) for “Other” (this category refers to all those who do not identify as Maori, Pacific or Asian, including New Zealand European and other categories) (Ministry of Health, 2014).



As well as age, ethnicity and deprivation heightening risk, New Zealand students who are attracted to the same sex or to both sexes also show heightened vulnerability to suicidal behaviour (Lucassen et al., 2011). This is demonstrated by data from one of the studies in the cross-sectional population based Youth 2000 series of surveys of adolescent wellbeing. These surveys have been carried out in New Zealand in 2001, 2007 and 2012 with nationally representative samples (9699 participants, 9,107 participants, 8,500 participants respectively) of year 9 to year 13 students. In the 2001 study, students who were attracted to the same sex or both sexes were more likely to report a suicide attempt (20%) than their opposite sex attracted counterparts (4%) (Lucassen et al., 2011). They also showed higher levels of depression, self-harm and other suicidal behaviours ((Rossen, Lucassen, Denny, & Robinson, 2009). In addition students who identify as transgender are at heightened risk, with 1 out of 5 reporting they had attempted suicide in the previous 12 months (T. C. Clark et al., 2013).

Official figures, such as those from hospitals, are not an accurate indication of the actual occurrence of intentional self-harm within this age group or any other. In 2011, for example, 3643 self-harm admissions, across all ages, were excluded from Ministry of Health data analysis (Ministry of Health, 2014). The exclusion of this data is primarily because there are differences in reporting across the different District Health Boards and in order to standardise the data, these exclusions were deemed necessary (Hatcher et al., 2009; Ministry of Health, 2014). Therefore, to be included in the hospitalisation statistics, a person must have been admitted medically or psychiatrically for at least 48 hours (Hatcher et al., 2009; Ministry of Health, 2014). It is not specified how many of these exclusions were of young people.

This under reporting of self-harm is further highlighted by the Youth 2000 series, in which 739 (7.8%) students (4.7% males, 10.5% females) out of a total of 9570 respondents reported a suicide attempt in the last 12 months and these rates peaked at age 15 (T. M. Fleming, Merry, Robinson, Denny, & Watson, 2007). These figures are higher than for a similar anonymous cross sectional study of 15 and 16 year olds in the United Kingdom in which a total of 6% of young people reported deliberate self-harm with or without suicidal intent (Hargus et al., 2009). When comparing these numbers with nationally reported hospital presentations, it is evident that the hospital presentations represent a minority of self-harm behaviour among young people in New Zealand.

In the 2007 Youth 2000 survey, questions were included about whether, in the past 12 months, students had serious thoughts about killing themselves; made a plan about how they would kill themselves; intentionally harmed themselves; or attempted to kill themselves. The

findings showed that 19.4% of female students and 9.4% of male students had suicidal thoughts with a greater proportion of Maori students reporting suicidal thoughts (17.4%) than their New Zealand European counterparts (12.4%). In addition, 26.0% of female students and 6.1% of male students reported they had deliberately hurt themselves or done something they knew may have harmed or even killed them. A reported 11.5% of female students and 6.1% of male students made suicide plans. Again, there were a greater proportion of Māori (11.1%) and Pacific students (10.8%) who reported a suicide plan compared with New Zealand European students (7.4%) (Fortune et al., 2010). Finally, 6.7% of female students and 2.9% of male students reported they had attempted suicide with the proportion of Pacific students (8.2%) and Māori students (6.9%) who reported a suicide attempt in the past 12 months greater than the proportion of New Zealand European students (3.6%). In addition, those who come from low socio economic areas (6.8%) reported higher levels of suicide attempt than those from higher socioeconomic areas (3.6%). These rates are broadly comparable to an international review of 124 population based studies which were conducted predominantly in North America but also Europe, Australia and New Zealand. A very small number of the studies were conducted in Asia, South/Central America, Mexico and Africa. In this review, a mean proportion of 9.7 % adolescents were estimated as having ever made a suicide attempt (Evans et al., 2005a).

These combined data show that a significant number of young people are thinking about, or engaging in self-harm. It represents a continuum of behaviour that for a minority, culminates in completed suicide (Beautrais, 2000) and, for others has long term implications for health, outlined below.

### ***The significance of the problem***

Self-harm among young people is significant because it is common (Evans et al., 2005a); it signals emotional distress, is associated with mental disorders, and it is a strong predictor of future death by suicide (Beautrais, 2003; Fergusson et al., 2005; Hargus et al., 2009). It is also a predictor of increased rates of poorer health outcomes overall (Goldman-Mellor et al., 2014) and greater all-cause mortality over the life span (Hatcher et al., 2009). Self-harm is costly in economic, social and emotional terms (O’Dea & Tucker, 2005). And yet, despite significant efforts, there is still limited evidence about how to effectively intervene with young people at risk of self-harm (De Silva et al., 2013).

### *The economic costs of self-harm*

Self-harm results in significant costs to society (Hatcher et al., 2009). These include economic costs such as the services involved with suicides and suicide attempts along with costs borne from loss of productivity; and non-economic costs such as the lost years of life, lost years of a disability free life and the grief and suffering of those affected (O’Dea & Tucker, 2005), along with the loss of future generations when suicide is completed. Internationally, among adolescents, mental health disorders – including substance misuse - are the largest contributor in years lost to disability for people aged 10-24 (Gore et al., 2011). While these economic costs are significant, they are outweighed by the non-economic costs (O’Dea & Tucker, 2005).

### *The non-economic costs of self-harm*

The non-economic costs of self-harm include a heightened risk of future self-harm and possible death by suicide (Beautrais, 2003; Fergusson et al., 2005) since a history of past self-harm is the strongest and most clinically relevant predictor of future repetition (Fortune, Sinclair, & Hawton, 2008). In fact, around 1% of all people who self-harm will complete suicide in the following year. This heightened risk continues for the next ten years (Hatcher et al., 2009). Adolescents who self-harm also have poorer overall mental health and general health outcomes as adults (Fergusson et al., 2005; Goldman-Mellor et al., 2014), including higher all-cause mortality and morbidity rates (Gore et al., 2011). For example, in a longitudinal cohort study that tracked the outcomes of young suicide attempters into midlife, it was found that they had higher rates of mental health difficulties, more physical health problems, engaged in more violence, had higher rates of long-term unemployment with associated welfare dependence and felt lonelier and less satisfied with their lives (Goldman-Mellor et al., 2014).

### *Self-harm is a public health issue*

Self-harm signals emotional distress on the part of the young person involved (Goldman-Mellor et al., 2014). Therefore identification and early intervention for those at risk of self-harm is important to ameliorate their current difficulties and the potential for poorer outcomes over their lifespan (Goldman-Mellor et al., 2014) . This is a public health issue and challenge. In a paper discussing a public health strategy to address suicide prevention, Wenzel et al. (2009) cite five steps for preventing suicide from the National Strategy for Suicide Prevention (U.S. Department of Health and Human Services (HHS) Office of the Surgeon General and National Action Alliance for Suicide Prevention., 2012). These are defining the

scope of the problem; assessment of risk and protective factors; developing and testing interventions; implementing and testing evidence based interventions in the community; and dissemination and programme evaluation of suicide prevention efforts (p 313).

In New Zealand, public health efforts are underpinned by The New Zealand Suicide Prevention Strategy 2006-2016 (Associate Minister of Health, 2006), providing an across sector framework of response. This strategy is implemented via the New Zealand Suicide Prevention Action Plan 2013-2016 (Ministry of Health, 2011), and sits alongside the Prime Minister's Youth Mental Health Project (<http://www.health.govt.nz/our-work/mental-health-and-addictions/youth-mental-health-project>), the National Depression Initiative (New Zealand Guidelines Group., 2008), and the Like Minds, Like Mine (Ministry of Health and Health Promotion Agency, 2014) programmes. The principles of the Suicide Prevention Strategy specify, among other things, that interventions should be evidence based, safe and effective, responsive to Maori, and recognise and respect diversity (Associate Minister of Health, 2006). The strategy also highlights issues for different population groups. Of particular relevance for this study is the need for interventions to take note of age and developmental variances in risk factors for suicidal behaviour (Associate Minister of Health, 2006).

### *Suicidal behaviour in adolescence*

Suicidal behaviour peaks in adolescence (Daniel & Goldston, 2009; Hawton et al., 2012). The reasons for this are uncertain but may be related to developmental changes at this time undermining emotional control and making dealing with stress harder (Hawton et al., 2012). It may also relate to the phenomenon of the contagion of suicidal behaviours and greater likelihood of being exposed to peers who self-harm during adolescence. In addition, adolescents commonly have limited autonomy (Daniel & Goldston, 2009) so if their problems are family related, they are likely to have little opportunity to get away from these sources of stress. They might also be dealing with tension between wanting increased self-determination while their parents still want to monitor and discipline them or be struggling with their need for individuation versus family dependence (Daniel & Goldston, 2009). The rates of suicidal behaviour become lower in later adolescence and early adulthood (Beautrais & Fergusson, 2006; Hawton et al., 2012), but the proportion of self-harm that occurs with suicidal intent increases with age (Hawton et al., 2012).

### *Help-seeking*

Young people are often reluctant to seek help for life problems. For example, one New Zealand study showed that less than a quarter of adolescents who had received a mental health

diagnosis had sought any help for their problems at ages 15 and 18 (Fergusson et al, 1993). More recently, in a self-report cross sectional study of secondary school students, over 80% of students who had significant mental health problems had not sought help from a GP (Marius, Merry, Robinson, & Watson, 2012). This reluctance is of concern, particularly because the difficulties generating young peoples' distress may well be solvable. For example, issues relating to family, friends, schoolwork, substance related problems, sexuality, intimate relationships, trauma and related problems play a role in youth suicide (Hawton & Harriss, 2008). In addition, a group of New Zealand under graduates cited pressure to perform, abuse and neglect, financial pressures and boredom as causes of youth suicide (Fortune et al., 2008). They further suggested a number of ideas on preventing self-harm with the most common suggestion being the opportunity for communication including talking, listening, receiving or giving advice, and speaking about problems (Fortune et al., 2008). This issue is addressed at greater depth in Chapter 2.

### *Young people are high risk*

Young people are a high risk population in need of targeted suicide prevention (Beautrais, 2000; T. M. Fleming et al., 2014; Ministry of Health, 2014), that does not depend on presentation to hospital since many who self-harm never go to hospital (see pp 4 – 6). These targeted efforts are important for improving overall health outcomes for young people. This is evidenced in a longitudinal study exploring suicide attempt as a signal for long term health needs, in which it was found that those young people who attempted suicide had poorer health outcomes overall in adulthood. This was true even after controlling for any long term attention required for pre-existing psychiatric history. This suggests that young people who attempt suicide may benefit from long term follow up care in the years after their attempt (Goldman-Mellor et al., 2014).

There is also a need to better recognise the presence of mental health difficulties among young people and support them to seek help (Marius et al., 2012) given the links between mental health difficulties and self-harm. For example, New Zealand estimates of the prevalence of mental health issues during adolescence are 22-24% at age 15, and 35-36.6% at age 18 (Marius et al., 2012). This is consistent with international evidence that a large proportion of adult mental health issues start in adolescence (Brezo et al., 2007; T. M. Fleming et al., 2014; Gore et al., 2011).

### *Schools as a venue for help*

Secondary schools are an important possible venue for delivering such help (Mariu et al., 2012). They can be a safe place for assessment, management and prevention of self-harm (Doey & Steele, 2008), especially since school counsellors are viewed by young people as the most likely to be helpful with mental health matters (Robinson et al., 2013a) and school counsellors are equipped to assess self-harm and provide help. This is important given that self-harm peaks around age 15. In New Zealand, school counsellors are independently accessible for young people which reduces barriers to seeking help. Further, feeling safe at school has been independently associated with decreased rates of suicide attempts among New Zealand secondary school students (T. M. Fleming et al., 2007) while having a teacher get to know them is significantly associated with help seeking behaviour (Mariu et al., 2012). Young people themselves suggest that school counsellors and mental health programmes should be available in schools (Fortune et al., 2008). Offering treatment in school settings can expand social support networks, foster school connectedness, address school related stress, overcome barriers to treatment, and provide a setting in which coping can be practiced (Daniel & Goldston, 2009).

### *Risk and protective factors*

There are numerous risk and protective factors that contribute to the context from which self-harm arises (see chapter two). However, one important psychological characteristic identified in suicidal behaviour is a deficit in social problem solving skills (Orbach et al., 2007; Speckens & Hawton, 2005) or maladaptive cognitive processes (Esposito, Spirito, Boergers, & Donaldson, 2003). For example, distress can limit problem solving abilities, and make rigid thinking more likely (Daniel & Goldston, 2009). Therefore, several studies have focussed on improving these skills in the hope that reductions in risk for suicidal behaviour will be the outcome (Biggam & Power, 2002; Donaldson, Spirito, & EspositoSmythers, 2005; Eskin, Ertekin, & Demir, 2008; Lerner & Clum, 1990; McLeavey, Daly, Ludgate, & Murray, 1994; Salkovskis, Atha, & Storer, 1990). These studies form the basis of the literature review in chapter four. Given the prevalence of life problems in their presentation, and the strong association between suicidal behaviour and problems, a therapeutic intervention which equips young people to problem solve more effectively is likely to be useful. Problem solving therapy, administered by school guidance counsellors, may be a promising way forward.

## ***What is Problem Solving Therapy?***

Problem solving therapy is a psycho educational intervention that fits broadly within a Cognitive Behavioural approach (see chapter 3). Originally developed by D'Zurilla in the 1970's, problem solving therapy is a brief intervention that involves three key components. These are problem orientation, problem solving skills, and solution implementation. These three components overlap, and are also distinct processes.

Problem orientation is the motivational aspect and relates to self-efficacy. It is made of our thoughts and beliefs about problems in general and our thoughts and beliefs about our own ability to solve problems (Nezu, Nezu, & D'Zurilla, 2006). It describes one's overall attitude or mindset in relation to problem solving. Problem orientation is important because it has a strong influence on how people respond when they encounter a problem. It also contributes to a person's unique problem solving style, characterised as being either rational, avoidant or impulsive/careless (D'Zurilla & Nezu, 2007). Positive problem orientation can be learned or attained, in part through the successful resolution of problems.

Problem solving skills are used to find solutions to apply to a given problem. This involves learning a progression of steps starting with how to recognise and identify problems; how to define them clearly; how to generate solutions; and how to evaluate ideas with potential to arrive at a chosen solution.

Finally, solution implementation is about carrying that chosen solution out through creating a step by step action plan and implementing it. Solution implementation can require different skills across varied solutions. Clients may already have skill sets specific to one or other of these processes or they may need support with each. This also involves evaluating the effectiveness of the action plan once it has been carried out.

## ***What's been done before?***

There are insufficient data from controlled trials to recommend any one intervention for suicidal youth (Daniel & Goldston, 2009). In an evidence map that sought to explore what good quality evidence exists regarding prevention and interventions for suicidal and self-harming behaviour among young people, De Silva et al. (2013) concluded that the current evidence base is inadequate. Some promising interventions were found, including school-based prevention programmes with a skills-based component, individual cognitive behaviour therapy interventions (which included problem solving therapy studies), interpersonal psychotherapy and attachment-based family therapy. However there is a gap between the limited evidence and current practice. There is a need to encourage the uptake of evidence

based practice by clinicians to best meet the needs of individual people who are seeking help (De Silva et al., 2013). Several other reviewers endorse this finding. They cite such problems as a paucity of studies (Daniel & Goldston, 2009; Hawton, Kingsbury, Steinhardt, James, & Fagg, 1999), issues with study design (Hawton et al., 2012; Robinson, Hetrick, & Martin, 2011) and varied definitions of self-harm (Brent et al., 2013; De Silva et al., 2013; Muehlenkamp, 2006a; Robinson et al., 2011). The small size of most of the trials leaves them with inadequate power to test the effect of the experimental treatments (Daniel & Goldston, 2009; Hawton et al., 2012). Further, the differences in how outcomes were defined can lead to varying conclusions about the effectiveness of interventions (Daniel & Goldston, 2009). Therefore, the development and assessment of new interventions to reduce self-harm and suicide should be a major priority (Hawton et al., 2012). This should include prevention efforts, long term monitoring of those who self-harm, and the provision of after care services (Goldman-Mellor et al., 2014). In an earlier systematic review of psychosocial and pharmacological treatments for deliberate self-harm, Hawton et al. (1999) found that problem solving therapy showed promising results for people who harm themselves. However, there were few studies focussing specifically on adolescents who had engaged in self-harm.

#### *New Zealand studies*

There is a small body of problem solving therapy evidence developing in New Zealand. Recently, a Zelen randomised control trial was conducted in which the effectiveness of problem solving therapy was investigated with 1094 adults who had presented to an emergency department following an episode of deliberate self-harm. Using an intent to treat analysis, significant differences were shown after 1 year between those receiving problem solving therapy and those receiving usual care for anxiety, depression, hopelessness and problem solving (Hatcher, Sharon, Parag, & Collins, 2011). However, differences between groups in rates of repetition of self-harm were significant only for those whose index self-harm episode was not a first episode. In this case, those who received problem-solving therapy were significantly less likely to present again to hospital with self-harm after a year (Hatcher et al., 2011). This is consistent with other problem solving therapy studies which show reductions in depression, hopelessness and anxiety along with improvements in problem solving, while still showing limited impact on repetition rates (Townsend et al., 2001). A second New Zealand problem solving therapy study focussed on offering problem solving therapy within a cultural framework for Maori who had self-harmed. The problem solving therapy group showed significant reductions in repetition of self-harm up to three months following the index presentation and also showed a significant decrease in attendance for non-



mental health problems over the year following the index attempt (Hatcher, email communication)

A follow up pilot study was conducted, with the aim of testing the feasibility, acceptability and effectiveness of providing training in problem solving therapy to clinicians, with a particular focus on the implementation of problem solving therapy with people at risk of self-harm. The problem solving therapy training and follow up supervision were provided to 88 practitioners, 16 of whom worked specifically with young people (Hatcher, Sharon, Blackett, & Collins, 2009). The youth focused practitioner group included counsellors, social workers, community mental health nurses, a psychologist, and a nurse practitioner. These practitioners were positive about their experiences of using problem solving therapy with their young clients. They commented on the usefulness of the structure; the degree of engagement their clients demonstrated; the practical relevance of the model; and the positive changes their young clients made in their lives (Hatcher et al., 2009).

#### *PST studies with young people*

In the course of the literature review for this study, six studies found that involved using problem solving therapy with young people who had either self-harmed or who were at risk of self-harm (see chapter four) (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; Lerner & Clum, 1990; McLeavey et al., 1994; Salkovskis et al., 1990) . The studies showed promising results in terms of improvements in mood, problem solving and reductions in hopelessness. There were also some short term reductions in self-harm. However, studies thus far are too few and too small to be certain about the usefulness of problem solving therapy with young people. There has been no such study for young people to date in the New Zealand /Aotearoa context, however it is a logical development from the three previous New Zealand studies conducted here.

In a systematic review of literature relating to social problem solving in adolescents with suicidal behaviour, the writers suggested “a cautious conclusion might be that there is some evidence for association between suicidal behaviour and problem-solving deficits in adolescents” (Speckens & Hawton, 2005, p9). Therefore, in this series of studies, I report on the adaptation of problem solving therapy into a youth friendly resource and delivery mode and the acceptability of the resources to young people and to practitioners who deliver the intervention. I report on the acceptability and feasibility of a one day workshop to train practitioners in problem solving therapy. Finally, I report on the trial that tested the acceptability and feasibility of the intervention for young people at risk of self-harm.

***RE:SOLVE: A problem solving pathway for young people at risk of self-harm (The current project)***

In the RE:SOLVE project, I conducted a series of mixed methods studies to test the acceptability and feasibility of RE:SOLVE problem solving therapy. I intended to develop and establish the parameters needed to design a larger scale randomised control trial. The overall project consisted of three distinct but overlapping sections. They are distinct in their focus but they overlap in their timing. Section one (studies 1 – 4) focussed on resource development and included four studies: independent youth reviews of the client workbook; practitioner reviews of the resources following the training workshop; practitioner reviews of the resources following use of them in a clinical context; and review of the client workbooks by young people who took part in the therapy. Section two (study 5) was an evaluation study of the practitioner training workshop. Section three (study 6 and 7) includes a report of the open trial pilot study in which practitioners trained in RE:SOLVE problem solving therapy offered the therapy to young people at risk of self-harm, and an evaluation of RE:SOLVE by practitioners who took part in the project (see figure 1).

*Figure 1: An overview of the RE:SOLVE studies*

<b>Section 1: Resource Development</b>	<b>Section 2: The Training for Practitioners</b>	<b>Section 3: The Open Trial</b>
<p><b>Study 1:</b> Evaluation of client workbooks by youth reviewers</p> <p><b>Study 2:</b> Evaluation of the manuals in the training workshop</p> <p><b>Study 3:</b> Evaluation of the manuals in the clinical setting</p> <p><b>Study 4:</b> Evaluation of the client workbook by clients who took part in the therapy</p>	<p><b>Study 5:</b> Evaluation of the training workshop for practitioners</p>	<p><b>Study 6:</b> Open trial pilot study of RE:SOLVE problem solving therapy</p> <p><b>Study 7:</b> Evaluation of the exit questionnaire by the practitioners</p>

The main research objective was to answer the question:

1. Is problem solving therapy an acceptable and feasible treatment option for a) young people at risk of self-harm and b) for the practitioners who deliver it?

Other research objectives were to answer the following questions:

1. Test quantitative measures of mood, problem solving, hopelessness, suicidal thinking, and overall functioning to assess their suitability for a definitive randomised control trial;
2. Test whether health professionals find the training helpful;
3. Test whether health professionals find the follow up supervision helpful;
4. Test whether health professionals find the resource helpful and consider it is likely to be effective within their practice; and
5. Test whether clients find the resource and overall intervention helpful.

The series of studies included in this project are designed to answer the above questions. (See Chapter five for a more complete description of the study and the intended analysis).

### ***Chapter overview***

Chapter one: In this chapter I have provided an overview of the nature of the problem of self-harm and its significance. This was followed by a definition of suicide and self-harm an introduction to problem solving therapy, and brief discussion of what problem solving therapy studies have been done before, including the small number of New Zealand studies. The aims of the current series of studies were outlined and a chapter overview was provided.

Chapter two: This chapter provides a discussion about what makes self-harm a problem, what the risk factors and protective factors for self-harm among young people may be, the importance of resilience, help-seeking behaviour, and the association between social problem solving and self-harm.

Chapter three: In this chapter I introduce problem solving therapy as an intervention that may address the association between self-harm and social problem solving deficits. I cover the origins of problem solving therapy, and its application to suicidal behaviour and offer a rationale for the use of problem solving therapy with people who self-harm.

Chapter four: This chapter is an in depth literature review of problem solving therapy, specifically for young people at risk of self-harm. The first section presents a number of reviews that investigate the promise of problem solving therapy. This section is followed by an in depth review of six problem solving therapy studies conducted with populations inclusive of adolescents. The strengths and limitations of the studies are considered, along with the implications for the current study.

Chapter five: In this chapter I detail the RE:SOLVE problem solving therapy project by describing each of the three sections and the studies are part of each section. I provide an outline of each study along with the methodology and intended analysis (see figure 1).

Chapter six: This chapter covers the first section of this programme of work which includes studies one through to four. Study one is the evaluation of the client workbooks by youth reviewers, study two is the evaluation of the manuals in the training workshops, study three is the evaluation of the manuals in the clinical setting and study four is the evaluation of the client workbook by clients who took part in therapy. I present the aims, methods, results and discussion for each of these studies.

Chapter seven: This chapter presents section two, an evaluation of the training workshop. I present the aims, methods, results and discussion of study five.

Chapter eight: Section three includes the open trial pilot study of the RE:SOLVE intervention and the exit questionnaire completed by practitioners at the close of the study period. In this chapter I present the aims, methods, results and discussion of study six, the open pilot study.

Chapter nine: In this chapter I present study seven which is an evaluation of the exit questionnaire that all of the practitioners who took part in the training were invited to complete at the end of the study period.

Chapter ten: This is the concluding chapter and in it I bring together the discussion for the whole project. This final chapter includes the main integrated findings from all three phases, the strengths and limitations of these findings and the possible future directions.

## ***What is resilience?***

Resilience can be understood as “Positive adaptation in the face of risk or adversity; capacity of a dynamic system to withstand or recover from disturbance” (O’Dougherty, Hearst, Syed, Kurzer, & Schmitz, 2012). It is the capacity to adapt functionally, with protective factors promoting the adaptation (Kaplan, 2013). The concept generally presupposes exposure to adversity and subsequent effective adaptation to that adversity (Luthar, Cicchetti, & Becker, 2000).

Definitions of resilience imply a dynamic, developmental process. For example, children who are judged to be resilient have commonly accomplished a developmental task with success despite exposure to risk factors and adversity (O’Dougherty et al., 2012). Further, resilience has been described as “a dynamic process encompassing positive adaptation within the context of significant adversity” (Luthar et al., 2000, p543) or as “... a dynamic process involving reciprocal interactions between the individual and the environment” (Everall, Altrows, & Paulson, 2006, p 467). These definitions demonstrate that resilience is interactive, and it can be reinforced by mastery. Therefore when a young person tackles a problem and achieves success, this builds self-efficacy and thus further resilience (McNamara, 2012).

Being resilient does not imply that a person is not affected by trauma they have experienced. Nor does it indicate that a person always functions well (O’Dougherty et al., 2012). In fact, resilience may not be uniform; it may manifest in some domains and not others (Luthar et al., 2000) or at some times of life and not others (O’Dougherty et al., 2012). Resilience can also be viewed as functioning across varied domains and processes: the academic (Olsson, Bond, Burns, VellaBrodrick, & Sawyer, 2003) or cognitive (Everall et al., 2006) domain, the social domain (Everall et al., 2006; Olsson et al., 2003), and the emotional domain (Everall et al., 2006; Olsson et al., 2003). Everall et al. (2006) also include the domain of purposeful and goal directed action. A young person may demonstrate resilience in any one of these domains while still facing vulnerability in another.

Studies have found lower levels of resilience among those who make suicide attempts (Everall et al., 2006; Nrugham, Holen, & Sund, 2010). For example, one study examined resilience in relation to childhood trauma in two separate samples. The preliminary study included one group of 20 people who were abstinent substance abusers who had attempted suicide. The comparison group were also abstinent substance abusers, matched for age and childhood trauma questionnaire scores but who had not attempted suicide. In the second sample, 166 prisoners who had attempted suicide were compared to a group of 166 prisoners

who were matched for age and childhood trauma questionnaire scores. In both samples, those who had not attempted suicide had significantly higher mean resilience scores (Roy, Carli, & Sarchiapone, 2011). In addition, the resilience scores of non-harming people in both studies were very similar despite being quite different study populations (Roy et al., 2011). However the reasons for these differences are not clear. While this study was conducted with adults, and a nearly all male population, the association is important (Roy et al., 2011).

In a quite different study, resilience was also found to have an important association with self-harm. Everall et al. (2006) conducted a qualitative study using interpretive inquiry in which they sought to understand how adolescents overcome suicidality through the subjective personal experience of 13 females who had been previously suicidal. Although the mean age at time of interview was 21.4, they had all self-harmed between the ages of 15 and 24 with some starting before they were 15. The analysis revealed four domains of resilience: social processes, emotional processes, cognitive processes and purposeful action processes. It was through the development and use of these processes that the young women were able to move away from suicidal behaviour. Moreover, the domains were interlinked with changes in one domain generating changes in another. In this way, the overall process gained momentum (Everall et al., 2006).

Werner (1995) notes that throughout various studies on resilience, a common core has emerged of individual disposition, along with sources of support that contribute to resilience in development. In other words, resilience has environmental and individual characteristics. For the purposes of this paper, I have placed the environmental aspects primarily in the protective factors section, because these are outside influences that appear to act upon a person to generate the internal characteristic of resilience, thus they confer a protective effect. I have included the individual characteristics in the resilience section because resilience tends to be identified by a person's attitudes and behavioural responses to challenge. Connor and Davidson (2003) support this, noting that resilience embodies "... the personal qualities that enable one to thrive in the face of adversity". They found that attention to developing resilience was relevant when working therapeutically with depression, anxiety and stress because it allows for the strengths that exist to be acknowledged and built upon. A number of individual characteristics and behaviours have been observed in resilient youngsters. These include:

- Successful adaptation to change (Connor & Davidson, 2003; Roy et al., 2011)
- An engaged and active coping style (Connor & Zhang, 2006)

- Self-efficacy, self-perception of competence; faith their actions could make a difference in their lives (Connor & Davidson, 2003; Luthar et al., 2000; McNamara, 2012; Werner, 2013);
- Internal locus of control (Connor & Davidson, 2003; Werner, 1995)
- Emotional stability or regulation (Everall et al., 2006; Luthar, Bennett et al., 2002; Connor and Davidson, 2003)
- Problem solving skills, (Connor & Davidson, 2003; Everall et al., 2006; McNamara, 2012; Werner, 2013);
- The ability and willingness to ask for help (Connor & Davidson, 2003; McNamara, 2012; Werner, 2013)
- Future goals and persistence with ambition (Connor & Davidson, 2003; Everall et al., 2006)
- Agency, that is, the ability to link thoughts to useful actions in response to challenges (McNamara, 2012)

### ***Help seeking behaviours***

Many young people display poor help seeking behaviour for mental health problems (De Leo & Heller, 2004; Evans, Hawton, & Rodham, 2004; Goodwin, MocarSKI, Marusic, & Beautrais, 2013; Leavey, Rothi, & Paul, 2011; Watanabe et al., 2012). For example, in the Youth 2000 study, over 80% of students who had significant mental health problems had not sought help from a GP (Mariu et al., 2012). Further, in the Youth 2000 study data from 2007, only 16.5% of students with mental health problems reported seeking help from a health professional for emotional health worries over the previous year (Fortune et al., 2010). In the same study, almost half of the young people who reported suicidal ideation, a suicide plan, or a suicide attempt in the year prior to interview, did not make any general medical or specialist mental health visits in that year (Fortune et al., 2010).

This is consistent with international studies which also demonstrate poor help seeking behaviour among adolescents. For example, data from a nationally representative anonymous self-report lifestyle and coping survey in the United Kingdom of nearly 6000 (15 and 16 year old) secondary students found that adolescents who had engaged in self-harm in the previous year were the most likely to feel the need for help, and yet the least likely to seek help out (Evans et al., 2004). Additionally, 20% of those who had harmed themselves had not

disclosed this to anyone (Evans et al., 2004). Similarly, in a Japanese cross sectional anonymous self-report survey of over 18,000 students from 12-18, 40% out of a total of 692 participants who reported self-harm were classified as having poor help seeking – that is, they were aware they had a problem but sought no help (Watanabe et al., 2012). In line with this 40% of those who had self-harmed in the previous year had not sought any help (Watanabe et al., 2012). Further, an Australian cross sectional self-report questionnaire study was conducted in which all year 10 and 11 (15 and 16 year olds) students from 14 high schools were invited to take part. The questionnaire was the 131 item lifestyle and coping survey developed for the CASE study to examine factors associated with, and motivations for, adolescent self-harm and it was completed by 3757 students. The results showed that only 10.3% of the 233 people who harmed themselves went to hospital (De Leo & Heller, 2004).

Horwood and Fergusson (1998) suggested three reasons for this poor help seeking behaviour. Firstly, it may not have occurred to the young people to ask for help; secondly they may not have believed they needed help and thought they could manage on their own; and thirdly they may have thought the problem would get better by itself. For example, in the Evans et al. (2005) study, nearly one quarter of young people who had self-harmed did not think they had serious problems even though most of those who had self-harmed and about half of those who thought about it reported serious problems in their survey results. This suggests that adolescents may need help in recognising problems and assessing their severity (Evans et al., 2004).

### *Barriers to help-seeking*

#### **Power and autonomy**

The ability of young people to seek help on their own behalf is limited by constraints on their personal power and autonomy. They often rely on adults in their families or schools to recognise or/and respond to their difficulties and yet the adults themselves may lack knowledge or skills (Leavey et al., 2011). The impact of this limited control was established by a mixed methods study made up of a cross sectional survey with 298 participants and follow up focus groups with 48 participants. The authors investigated the help seeking preferences for a range of mental health problems among adolescents at 6 schools that were broadly representative of their inner city area of London. The results showed that autonomy and power significantly differentiated help seeking behaviours between adolescents and adults (Leavey et al., 2011).



### **Lack of knowledge**

The Leavey et al. (2011) study also revealed that young people may not know who to seek help from, or what help may be attained from various services. For example the young people who took part in the focus groups highlighted that they are not made aware of how a General Practitioner may help them, and nor were they aware of whether they could see a General Practitioner independently of their parents (Leavey et al., 2011). They did not see emotional and mental health problems as being the domain of General Practitioners with some believing they should actively refrain from talking about such problems with a General Practitioner (Leavey et al., 2011). There was also a general ignorance of mental health services (Leavey et al., 2011). Consistent with this, in the CASE study, most students did not seek any help for the problems that were present before their deliberate self-harm. For those who did seek help, family and friends were more likely to be sought out for help than anyone else. Only 2.6% informed their General Practitioners and 7.3% informed a mental health worker of some kind about their deliberate self-harm (De Leo & Heller, 2004).

### **Concerns about confidentiality**

Young people have expressed they did not trust their General Practitioners to keep their information confidential from their parents (T. C. Clark et al., 2013; Leavey et al., 2011). In the Youth 2000 series of studies, only 37% of students who had accessed any sort of healthcare in the last 12 months, reported having the chance to talk with a doctor or other health professional in private. Further, only 46% had been assured that their healthcare services would be confidential (T. C. Clark et al., 2013) . This is an important finding as providing privacy and confidentiality is vital in encouraging young people to more actively seek help and discuss difficulties. In addition, the family doctor was only seen as helpful for anxiety or depression by around 10% of participants in one of the United Kingdom studies.

However, there are potential solutions, some from young people themselves. For example, young people will respond better if the General Practitioner is seen as warm, trustworthy, empathetic and non-patronising (Leavey et al., 2011) . Some young people mentioned seeing a different doctor in the practice at each visit. Instead it may be helpful to see the same General Practitioner at each visit to build a relationship over time (Leavey et al., 2011). Further, providing access to General Practitioners on site at school would possibly improve uptake. Alternatively, having local General Practitioners provide education sessions for young people about their services may also improve help-seeking (Leavey et al., 2011).

## *From whom do young people seek help?*

### **Friends**

In a series of large representative studies in Australia, New Zealand and the United States, young people consistently reported that they seek help from friends (De Leo & Heller, 2004; Evans et al., 2004; Goodwin et al., 2013). For example, seeking help from friends was preferred both before and after self-harm, and friends were the most likely to know the respondent had self-harmed in the CASE study (De Leo & Heller, 2004). Similarly, in the Evans et al. (2005) study, out of the young people who self-harmed or had thought about it, those that did seek help were most likely to seek help from friends first of all. Finally, in a nationally representative study of 15,000 11-15 year old students conducted in the US, the help seeking behaviour of youth with and without thoughts of deliberate self-harm while depressed (Goodwin et al., 2013) was compared. Again, the results demonstrated that depressed youth with and without thoughts of self-harm most frequently sought help from friends and parents (Goodwin et al., 2013). However, the young people who had thoughts of self-harm were significantly more likely to seek help from their friends than those with no thoughts, but less likely to seek help from parents (Goodwin et al., 2013).

### **School**

In a number of international studies, schools emerge as important sites for problem recognition and early intervention (Goodwin et al., 2013; Leavey et al., 2011; Watanabe et al., 2012) in particular when students are reluctant to seek help at home (Leavey et al., 2011). However, the results across these studies are not uniform. For example, in Japan, there are school nurses in all schools which could increase their visibility and acceptability, so it makes sense that the school nurse was most often consulted by those who had self-harmed and for physical or mental health problems (Watanabe et al., 2012). Similarly, in a United States study, youth who had engaged in self-harm were more likely than their non-harming peers to seek help from school officials, health professionals or a counsellor (Goodwin et al., 2013).

By contrast, in one United Kingdom study, going to school professionals was not common with only 12 – 16 % of students considering teachers in their help-seeking along with similarly low scores for other school professionals (Leavey et al., 2011). This emphasises the importance of supporting teachers to better recognise symptoms/indicators of mental health difficulties so they can encourage their students to seek appropriate help.

### **Family**

The finding on how often young people turn to their families for help are mixed. For example, in one study, mothers were given the most consistent preference ratings across all

categories of help seeking with around 60% of participants saying they would turn to their mothers for help – except in the case of feelings suicidal (Leavey et al., 2011). Similarly, in another study mothers were the second most likely to know about a young person engaging in self-harm behind the person's friends (De Leo & Heller, 2004), emphasising the importance of family communication, and maternal connection. Indeed, good communication and feeling understood by a family member were associated with a lower prevalence of suicidal behaviour (Evans et al., 2004).

However young people may be reluctant to seek help from family if the family members are perceived to be part of the problem (Leavey et al., 2011). It would also appear that frequency of self-harm may make a difference in whether young people turn to their family for help. For example, those with one episode of self-harm were more able to talk to relatives and friends than those with more than one episode (Evans et al., 2004). Similarly, in the Watanabe (2012) study, family members were approached for help significantly less often by those who had self-harmed than by those who had not (Watanabe et al., 2012). This is of concern since clearly the need for help is escalating in these young people.

#### *Implications of poor help seeking*

For adolescents who engage in self-harm, having no one to talk with is a strong risk factor (Evans et al., 2004; Watanabe et al., 2012). There is a risk that their isolation increases with the frequency and severity of self-harm in opposition with their increased need for help (Evans et al., 2004). However, students were more likely to seek help if they had an adult outside their family that they trusted or had a teacher who knew them well (Mariu et al., 2012). Reinforcing this, a group of New Zealand under graduates suggested that the opportunity for communication including talking, listening, receiving or giving advice, and speaking about problems would be helpful for reducing self-harm (Fortune et al., 2008).

Young people need to be equipped to recognise there is a problem and that help is needed (Evans et al., 2004) either on their own behalf or on behalf of their friends, because they often turn to one another before anyone else. It is an unreasonable burden for them to carry otherwise, and has implications for their own mental health. School services are the most easily accessible services for young people and there are positive associations between schools and reductions of risk (T. M. Fleming et al., 2007). New Zealand secondary schools have guidance counsellors, school nurses and sometimes social workers on site. With school based services, young people can exercise power and autonomy in making appointments and accessing services. They potentially have a relationship with those services over the duration of their school life and a large degree of confidentiality can be maintained.

### ***The association between problem solving and self-harm***

One of the main psychological characteristics identified in suicidal behaviour is a deficit in social problem solving skills (Beautrais, 2000; Speckens & Hawton, 2005; Williams, Barnhofer, Crane, & Beck, 2005a) or, in other words, maladaptive cognitive processes (Esposito et al., 2003). Indeed, an important difference between those who attempt suicide and those who don't is the effective use of coping and problem solving skills (Williams et al., 2005a). This indicates an association between problem solving deficits and suicidal behaviour which is reflected in recommendations from research. Indeed, following a large anonymous school based study (6020 students) in England in which the motives of 220 people who cut themselves in the previous year were compared with the motives of 86 people who took an overdose, Rodham et al. (2004) suggested that due to the impulsive nature of these behaviours, prevention should focus on reducing problems that lead to self-harm, helping young people to improve their problem-solving and their help-seeking behaviours, and helping them to better manage distressing feelings.

This association is supported by a cross sectional school based survey of 3684 (52% females, 48% males; 53.1% aged 16) Irish school students (McMahon et al., 2013), as part of the CASE study, which included data that allowed for the examination of associations between coping, mental health factors and self-harm. The authors found that problem oriented coping, that is, attempting to solve problems, seeking help and support, and building on previous experience, was associated with better mental health. By contrast, the use of emotion oriented coping such as self-blame, anger, withdrawal and alcohol was associated with significantly higher levels of depressive symptoms, anxiety and poorer self-esteem. Similarly, higher scores on emotion focussed coping were associated with a greater severity of self-harm history (McMahon et al., 2013). This style of emotion oriented coping acts as a mediator between mental health factors and self-harm which suggests that self-harm can be understood as an attempt to manage the negative feelings that become worse when ineffective problem solving is used (McMahon et al., 2013). Similarly, Boeninger et al. (2012) suggest that suicidal crises represent an attempt to solve a problem that a person finds intolerable, for example chronic strain or unbearable stress. This is consistent with cognitive models which note that suicidal people find their current situation cannot be tolerated, they don't have (or believe they don't have) the skills and resources to solve it and therefore believe the future is hopeless (Reinecke, 2006a). These formulations are consistent with a stress diathesis model.

### *Stress diathesis*

Stress diathesis models of suicide are among the most accepted models from which to study suicidal behaviour and understand this association (Bureau, Mageau, Vallerand, Rousseau, & Otis, 2012; Orbach et al., 2007). Theoretically, problem solving deficits increase helplessness, hopelessness and a feeling of being trapped which intensifies suicidal ideation (van Heeringen, 2000; Williams et al., 2005a). The diathesis (i.e, predisposition or persistent vulnerability) is thought to be impacted by life experience and genetics (van Heeringen, 2000) and the problem solving deficits can be viewed as a trait vulnerability (Schotte, Cools, & Payvar, 1990). The stress-diathesis theory began with a focus on the effect of acute stress on the ability to generate alternative solutions to a problem; it later focussed on the impact of self-appraisal of one's ability to solve problems; and later still attention was drawn to the impact of more remote stress such as childhood adversity. In the following section I briefly outline each of these developments in this theory along with other studies that have found similar associations.

### *Generating alternatives*

The stress-diathesis model originally suggested that some individuals have a predispositional vulnerability to poor problem solving while under stress (Schotte & Clum, 1987). Life experience and genetic factors are thought to have a crucial role in the diathesis (van Heeringen, 2000). The person then becomes overwhelmed by a sense of hopelessness and helplessness, becomes unable to generate alternative solutions, and begins to see self-harm or suicide as the only viable solution (Clum & Febbraro, 2004). Generation of alternatives was also found to be particularly poor in suicidal youngsters in an early review of problem solving deficits among young people (Spirito, Brown, Overholser, & Fritz, 1989). This may be because activation of intense stress makes it harder to access executive functions and may disrupt an individual's ability to engage effectively in cognitive coping strategies (Boeninger & Conger, 2012); and the skills they learn while they are not distressed may not easily translate to times of distress (Daniel & Goldston, 2009).

In an early study of the stress-diathesis model, 50 suicidal inpatients were compared with 50 non suicidal inpatients (72 males, 28 female; mean age 29.9 years old) on various problem solving and mood measures (Schotte & Clum, 1987). The subjects in the experimental group came up with 60% fewer possible alternatives to hypothetical problems, and even on the problem specific to their own lives, they generated half as many possible solutions. Further, they came up with more irrelevant alternatives, generated significantly more negative consequences for their solutions and were less likely to use solutions they had

generated to solve the problem at hand (Schotte & Clum, 1987). A similar finding came from a more recent study of problem solving in adult suicide attempters (Pollock & Williams, 2004). This study collected data from a group of 24 suicidal inpatients, and 24 non-suicidal psychiatric controls on admission and 6 weeks later. A non-psychiatric control group (n=24) also provided data at baseline. The group of suicide attempters produced significantly fewer alternatives than the other two groups and the potential solutions were also significantly less effective (Pollock & Williams, 2004).

It is not only the number but the effectiveness of the solutions that is important. For example, in a small study with 34 participants, divided into those with a history of self-harm and those without, Williams et al. (2005) found that the number of ideas generated to solve a problem reduced in all subjects after a mood challenge. The mood challenge involved listening to music for 8 minutes and reading negative statements to induce a sad mood prior to filling out the second set of problem solving measures. However the effectiveness of the solutions was more impaired in those who had been depressed and suicidal in the past (Williams et al., 2005a) and negative thinking patterns became re activated. They shifted their focus from a task focussed problem solving to a more ruminative focus on themselves and their emotions. In addition, the solutions the young people with a self-harm history generated did not necessarily match the degree of controllability of the problem they faced. In other words, they appraised the problem incorrectly.

Similarly, in a study of a community sample of 92 young people (12-19 year olds), 62 of whom had a history of non-suicidal self-injury, the authors aimed to test three related components of physiological arousal, impaired distress tolerance and deficits in problem solving. It was found that while the average number of alternative solutions generated for a problem reduced for all participants following a distress tolerance test, those with a history of self-harm chose significantly more negative solutions and also rated their self-efficacy as significantly lower than those without a history of self-harm (Nock & Mendes, 2008). Exploration of self-efficacy or problem solving confidence underpins the next aspect of the stress-diathesis theory.

### *Autobiographic memory*

Another important related aspect of the ability to generate effective alternatives is autobiographical memory. It has been found that people who engage in self-harm tend to have less specific autobiographic memory. This is thought to make it more difficult to draw on previous life experience to generate possible solutions for the current difficulty (Williams et al., 2005a). For example, one study recruited 24 adults consecutively referred to a psychiatric

service following an initial suicide attempt, and compared them with 24 matched psychiatric controls and 24 matched non clinical controls (in all groups age range 21 – 72; males 10, females 14). Using validated measures, they found that not only did participants who had attempted suicide produce fewer relevant alternatives and less effective solutions in a problem solving task, they also produced less specific and more general memories in response to cue words. These differences all reached significance. There was also a correlation between what the authors named “over general memory” i.e. a lack of specificity in recall, and low effectiveness of problem solving strategies (Pollock & Williams, 2001). The authors suggest that this study “...lends weight to the view that problem-solving deficits remain one of the most consistently found deficits in the suicidal population” (Pollock & Williams, 2001, p 394).

Similar findings were demonstrated in a quite different cultural context. In an Iranian study, the authors compared 20 suicidal patients (males 8, females 12; mean age 28.05) who met the DSM IV diagnosis of depression with a matched control group (Kaviani, RahimiDarabad, & Naghavi, 2005). As with the previous study, those who had attempted suicide produced less specific memories and more over general memories as well as responding more slowly to positive than negative cue words compared with the controls. In the problem solving task those who had attempted suicide generated less effective strategies, fewer and more irrelevant means and they were slower to respond to the task. All of these differences reached significance (Kaviani et al., 2005).

Although both of these studies were conducted with adult populations, the implications are also relevant for young people. Therapists who are delivering problem solving therapy should be aware of the relationship between poor autobiographic memory and poor problem solving. This would enable them to better recognise any deficits the young person may have and work collaboratively to remedy them.

### *Confidence in problem solving*

Coping strategies are the behavioural and cognitive strategies people make use of when they find themselves in stressful situations (Evans et al., 2004). When development is impaired, people may use unhelpful coping strategies such as alcohol, social withdrawal, and suicidal behaviour (Boeninger & Conger, 2012). In Lazarus and Folkman’s model, coping is determined by appraisal of the degree of threat posed by a problem, along with the resources that are perceived as being available (Lazarus and Folkman, 1984). These are typically divided into problem focussed efforts to try and alter the problem situation in some way, or

emotion focused efforts whereby people tend to disengage, give up or avoid the problem which can increase distress (Lazarus and Folkman, 1984).

Problem solving confidence is a person's guiding orientation (Boeninger & Conger, 2012); or explanatory style (Bureau et al., 2012) and determines whether a person chooses problem focussed or emotion focussed problem solving. An orientation that involves feeling in control (Boeninger & Conger, 2012) and having an optimistic explanatory style (Bureau et al., 2012) can lead to different outcomes from feeling helpless (Boeninger & Conger, 2012) and having a pessimistic explanatory style (Bureau et al., 2012).

In line with this, a later development in the stress diathesis theory suggested low self-appraisal of one's own problem solving ability (negative problem orientation) is a barrier to effective problem solving (Orbach et al., 2007). For example, in their study of 101 international Asian students in the US ( males 73, females 28; mean age 23) recruited from a university, a lack of problem solving confidence was found to be predictive of depression and hopelessness (Yang & Clum, 1995). Further, Clum and Febraro (2004) assessed inter-personal problem appraisal and found that levels of confidence at problem solving was predictive of the severity of the suicidal ideation; and in a systematic review of international literature examining possible relationships between deficiencies in problem solving and suicidal behaviour, it was found that adolescents whose hospital admission was preceded by a suicide attempt had a more negative problem orientation (Speckens & Hawton, 2005).

Further studies had similar findings about the importance of problem solving confidence. A study of 156 adolescents aged 15-18 ( 43 suicidal inpatient, 35 non-suicidal inpatient, and 78 matched nonclinical controls) examined the link between appraisal of a problem solving task as a challenge or a threat, and the extent to which this link is mediated by hopelessness and problem-solving performance (Orbach et al., 2007). The results showed that appraisal of a problem solving task as a threat (Negative problem orientation) increases suicidality, through its impact on hopelessness and problem solving performance.

In a study of 682 high school and college students who had been invited to be part of a larger overall research project in Montreal, there was a positive association between negative life events and suicidal behaviour in those with a pessimistic explanatory style (Bureau et al., 2012). No such association existed for those with an optimistic explanatory style. Similarly, negative life events were less predictive of hopelessness and suicidal ideas, and hopelessness less predictive of suicidal ideas among highly self-determined individuals (Bureau et al., 2012).



Finally, in the Treatment for Adolescents with Depression Study (TADS), 439 clinically depressed adolescents were divided into four groups: a cognitive behaviour therapy group, a group receiving fluoxetine, a group receiving a combination; and a pill placebo group. They each completed a self-report problem solving process measure to provide data on the relationships between problem solving and depression severity. It was found that high levels of negative problem orientation were predictive of greater severity of depression. Conversely, high levels of positive problem orientation were predictive of lower severity of depression. Both measures were both found to be moderators of suicidality (Becker- Weidman, Jacobs, Reinecke, Silva, & March, 2010). In addition, the perception of problem solving ability and attitude towards problems was more important than self-reported abilities to solve problems (Becker-Weidman et al., 2010).

The centrality of problem orientation is reinforced by a 3 year longitudinal study of over 800 adolescents in Australia examining whether there was a link between problem orientation and emotional wellbeing (Ciarrochi, Leeson, & Heaven, 2009). Using self-report measures, they found that negative problem orientation is a precursor to fear, sadness, hostility and low joviality and that it predicted future increases over the following year in fear and low joviality (Ciarrochi et al., 2009). From these studies, it appears that being able to maintain an optimistic attitude towards problems, may play an important role responding to depression and suicidality in adolescents (Reinecke, 2006a).

### *Avoidance*

Confidence in problem solving is linked with problem solving style and effective problem solving relies on the capacity to face and reflect upon problems rather than avoiding them (Everall et al., 2006). For example, avoidance was found to be important in the WHO/EURO multicentre study. As part of this study, 836 medically treated deliberate self-harm patients, 59% of whom were repeat self-harmers, from 12 European regions were interviewed and their habitual responses to problems were assessed. Their ages ranged from 15-54 so it is not specific to adolescents but relevant nevertheless. Out of five problem solving dimensions, passive-avoidance was the most strongly associated with repetition, with repeaters scoring, on average, higher on passive-avoidance. Passive avoidance is characterized by "... a pre-occupation with problems, feeling unable to do anything, worrying about the past and taking a gloomy view of the situation, a greater likelihood of giving in so as to avoid difficult situations, the tendency to resign oneself to the situation, and to try to avoid problems" (Everall et al, 2006, p45).

## *Stress*

Later developments in the stress diathesis model focussed again on stress. Whereas in the first iteration, the theory focussed on acute life stress, later studies focussed on more distant stress in early life. In a study of 181 college students (51 suicidal, 130 nonsuicidal), it was found that early life stress impacted more on cognitive functioning than immediate life stress did (Yang & Clum, 2000). So while early life stress had a mild impact on suicidality it had a stronger impact on cognitive deficits which in turn impacted on suicidal behaviour (Yang & Clum, 2000). This focus on early life stress and its implications is consistent with findings in the earlier discussion on resilience about the cumulative effects of negative life stress.

Inevitably, both early life (distal) and immediate (proximal) stress are implicated. For example, Nock and Mendes (2008) found that the distress caused by a distress tolerance test interfered with problem solving, reinforcing that deficits become apparent during times of distress. However, in a sample of 102 youth patients aged 13-17 who were consecutively admitted to a psychiatric acute care hospital, both higher chronic stress and higher current life stress, along with poor problem solving were significantly associated with higher levels of suicidal ideation while low levels of chronic and life stress were not associated with elevated risk of suicidal ideation regardless of problem solving scores (Grover et al., 2009). This provides tentative evidence towards suggestions that problem solving skills moderate the relationship between stress and suicidal ideation.

### *Are problem solving deficits state or trait?*

An ongoing consideration is whether problem solving deficits are a fixed state or a transient trait and this is hard to measure (Williams et al., 2005a). Clum and Febbraro (2004) make a case for both. They note that temporary or state-like deficits are more likely to occur in individuals who make a single suicide attempt after an acute stressor. Conversely, trait-like problem solving deficits may be more evident in people who engage in repeated self-harm and these deficits may relate to more remote and chronic stressors such as childhood abuse. Problem solving deficits are therefore likely to be both state and trait indicators of vulnerability to suicidal behaviour (Speckens & Hawton, 2005).

Support for viewing problem solving being a transient state is provided by a Scottish study in which the investigators examined the relationship between means end problem solving and suicidality. A group of 61 male inmates, aged between 16 and 21, were interviewed as part of a larger study on adjustment to prison life. The participants were

divided into 3 groups: those with a parasuicide history and who were currently suicidal (n=15); those with a parasuicide history but who were not currently suicidal (n= 21); those with no history of parasuicide and who were not suicidal (n = 25). Hopelessness and anxiety were at a clinical level in both groups with a history of parasuicide, while depression was also higher in those who were currently suicidal. Deficiencies in problem solving behaviour were associated with more recent self-harm which supports these deficits being viewed as a transient state rather than a fixed trait (Biggam & Power, 1999).

Conversely, support for viewing poor problem solving as a fixed trait is provided by Williams and Pollock (2005). In their study of psychiatric inpatients, Williams and Pollock (2005) found that problem solving did not improve among participants even when mood did improve. In fact, all aspects of problem solving deficits were found to be independent of mood, suggesting a more independent trait like vulnerability.

These studies are of very different populations which may account for the differences. Similarly the varied results may serve to demonstrate that there are differences between groups in the nature of the association between social problem solving and suicidality (Reinecke, 2006) and that problem solving deficits may be either state or trait.

#### *Summary of the association between problem solving and self-harm*

Our understanding of the association between problem solving and suicidal behaviour is incomplete, and it is made more difficult by our still developing knowledge of clear pathways to suicide (Reinecke, 2006). However it is clear a relationship problem solving and self-harm does exist. As Reinecke (2006) notes, the question is not *whether* social problem solving deficits are associated with risk, but *how*. In this section I have considered the possible contributions made by problem solving confidence (problem orientation), generating alternatives, the effectiveness of alternatives, autobiographic memory, avoidance and stress. These aspects of social problem solving are each articulated in the developments of stress diathesis theory. The developments and differences in the stress-diathesis hypothesis are well integrated by Clum and Febbraro (2004), who suggest that "...stressful events, both remote and near, produce an increase in stress-reducing behaviour, including problem-solving behaviours. When these behaviours are inadequate to the task and the stress is high, increased suicidality is a likely consequence" (Clum & Febbraro, 2004, p 70). This is similar to the explanation of the theory given by Hawton et al. (2012, p2374) in which they note that "... predisposing biological (e.g., serotonin imbalances), personality (e.g., perfectionism, impulsivity), and cognitive vulnerabilities (e.g., impaired social problem solving) combine with exposure to negative life events, including both early and recent life adversity, and

psychiatric disorders to increase risk of self-destructive behaviours across the lifespan”. Finally, although it is not clear that problem solving deficits are a stable predictor of suicidal behaviour, they can nevertheless be an important focus in the treatment process (Reinecke, 2006).

### *Conclusion*

In this chapter I have discussed the question of why some young people self-harm and shown that there are a range of protective and risk factors that impact on their vulnerability to self-harm. Protective factors help us understand how to help young people develop resilience, the ability to respond adaptively to adverse circumstances. I then explored the help seeking behaviours of young people and showed that young people need to be educated about how to seek help and also need to be assured of confidentiality when talking with GP’s and other adults. Finally, I discussed the association between problem solving deficits and self-harm. The evidence is clear that an association exists between problem solving and self-harm although the nature of the relationship needs further exploration. The strength of the association lends weight to the potential of problem solving therapy as a solution for some young people at risk of self-harm. In the following chapter I outline the origins of problem solving therapy and describe the steps of therapy as it is used with clients.

## ***Chapter Two: Risk and protective factors for self-harm, help-seeking behaviours, and the association between self-harm and problem-solving***

### ***Overview***

In this chapter I begin by discussing the question of why some young people self-harm. I follow this by a discussion of risk factors that heighten the vulnerability a young person may self-harm alongside the protective factors that may minimise or reduce this risk. I then present a section on resilience, which is made up of characteristics that enable a young person to thrive in face of adversity. Following on from this, I explore help seeking behaviours of young people in relation to their wellbeing. This leads into the association between self-harm and problem-solving and the consideration of problem solving therapy as a possible solution.

### ***Why do young people self-harm?***

The question of why some young people harm themselves is difficult to answer primarily because motivations are varied (Ministry of Health, 2014; National Institute for Health and Care Excellence (NICE), 2004). In addition, motivations may be multiple and may change across episodes (Kapur et al., 2006; National Institute for Health and Care Excellence (NICE), 2011). Indeed, underlying motivations may be unclear to the person themselves (Kapur et al, 2006). Different clinicians will hold a different view of the seriousness (Kapur et al, 2006), and there are also differences to be found between adult clients and clinicians in their assessment of the seriousness of their suicide attempt, with clinicians (blind to the clients' ratings), rating the attempt as less serious than the client in 21 out of 22 cases in one small non experimental correlational study (Hatcher & Pimentel, 2013).

This heightens the importance for people who have self-harmed to explain their feelings and understandings of their self-harm in their own words (National Institute for Health and Care Excellence (NICE), 2004). After all, according to the NICE guidelines (2004) self-harm is an expression of personal distress, not an illness. Similarly, Sinclair and Green (2005) describe self-harming behaviour as an “externalised way of representing diffuse intrinsic distress”. This is reflected in reasons that young people themselves have expressed for self-harm including distraction, self-punishment, expression or reduction of anger, emotional relief, influencing others, escape, making others better off, and hopelessness (Fortune, 2006; Kapur et al., 2006; Moorey, 2010; Rodham, Hawton, & Evans, 2004).

Self-harm may occur with or without suicidal intention and is associated with an increased risk of suicide (Brent et al., 2013). It is also a behaviour that tends to be highly impulsive. For example, in an anonymous self-report study of 6,020 15 and 16 year old students on lifestyle and coping in the United Kingdom, 220 reported cutting themselves and 86 reported poisoning themselves among other, less common methods of self-harm. Half of the young people who reported they had cut themselves, and just over a third of young people who had self-poisoned, had thought about whether to engage in the behaviour for less than an hour (Rodham et al., 2004). In an Australian cross sectional questionnaire study of 3757 year 10 and 11 students, which set out to determine the prevalence and types of deliberate self-harm, 233 respondents met the criteria for deliberate self-harm in the previous 12 months. Of those 233 young people, 84 (36.1%) did so within less than an hour after thinking about it. An additional 12.9% waited between 1 – 24 hours (De Leo & Heller, 2004). By contrast, 48 had thought about harming themselves for over a month. Therefore prevention and treatment should focus on reducing the problems that lead to self-harm, helping young people develop more effective ways of solving the problems they do encounter, supporting them to manage acute stress/distress and assisting them to recognise and seek out sources of help (Rodham et al., 2004). It is also important to be aware of the context from which such behaviours arise. This requires an understanding of risk and protective factors along with the importance of developing resilience.

### ***Risk factors for self-harm among young people***

#### *What are risk factors?*

Risk factors are those elements of a young person's life that contribute to an increased vulnerability to suicidal behaviour and other adverse outcomes (Beautrais, 2000; Madge et al., 2011; Williams, Barnhofer, Crane, & Beck, 2005b). These include both psychological characteristics and stressful life events (Madge et al., 2011). The risk factors for self-harm and suicide among young people are varied, as is the degree of contribution any particular risk factor has to such behaviour (Beautrais, 2000; Christiansen, Larsen, Agerbo, Bilenberg, & Stenager, 2013; Madge et al., 2011). However, mood disorders, in particular depression, are the strongest risk factor (Beautrais, 2000; Evans et al., 2004; Foley, Goldston, Costello, & Angold, 2006). In a psychological autopsy study, in which life charts were generated for 27 young people who had died by suicide in four counties of England (93% (n=25) male; 7% (n=2) female; average age 20.9 (SD = 2.4) over 55% of these deaths were associated with mental health disorders (Fortune, Stewart, Yadav, & Hawton, 2007).

Risk factors appear to work in a cumulative fashion (Madge et al., 2011; Plener, Singer, & Goldbeck, 2011) or, in other words, in a dose-response fashion (Madge et al., 2011). The more adverse conditions that exist in a young person's life, and the greater the severity of these stresses, the more heightened their risk of self-harm ((Foley et al., 2006; Madge et al., 2011; O'Dougherty et al., 2012). This accumulation of risk can occur through the presence of multiple risk factors, numerous occurrences of one risk factor; or the cumulative effect of ongoing adversity (O'Dougherty et al., 2012).

Similarly, those with more severe self-harming behaviours may have a higher loading of risk factors from multiple domains (Brezo et al., 2007). For example, in a German study analysing the association between suicidal behaviour and traumatic life events, it was found that the prevalence of traumatic life events was higher among people with suicide ideation, while the number of multiple traumatic events was greater for those who had attempted suicide (Plener et al., 2011). Further, in the Child and Adolescent Self-Harm in Europe (CASE) Study, those with a more severe self-harm history had higher levels of depression, anxiety, and impulsivity along with lower self-esteem and more stressful life events (Madge et al., 2011). While the circumstances under which suicidal ideation progresses to action are largely unknown (Brezo et al., 2007), and when there are few factors that differentiate between single episode self-harm and suicidal ideation (Madge et al., 2011) it could be that the accumulation of risk provides a pathway to self-harm over time (Christiansen et al., 2013). For example, the interaction between the individual and their environment builds up so that thoughts become plans and plans become action (Runeson et al, 1996 in Fortune et al, 2006). Therefore, identification of risk factors is important so that it can better inform assessment and treatment (Hawton et al., 2012).

One difficulty in assessing and treating those with suicidal behaviour is that they are a heterogeneous group. For example, in the previously mentioned psychological autopsy study, in which the "duration, development and characteristics of the suicidal process" were examined among 27 young people who had died by suicide, Fortune et al. (2007) found that the histories of the young people could be grouped in three ways. One group was characterised by longstanding behavioural problems; a second group was characterised by the presence of an identifiable psychiatric disorder; and a third group was characterised by appearing to kill themselves "out of the blue" with the appearance of functioning well previously (Fortune et al., 2007). The groups did not all share the same risk profile of risk factors although there was some overlap. However, I have broadly represented all the risk factors that may apply across the three groups without attempting to make distinctions. This

allows for the considerable differences and overlaps between individuals. I have organised this discussion following a paper that summarises the risk factors for self-harm among adolescents as: social factors and family risk factors, individual and personality factors, mental health factors, stressful life events and adverse life circumstances, and environmental and contextual factors (Beautrais, 2000). This paper is a summary of risk factors found in the international literature from the 1980's until 2000 and the headings continue to provide a useful framework.

### *Social and family risk factors*

Social and family risk factors refer to experiences of adversity that have a cumulative effect over a young person's life (Beautrais, 2000), for example on their psychiatric and social functioning in adolescence (Fergusson, Woodward, & Horwood, 2000). Social and family risk factors include deprivation, parental relationships, exposure to parental mental illness, the parent/child relationship and exposure to abuse, and genetics. In a New Zealand longitudinal study of 1265 people over 21 years, vulnerability and resilience of depressed young people to suicidal ideation and attempt were examined (Fergusson, Beautrais, & Horwood, 2003). Significant associations were found between a range of family factors and heightened vulnerability for suicide attempt. Those with the highest significance ( $p = 0.0001$ ) were childhood sexual abuse, childhood physical punishment, changes of parents, violence between parents, and poor parental attachment. Those with a slightly lesser significance ( $p = 0.001$ ) were family living standards, quality of maternal care (a high level of which can build resilience), maternal over protection, and parental alcohol problems (Fergusson et al., 2003). These varied factors are detailed further below.

### **Deprivation**

Deprivation includes social disadvantage such as low socio-economic status, limited educational achievement, and poverty (Beautrais, 2000; Foley et al., 2006) or low income and unemployment (Christiansen et al., 2013). Young people with a background of socio economic deprivation are more likely to engage in self-harm (Foley et al., 2006), with the odds of death by suicide being twice as high among those with low socio economic status compared to those from more advantaged backgrounds (Beautrais, 2000). The impact of these varied disadvantages is reinforced in the New Zealand/Aotearoa context by the finding that there was a greater incidence of suicidal behaviour in areas that experienced the greatest levels of deprivation (Ministry of Health, 2014).



### **Parental relationships**

Parental separation and parents living apart is a risk factor for self-harm among some young people (Christiansen et al., 2013; Hawton et al., 2012). Adolescents who have made a suicide attempt are more likely to have had 3 or more changes of parental figures between the ages of 5 and 15 (OR=2.6), and those who die by suicide are more likely than control subjects to come from a family that has separated (OR=1.9) (Beautrais, 2000). Similarly, exposure to parental conflict and family violence is also a risk factor for higher rates of self-harm (OR=3.1) (Asarnow et al., 2011; Beautrais, 2000; Evans et al., 2004) with some young people reporting parental disharmony as being a precipitating factor in their self-harm episode (Beautrais, 2000). Living apart from both parents, for example in foster care, is also associated with an increase in suicidal behaviour (Evans et al., 2004).

### **Parental mental health**

Exposure to the mental ill health of a parent is a risk factor for self-harm and possible suicide among young people (Pearson, Stanley, King, & Fisher, 2001). For example, higher rates of parental depression and substance abuse have been reported in the families of suicide victims (Beautrais, 2000). This remains true across varied international contexts. In a nested case control Danish study, which reviewed longitudinal register data for a whole cohort born between 1983 and 1989, the impact of various risk factors on the index suicide attempt was estimated. Parental mental health was an independent risk factor contributing to suicide attempt (IRR= 2.24 – 2.64). In their systematic review of international population based studies of risk factors for young people aged 12 – 20, Evans et al. (2004) also found that exposure to suicide attempts among family members, a parental history of criminal offending, and lack of support from parents can heighten vulnerability to self-harm (Evans et al., 2004). The risk associated with a family history of suicidal behaviour was echoed in a New Zealand review of risk factors (OR=4.6) (Beautrais, 2000).

### **Parent/child relationship**

The parent/child connection is important. For example, in a psychological autopsy study of 27 suicide deaths, early attachment difficulties that persist into adulthood were revealed as a risk factor for self-harm (Fortune, 2006). This was particularly notable in the five out of seven individuals (71%) whose difficulties at age 16+ years were characterised as primarily behavioural, and among the eight out of fifteen individuals (46%) who had some sort of mental health diagnosis at age 16+ years. In addition, problematic parent/child relationships and poor family communication styles are associated with an increased risk of self-harm (Beautrais, 2000; Fortune, 2006), especially for young women (Evans et al., 2004).

Additionally, if the parents have extremely high or extremely low expectations or levels of control, there is an association with an increase in self-harm by the young person (Evans et al., 2004). Having unsupportive parents was directly associated with suicidal phenomena (Evans et al., 2004).

### **Physical abuse**

Exposure to physical abuse, sexual abuse, emotional abuse and neglect all contribute to risk (Beautrais, 2000; Evans et al., 2004; Hawton et al., 2012; Madge et al., 2011; Pearson et al., 2001). In her review of international literature, Beautrais (2000) found that a number of studies revealed a reasonably strong association between physical abuse and suicide attempt (median OR = 5.7). However, she notes that in a study which controlled for the fact that those who experience physical abuse also experience other adversity, it was found that while the association is strong, it is not a significant predictor of self-harm when these other factors are taken into account.

### **Sexual abuse**

By contrast, in their systematic review of international literature, Evans et al. (2004) found a strong and direct association between sexual abuse and suicidal behaviour. For example, in a German study of 665 school students (mean age = 14.81 years) which analysed the association between suicidality and traumatic life events, those with a history of suicidal attempt were significantly more likely to report that sexual abuse had occurred in the 6 months prior to the attempt (Plener et al., 2011). Further, in a well-designed longitudinal study of a New Zealand birth cohort (the Christchurch Health and Development study), links were examined between childhood sexual abuse that was reported at ages 18 and 21 and outcomes at age 30 in the areas of mental health, psychological wellbeing, sexual risk taking behaviour, physical health and socio economic outcomes (Fergusson, McLeod, & Horwood, 2013). A total of 14.1% reported experience of childhood sexual abuse and this was rated on a scale of severity. Those who had experienced the most severe abuse had nearly 2.5 times the number of problems as those not exposed to childhood sexual abuse at all. It was also found that at age 30, childhood sexual abuse was associated with significant increases in major depression ( $p < .001$ ), anxiety disorder ( $p < .001$ ), suicidal ideation ( $p < .001$ ), suicide attempt ( $p < .001$ ), alcohol dependence ( $p < .002$ ), and illicit drug dependence ( $p < .001$ ). Childhood sexual abuse was also associated with higher rates of post traumatic symptoms ( $p = .017$ ), decreased self-esteem ( $p = .041$ ) and decreased life satisfaction ( $p = .007$ ) (Fergusson et al., 2013). The authors concluded that childhood sexual abuse can be understood as a traumatic experience which generates negative consequences across a number of adult developmental

outcomes. These negative outcomes worsen according to the severity of the abuse (Fergusson et al., 2013).

Similar results can be seen in a large nationally and locally representative European self-report school based survey study which examined associations between self-harm, stressful life events and psychological characteristics (Madge et al., 2011). The study drew on data from the CASE study which included a large sample (30,477) of 15 and 16 year olds across five countries. Physical and sexual abuse have been treated as a single item although the reasons for this are not explained. The results showed that this category of physical and sexual abuse differentiated between those who had suicidal thoughts only and those who had a single self-harm episode (Madge et al., 2011).

### **Genetics**

There is a suggestion that genetics may play a part in suicidal behaviour, evidenced in part by the higher rates of suicidal behaviour among the families of young people with suicidal behaviour compared with non-suicidal controls (Beautrais, 2000). This is most likely that this is caused by a genetic predisposition to psychiatric disorders associated with suicide. However, Caspi and Moffitt (2006) point out that family concentration of certain behaviours can be just as easily explained by inter-generational transmission than by the influence of genetic causes. Without disentangling these dimensions we are limited in our understanding of causality. Inevitably there is an interaction between environment and genetics with environment being implicated in whether a genetic predisposition is activated.

### *Individual and personality factors*

The association between any particular personality traits and increased risk is difficult to establish (Beautrais, 2000). For example, young people reporting about their own personality traits may be affected by their current mental state; young people have less clearly established personality characteristics than adults; and it may not yet be clear which traits are nascent personality characteristics and which are evidence of a particular mental disorder (Beautrais, 2000). However, impulsivity, perfectionism, low optimism, aggression and self-criticism are personality traits associated with self-harm behaviour (Hawton et al., 2012). Repetitive self-harm is also strongly associated with a diagnosis of borderline personality disorder. Adolescents are not usually diagnosed with borderline personality disorder because they are still experiencing developmental change, however diagnosis may be appropriate if there is clear evidence that the symptoms are well established (Hawton et al., 2012) and if the diagnosis connects the young person to useful help. This section addresses the individual and

personality factors of self-esteem, sexual orientation, physical health, sexual orientation, risky sexual behaviour, and genetics.

### **Self-esteem**

In the longitudinal Christchurch Health and Development study of a New Zealand birth cohort in which the data from 1265 participants was examined to find factors that influence self-harm behaviour among depressed young people, self-esteem was found to be associated with suicidal ideation and suicide attempt (Fergusson et al., 2003). Similarly, in their systematic review of population based studies, Evans et al. (2004) found that low self-esteem was associated with both suicidal thoughts and suicide attempt. Indeed, in a range of studies, impaired or low self-esteem was found to be significantly, independently associated with suicidal behaviour (De Leo & Heller, 2004; Fortune, 2006; Hawton et al., 2012; Madge et al., 2011).

### **Sexual orientation**

Worry about sexual orientation has been noted as a risk factor for self-harm (De Leo & Heller, 2004; Hawton et al., 2012; Pearson et al., 2001). For example, it was found in a systematic review that homosexual orientation in both sexes and bisexual orientation in females were associated with increased risk of self-harm (Wagman Borowsky et al, 1999 in (Evans et al., 2004). This is consistent with a more recent New Zealand study in which data from the nationally representative Youth 2000 series was used to examine any association between sexual attraction and depressive symptoms, suicidality, self-harming and help-seeking behaviour. The findings showed that young people who are same sex attracted, both sex attracted or who were unsure, were found to be at heightened risk of self-harm, suicide and depression (Lucassen et al., 2011), with those attracted to both sexes having the highest odds ratio for depressive symptoms (OR 3.7, 95% CI 2.8 – 4.7), self-harm (OR 5.8, 95% CI 4.4 – 7.6) and attempted suicide (OR 7.0, 95% CI 5.2 – 9.4). Indeed, concerns about sexual orientation was found to be one of only a few factors differentiating those with suicidal thoughts only and those who self-harmed for the first time (Madge et al., 2011)

### **Physical health**

Physical wellbeing and health are important and physical health problems have been associated with increased risk for self-harm (Epstein & Spirito, 2010; Evans et al., 2004). Sleep is one contributor to health and wellbeing and although it has not been widely studied in the context of suicidal behaviour, sleep difficulties and related problems have been shown to have a significant association with suicidal phenomena (Evans et al., 2004).

### **Risky sexual behaviour**

Risky sexual behaviour has been found to have associations with self-harm particularly if the behaviour was early-onset (Epstein & Spirito, 2010). In a secondary analysis of data from the Youth Risk Behaviour Surveillance survey, a voluntary, anonymous, nationally representative study of 13,917 high school students aged 12 – 18 (49.5% female, 50.5% male) in the States, risky sexual behaviours were associated with an increase of risk for considering a suicide attempt, making a plan and making an attempt. There were both similarities and differences between results for males and females. For males and females, using alcohol the last time they had sexual intercourse was associated with an increased risk of considering suicide (OR = 1.88 females; OR = 1.91 males) and making a plan to attempt suicide (OR = 1.78 females; OR = 1.85) while an association with a higher risk of making a suicide attempt was present only for boys who used alcohol during last sexual intercourse (OR = 2.29) (Epstein & Spirito, 2010). There was an association between having sex before the age of 13 and an increased risk of considering suicide for males (OR = 1.52) and an association was also present for both males and females between having sex for the first time before age 13 and an increased risk of making a plan to attempt suicide (OR = 1.87 females; OR = 1.72 males) and of attempting suicide (OR = 3.7 females; OR = 2.02 males). For boys who had not used a condom at last sexual intercourse there was an association with an increased risk of considering suicide (OR = 1.69), making a plan (OR = 1.84), or making a suicide attempt (OR = 2.56) (Epstein & Spirito, 2010). Finally, for those who had been forced to have sex there was an association with a heightened risk of considering suicide (OR = 3.05), making a plan (OR = 2.59), and attempting suicide (OR = 3.64) (Epstein & Spirito, 2010).

Houck et al. (2008) also examined the relationship between a history of suicide attempt and current risky sexual behaviour in a population of 1245 sexually high risk adolescents, with a mean age of just over 18 (range 15 – 21). The study was a multisite randomised trial of a brief HIV prevention programme. Participants completed a baseline assessment consisting of an audio computer assisted self-interview. The participants were recruited from a variety of sites such as medical clinics, youth outreach programmes, or community youth programmes among others. Though it was a varied study population, the results showed that those with inconsistent condom use and those who had been diagnosed with sexually transmitted infection were around twice as likely to have attempted suicide (Houck et al., 2008). The authors concluded that a history of suicidal behaviour is significantly associated with recent sexual risk behaviour among adolescents who are considered sexually high risk.

## *Mental health factors*

### **Mood disorders**

Mental health disorders act as strong independent risk factors in the suicidal behaviour of young people (Beautrais, 2000; Christiansen et al., 2013; Evans et al., 2004; Pearson et al., 2001). Depression, in particular, is the most strongly and frequently associated with suicidal behaviour (Beautrais, 2000; Evans et al., 2004; Foley et al., 2006; Fortune, 2006; Hawton et al., 2012; Madge et al., 2011). For example, in a nationally representative anonymous cross sectional questionnaire study of 9570 New Zealand secondary school students carried out as part of the Youth 2000 series, depressive symptoms were found to have the strongest single association with suicide attempts (T. M. Fleming et al., 2007). The depressive symptoms were measured in two ways, with 2 weeks of depressed mood (OR = 3.97) and scoring over the cut off on the Reynolds Adolescent Depression Scale (RADS) (OR = 3.65) both showing statistical significance ( $p < 0.0001$ ). Similarly, in a longitudinal New Zealand study (Christchurch Health and Development Study) of a birth cohort of 1265 people with excellent retention rates and sound methods, it was found that for the young people in the birth cohort who met the DSM-IV criteria for major depression between the ages of 14 and 21 years, the rates of suicidal ideation were over 5 times higher (OR = 5.4), and the rates of suicide attempt were over 10 times higher (OR = 12.1) than the corresponding rates for non-depressed young people (Fergusson et al., 2003). However, while depression is an important risk factor for self-harm, most young people with depressive symptoms did not experience either suicidal ideation or make suicide attempts. This suggests that factors in addition to depression impact on the development of suicidal behaviour, such as comorbid conditions.

Suicidal behaviour occurs more often among those with multiple and comorbid diagnoses. For example, while anxiety disorders are found in some people who exhibit suicidal behaviour (Hawton et al., 2012; Madge et al., 2011), the association has not appeared to be direct (Evans et al., 2004). Instead it is suggested that a mood disorder, commonly comorbid with anxiety, is responsible for the increased risk (Beautrais, 2000). This is highlighted in a longitudinal epidemiological study of a representative sample of 10 – 16 year olds ( $n=1420$ ) in the South Eastern US. The study explored proximal risk factors for suicidality over a period of seven years with 8 waves of data collection over that time. The results showed that the greatest risk for suicidal behaviour was associated with depression plus anxiety or depression plus a disruptive disorder and anxiety alone was not found to be a proximal risk factor (Foley et al., 2006) in this young adolescent sample, which may differ in an older adolescent age group. But not all studies share these findings. Boden et al. (2007)

found there was a direct relationship between suicidality and anxiety disorders. In the Christchurch Health and Development longitudinal study, the association between anxiety and suicidal behaviour was investigated. After adjusting for co-occurring disorders, stressful life events and fixed sources of confounding, there was an association found between having an anxiety disorder and an increased likelihood of experiencing suicidal ideation (OR = 2.8). Similarly there was an association between having an anxiety disorder and making a suicide attempt (IRR = 1.9) than those with no anxiety disorder. Anxiety disorders accounted for up to 10.2% of suicidal ideation and up to 7.5% of suicide attempts among the cohort. A person's risk was further increased if more than one anxiety disorder was present. These results suggest that anxiety disorder may be an independent risk factor for suicidal behaviour after controlling for confounding factors.

### **Hopelessness**

Hopelessness is a state of mind that is often present alongside depression (Esposito et al., 2003) and it can be understood as a loss of belief in the future or in relief from current distress. Hopelessness was found to be positively associated with self-harm in 6 out of 7 studies in a systematic review of risk and protective factors (Evans et al., 2004) however it is unclear whether this association is direct. In a review of studies that examined the cognitive factors (hopelessness, problem solving and coping) present in adolescents who make a suicide attempt, the authors found that there is strong evidence of hopelessness being important in adolescent suicidality (Esposito et al., 2003). However, as with anxiety, it was unclear as to whether hopelessness has any importance beyond that of depression. The authors note that some researchers maintain depression is the most important factor, others see hopelessness as the most important factor, while others believe that depression and hopelessness should be studied together.

In a more recent study, Labelle et al. (2013) conducted a cross sectional, self-report questionnaire study with a convenience community sample of 712 adolescents aged 14 – 18 (360 male, 352 female). The authors examined the interaction between the cognitive variables of dysfunctional attributional style, problem solving deficits, and hopelessness; depression; and gender. They found that problem solving deficits and hopelessness were predictive of suicidal ideation even when depression was controlled for. Interestingly there was a difference between males and females in these results. The girls who were feeling hopeless had a higher risk of suicidal ideation compared with their male counterparts (OR = 1.24) while the boys who had negative problem orientation had a higher risk of suicidal ideation than their female counterparts (OR = 2.21) (Labelle, Breton, Pouliot, Dufresne, & Berthiaume, 2013). The

authors suggest that the merging of these differences between the sexes may be one reason that other studies have not shown hopelessness as independently predictive of suicidal ideation.

A further study also demonstrates the important and separate roles of depression and hopelessness in adolescent suicidal behaviour. In particular, the study focussed on a sample of 1287 (690 males, 597 females; mean age 16) potential high school dropouts enrolled in high schools in the Pacific Northwest and New Mexico. The authors examined the mediating roles of anxiety, depression and hopelessness on suicidal behaviour. They found that less proximal risk factors (family circumstances, substance use) were mediated by the more proximal risk factors of depression, anxiety and hopelessness although anxiety had an indirect effect via depression and hopelessness in this study. Most importantly for this discussion, hopelessness and depression had a direct, independent effect on suicidal behaviours. As with Labelle et al. (2013), the effects of hopelessness were stronger for females than males.

### **Substance use**

Substance use disorders are strongly associated with self-harm (Epstein & Spirito, 2010; Evans et al., 2004; Fortune, 2006; Pearson et al., 2001). Alcohol has been shown to have a significant association with self-harm among adolescents (Evans et al., 2004; Hawton et al., 2012) which is important given the easy access to alcohol for young people in New Zealand. This was demonstrated in a comprehensive review of high quality peer reviewed literature examining the relationship between suicide and substance use among adolescents, in which a strong association was found (Pompili et al., 2012). The authors rated the quality of the 17 studies in the review by evaluating the representativeness of the study population, presence of a control group, including more than a one year follow up period, evidence based measures, two independent raters who blindly diagnosed substance misuse, statistical analysis of inter rater reliability, and evidence based measures for assessing suicide and suicide attempts. As a result of the review, the authors suggested that substance use may act as both a proximal and distal risk factor. For example, they point to evidence that alcohol heightens psychological distress, aggression and also inhibits adaptive coping tools. This can increase impulsive decision making and action, which is supported by the high rates of intoxication among young people who attempt suicide. It perhaps acts as a more distal risk factor when it is used to manage increased stress and co-occurring psychopathology which increase vulnerability to suicide attempt in their own right (Pompili et al., 2012).

In their secondary analysis of 2005 data from the nationally representative Youth Risk Behaviour Surveillance study Epstein and Spirito (2010) also found substance use to be



associated with suicidality. In this study of 13,917 young people aged 12 – 18 it was found that for males and females, smoking in the past 30 days was associated with increased odds of considering suicide (OR = 2.01 females; OR = 1.69 males), and for girls who smoked in the past 30 days there was an association with making a plan (OR = 2.05), and with making an attempt (OR = 2.06). For males and females, the odds of considering suicide were almost doubled in association with offering or selling drugs in the past twelve months (OR = 1.97 females, OR = 2.09 males), sniffing glue (OR = 2.49 females; OR = 2.6 males) and injecting drugs (OR = 2.47 females; 2.67 males). The same behaviours were associated with an increase in the odds of making a plan for those who had ever sniffed glue (OR = 2.36 females; OR = 2.57 males), ever injected drugs (OR = 2.41 females, OR = 3.66 males) and ever offered or sold drugs (OR = 2.03 females, OR = 1.89 males); and were also associated with an increase in the odds of making a suicide attempt for those who had ever sniffed glue (OR = 2.45 females, OR = 3.42 males), ever offered or sold drugs (OR = 1.9 females, OR = 1.99 males), or ever injected drugs (OR = 4.75 females, OR = 3.97 males). For girls, having a first drink before the age of 13 was associated with an increase in the odds of considering suicide (OR = 1.48) and making a plan (OR = 1.59) while both sexes who had a drink before the age of 13 (OR = 1.49 females, OR = 1.71 males) had increased odds of making a suicide attempt.

These results appear to be stable over time. In a more recent study, the authors used the Youth Risk Behavior Surveillance data from 1999 – 2009, to examine the association between lifetime use of ten different substances and four measures of suicidality (ideation, plan, attempt, medically serious attempt), while controlling for potential confounders (Wong, Zhou, Goebert, & Hishinuma, 2013). In this analysis of over 70,000 young people, a history of substance abuse was shown to act as a strong independent risk factor across the four categories of suicidality. As with Epstein and Spirito (2010), illicit drugs had a stronger association than legal drugs. In addition the number of substances used is important.

### **Eating disorders**

Eating disorders are associated with an increased risk of suicide and self-harm (Beautrais, 2000; Evans et al., 2004). However it is unclear whether this relationship is direct. For example, in a study of 392 high school students (mean age = 15; males 52%, females 48%) in the US, the authors examined the hypothesis that disordered eating and body image, in addition to depression, contributed to suicidal ideation (Brausch & Gutierrez, 2009). Using data collected as part of an ongoing mental health survey, they predicted that the relationship between suicidal ideation and disordered eating and body image would be direct. They found that disordered eating had a significant direct association with suicide ideation ( $p < .001$ ),

whereas body image had an indirect association via depression. In addition both disordered eating and body image had a significant association on depression ( $p < .001$ ).

In contrast, a study conducted with 930 adolescents (286 males, 630 females; age range 14 – 19) in northeast Italy explored the role of depression and aggressiveness as mediators between disordered eating and suicide ideation (Miotto & Preti, 2007). Using data from the Conegliano Eating Disorder survey, they found that the links between disordered eating and self-harm were fully mediated by depression and aggressiveness and that this accounted for most of the effect of the disordered eating. However the depression and aggressiveness may still be a consequence of the disordered eating (Miotto & Preti, 2007).

Despite these differences, about the directness of the association of disordered eating on suicide ideation, the studies are consistent in recognising that disordered eating and poor body image are risk factors for self-harm. The presence of disordered eating and body image should alert a clinician to a heightened risk of suicide ideation, either via its' association with depression, or through a more direct association.

### **Suicidal behaviour**

Previous self-harm is a common (Pearson et al., 2001) and strong predictor of future self-harm and eventual death by suicide (e.g. (Beautrais, 2000; Fortune, 2006). For example, in a prospective, longitudinal study of 5205 people (76.4% female, 23.6% male; aged 18 and under) who presented to an emergency department following self-harm (Multi Centre Study of self-harm in England), an episode of previous self-harm was found to be a strong predictor of future self-harm and future death by suicide (Hawton et al., 2012). Similarly, in a nationally representative stratified sample of nearly 5,000 U.S. high school students (mean age 16.7; 48.9% females, 50.1% males) who were part of the National Longitudinal Study of Adolescent Health the greatest risk for future suicide attempt was an attempt in the previous year (relative risk = 3.3) (Nanayakkara, Misch, Chang, & Henry, 2013). In addition, in a prospective population based representative study of young adults, who were followed from age 6 ( $n=3017$ ) through to their early twenties ( $n = 1715$ ), those with early onset of suicide attempts were at the more severe end of the suicidality continuum compared with those who had a later onset of suicide attempts (Brezo et al., 2007). These studies reinforce the clinical importance of good assessment for prior suicidal behaviour.

### **Stability and change of symptoms**

Self-harm and completed suicide may both occur when no psychiatric diagnosis is present. For example, in a psychological autopsy study of 27 young people who died by suicide, 5 – 10% had no psychiatric diagnosis (Fortune, 2006) and their deaths seemed out of

the blue to people in their lives. However, out of the five people in this group which was characterised by acute life stress, three had expressed suicidal intent in the two weeks prior to their death and one of these three had made a previous attempt as well as having lost an uncle and a peer to suicide (Fortune, 2006). This highlights that suicidal behaviour may occur following life stress without a psychiatric diagnosis being present (Madge et al., 2011). This is reinforced by the Child and Adolescent Self-harm in Europe (CASE) study (3,000 mainly 15 and 16 year olds), in which it was found that psychological characteristics and stressful life events have independent associations with self-harm (Madge et al., 2011). There was strong evidence that an increase in the average number of stressful life events resulted in a greater severity of self-harm behaviour and a similar relationship was evident between self-harm and psychological characteristics (Madge et al., 2011).

In addition, those who have self-harmed without a psychiatric diagnosis have been found to have sub threshold levels of anxiety and depression (Bhola, Rekha, Sathyanarayanan, Daniel, & Thomas, 2014). This highlights the importance of taking note of changes or worsening in depressive symptoms (Nanayakkara et al., 2013) and stressful life circumstances because suicidal thoughts are predicted not only by severity of symptoms but by their stability or change over time (Kerr, Reinke, & Eddy, Feb 2013).

#### *Stressful life events and adverse life circumstances*

Psychological autopsy studies show that a stressful life event precedes death by suicide in 70% to 97% of cases (Beautrais, 2000). This is reinforced by studies in which people who have made a suicide attempt also had higher than usual levels of life stress prior to their attempt (Madge et al., 2011; Pearson et al., 2001). For example, in a small German study of 665 high school students (mean age 14.81; age range 14 – 17), investigating the association between suicidality and preceding traumatic life events 43 participants reported a suicide attempt and 239 participants reported suicidal ideation. They were then asked whether they had experienced a traumatic event in the six months prior to the experience. The results showed that 78.1% of those with suicidal ideation, and 62.8% of those who attempted suicide reported at least one traumatic event in the preceding 6 months preceding their suicidal thoughts or actions. (Plener et al., 2011). The authors noted this was a high prevalence when compared with a representative sample of 14 – 29 year olds which showed a 10% prevalence of traumatic events. Further, those who made suicide attempts reported significantly multiple adverse events ( $p=0.002$ ) than those with suicidal ideation alone (Plener et al., 2011).

These results are echoed in the previously mentioned CASE study in which a representative sample 30,000 young people aged 15 and 16 across Europe were surveyed

(Madge et al., 2011). The results showed a highly statistically significant difference ( $p < 0.001$ ) between those with a history of self-harm and the reporting of each life event category. The events that were most strongly associated with self-harm were the experience of self-harm or suicide by others, physical or sexual abuse (treated as one item), difficulties with peers or friends and problem with or between parents. As with Plener et al. (2011), there was evidence of a dose-response relationship with the number of stressful life events increasing in line with the severity of self-harm (Madge et al., 2011).

### *Environmental and contextual factors*

#### **Exposure to suicidal behaviour**

Exposure to suicidal behaviour on the part of others is a significant risk factor for self-harm among young people (De Leo & Heller, 2004; T. M. Fleming et al., 2007; Fortune, 2006; Hawton et al., 2012) regardless of depression levels (Nanayakkara et al., 2013). In one study this exposure was found to be equivalent to the risk posed by severe depression (Nanayakkara et al., 2013). Further, the risk for 15-19 year olds who have been exposed to a suicide event, becomes 2 -4 times higher (177, in (Beautrais, 2000)). This is consistent with the CASE study which found that exposure to suicide and self-harm in others was the life event most strongly associated with self-harm (Madge et al., 2011). In addition, there appears to be a direct association between having a friend with suicidal behaviour and an increase in suicidal thoughts or behaviour for a young person (Evans et al., 2004).

#### **Peer relationships**

There was a strong relationship found between poor relationships with peers and increased risk (Evans et al., 2004; Fortune, 2006). Interpersonal difficulties that carry on into adulthood can be a risk factor (Fortune, 2006). In addition, being bullied and victimised is associated with self-harm (Hawton et al, 2012; Epstein and Spirito, 2010). Using data from the 2007 Youth 2000 survey, Clark et al. (2009) demonstrated that being bullied is associated with higher rates of depressive symptoms and suicide attempts. For instance, among students who did not experience frequent bullying 5.8% of males and 12.8% of females showed a significant level of depressive symptoms. By contrast, for those bullied at school weekly or more, 21.4% of makes and 51.8 of females showed significant depressive symptoms (OR = 5.0). Similarly, among those who did not experience frequent bullying 2.5% of males and 5.9% of females made a suicide attempt in the previous 12 months. Again this contrasts with those who had been bullied weekly or more of whom 8.8% of males and 21.5% of females had made a suicide attempt in the previous 12 months (OR = 3.3) (Clark, T.C., Robinson, E., Crengle, S., Grant, S., Galbreath, R.A. Sykora, J., 2009). While this association does not

signify causality, it does highlight that difficulties with peers indicate a heightened risk of self-harm.

### **Media reporting**

In a systematic review of international population based studies of factors associated with suicidal phenomena, only one study was found pertaining to adolescents (Evans et al., 2004). However in this study the authors found that exposure to suicide on television was significantly associated with self-harm after controlling for other factors. This was in line with adult studies which conclude that media publicity about suicide may encourage suicidal behaviour among those who are vulnerable (Evans et al., 2004) although it is hard to be definitive due to a lack of direct evidence (Beautrais, 2000). In March 2014, the New Zealand Law Commission published a report which reviews the current law about the reporting of deaths by suicide in both traditional and new media in New Zealand (New Zealand Law Commission, 2014). In their review of relevant literature, the authors cited evidence that media reporting may affect vulnerable people by heightening the risks of contagion, through potential imitation of a method used, through normalising suicide, through unintentionally glamourising or sensationalising suicide, and also through impacting on those who have been bereaved by suicide. The effect is small in comparison to factors such as a history of mental health difficulties, or exposure to self-harm in others, but it remains important. To address this risk, the Law Commission have recommended that the law should specify that unless an exemption has been granted by the Chief Coroner, no one may directly or indirectly make the method of death public, and no one may describe a death as suicide (until the Chief Coroner has designated it as such) (New Zealand Law Commission, 2014).

### **Access to means**

Access to means of self-harm and suicide is another environmental factor but one which presents challenges due to changes in trends of methods used over time and the difficulties in anticipating and minimising such access (Beautrais, 2000; Ministry of Health and Health Promotion Agency, 2014). In a 2007 editorial, Beautrais noted that some suggest that the risk of substituting one method for another is a good argument against restricting any particular method. However Hawton (2007) reminds us that ambivalence underlies a lot of suicidal behaviour and therefore it is possible that a lack of access to a preferred method could thwart a suicide attempt.

Certainly there is evidence to support the effectiveness of restricting access to means. For example, Beautrais (2009) investigated the national mortality data for a bridge in Auckland, New Zealand after safety barriers that had been in place for 60 years were

removed. There was a fivefold increase in the number and rate of suicides from the bridge when the barriers were removed and there have none at all since they were reinstalled (Beautrais, Gibb, Fergusson, Horwood, & Larkin, 2009). The effectiveness of restricting access to particular methods has shown effectiveness in other ways such as a reduction in deaths by carbon monoxide poisoning since the advent of mandatory emissions and the installation of catalytic converters in new cars (Routley, 2007 in Beautrais, 2007a) and imposing more restrictive gun control laws in some countries (Leenars, 2007, in Beautrais, 2007a).

An illustrative example is the detoxification of domestic gas. Clarke and Mayhew (1988, in Lester, 2012) documented that when domestic gas was detoxified in the United Kingdom, suicide deaths using this method declined from 49.8% of all suicide deaths in 1955 to 0.2% of all suicide deaths in 1977. The rates of suicide by other means increased but some decline in overall rates of suicide remained. However the detoxification of gas was not effective in all countries that implemented this change. When Lester (1995, in Lester, 2012) compared the changes in suicide rates in countries which has detoxified domestic gas, he found that there was only a reduction in overall suicide deaths where the method of using domestic gas had been common. So while it can't be definitively established that such changes will contribute to an overall reduction in the number of suicides, it is nevertheless an important aspect to include in suicide prevention policy (Beautrais et al., 2007).

### ***Protective factors against self-harm among young people***

While it is important to understand the risk factors for young people and self-harm, it is at least as important to understand protective factors, those elements that reduce the risk of self-harm or increase the probability of positive outcomes (T. M. Fleming et al., 2007) and contribute to resilience. Early interest in protective factors arose from efforts to understand why some people who are exposed to risk factors do not demonstrate adverse outcomes (Luthar et al., 2000). Ground breaking research (Luthar et al., 2000) in this area was the thirty year Kauai Longitudinal Study (Werner, 1995). In this study a team of health professionals followed a multi ethnic birth cohort of 698 children born in 1955 on an island in the Hawaiian chain from before birth until age 32 (Werner, 1995). Around one third were considered at high risk of poor outcomes because of poverty, perinatal stress, and stressful family circumstances. Out of these at risk participants, 2/3 demonstrated poor outcomes in terms of education, behaviour, and mental health. By contrast, the remaining third developed in to “competent, confident and caring adults” Werner, 1995, p. As these people grew up, common characteristics were noted that appeared to be predictive of resilience in their later years

(Werner, 1995). While this study was not focussed specifically on self-harm outcomes, subsequent studies about protective factors in relation to self-harm echo those found in this research (Boeninger & Conger, 2012; Bureau et al., 2012; T. M. Fleming et al., 2007; Taliaferro & Muehlenkamp, 2014). The qualities and sources of support that are connected with successful coping have been replicated in a number of longitudinal studies across diverse populations which suggests a universality across contexts (Werner, 2013).

Like risk factors, protective factors can be cumulative, so that the more protective factors are present, the better the outcomes are likely to be (O'Dougherty et al., 2012). Protective factors moderate a person's reaction to stress or adversity so that they will not be as negatively impacted (Boeninger & Conger, 2012; Bureau et al., 2012; Werner, 1995)

Cha and Nock, 2009. Similarly they facilitate development in both high and low risk contexts, keeping development on course and facilitating recovery from adversity (O'Dougherty et al., 2012).

Protective factors are powerful in that they seem to have a greater impact on the life course of those who grow up with adversity than the risk factors or stressful life events they must deal with (Werner, 1995). Similarly they are not necessarily just the converse of risk factors. For example, therapeutic interventions that target negative mood are not the same as those that augment positive mood (Brent et al., 2013). They appear to function both indirectly to reduce other risk factors such as depression, and also directly by make it less likely that young people will act on low mood or distress with suicidal behaviour (T. M. Fleming et al., 2007). In most cases, protective factors contributing to resilience with populations considered at high-risk were also of benefit to people who were not at risk (Werner, 2013). Protective factors have been identified in the following spheres: family (T. M. Fleming et al., 2007), school, (Evans et al., 2004; T. M. Fleming et al., 2007; Werner, 1995), community (T. M. Fleming et al., 2007; Werner, 1995) and individual (Werner, 1995).

### *Family*

Within a family context, connection, mutual support and caring, communication, parental presence, shared family time and shared activity are important (e.g. Beauvais, 2000; Evans et al., 2004; T. M. Fleming et al., 2007). If this is not available, then a close bond with at least one competent and emotionally stable person is helpful (Luthar et al., 2000; Werner, 1995). Similarly, strong affectional ties with family or others are important (Werner, 2013) For example, in the Kauai study, the participants were monitored for the impact of biological and psycho social stress factors, stressful life events and protective factors. The authors found

that the males who overcame adversity had families with structure and rules, good male role models, and some encouragement of emotional expression while the females had families with an emphasis on risk taking and independence with reliable support from female caregivers and a mother who gainfully and steadily employed (Werner, 1995).

The protective importance of family is echoed in other studies. For example, in the cross sectional Youth 2000 studies, data from 2001 revealed that parental caring (OR = 0.20) in particular, but also parental closeness (OR = 0.36), parental presence (OR = 0.44), and eating meals as a family (OR = 0.45) were all associated with a reduced incidence of suicide attempt (Fleming et al, 2007). Further, in the Christchurch Health and Development study, a “modest but pervasive” association was demonstrated between attachment and bonding between adolescents and their parents and later outcomes up to age 30 including depression, anxiety, self-harm, substance misuse, and crime (Raudino, Fergusson, & Horwood, 2013).

### *Individual disposition and characteristics*

The Kauai study showed that having self-efficacy (a belief in one’s own competence) and an internal locus of control (Werner, 1995) are protective. McNamara (2012) echoes this in a comprehensive paper examining the risk factors and resilience factors associated with suicidality in young people, noting that self-efficacy includes the capacity to reach out for personal support when needed. This is reinforced by the finding from a study of 682 high school students (516 female, 166 male; mean age 16.67) who completed a self-report questionnaire at two time points, 20 months apart. The results demonstrated that the links between negative life events and suicidal ideation were significantly weaker among those with high self-determination. In this way, self-determination moderates the effects of negative life events leading to suicidal ideation (Bureau et al., 2012).

Problem solving skills also appear protective. For example, effective appraisal of a problem leads to better, or better directed, coping strategies (Werner, 1995). While Werner’s Kauai study does not speak directly to protective influences for suicidal behaviour, there is a wide body of evidence demonstrating a strong association between poor problem solving and heightened risk for suicidal behaviour (See chapter 4 for a detailed discussion of the this association).

### *School*

Effective schools are important (Luthar et al., 2000). In a nationally representative study of New Zealand secondary school students, feeling safe, and being treated fairly by teachers were found to be independently associated with decreased rates of suicide attempt (T.



M. Fleming et al., 2007). Further, favourite teachers can serve as strong role models (Werner, 1995) which can compensate for poor role models at home. In the Dunedin Multidisciplinary Health and Development study, school attendance has been identified as having a significant protective effect against antisocial behaviour among males identified as having poor self-regulation at an early age (Henry, B., Caspi, A., Moffitt, T.E., Harrington, H. L., Silva, P.A., 1999). This suggests that staying at school has the potential to reduce poor outcomes for these young men that would likely occur as a result of early school leaving.

Intelligence, scholastic competence and achieving well in school are positively associated with the ability to overcome great odds (McNamara, 2012; Taliaferro & Muehlenkamp, 2014; Werner, 1995).

### *Communities*

Positive communities can have a protective impact for young people (T. M. Fleming et al., 2007). For example, having good relationships with peers and elders (Everall et al., 2006; Werner, 1995), or other prosocial adults (Luthar et al., 2000) in the community is helpful, as is a sense of belonging (Everall et al., 2006). Another important aspect of a positive community is the provision of ongoing opportunities such as education or employment to support troubled youngsters towards success in their 20's or later (Werner, 1995). In addition, the quality of health care and social services can offer protective influences. Engagement in recreation, and being positively connected socially, seems to be protective (McNamara, 2012).

### *How might protective factors and resilience differ or overlap conceptually?*

Protective factors and resilience are strongly inter related and it is difficult to separate them from one another. One conceptualisation of their difference is to view protective factors as inputs into a person's life which enable the development of a resilient mindset and resilient behaviour. A resilient mindset facilitates a resilient response to stress and challenge. This resilient response/behaviour is the output. In turn, a resilient mindset has a protective effect in its own right. The overlap lies in the inseparable relationship between the two as part of a whole dynamic process.

Protective processes operate through temperamental, environmental, genetic and biological factors (Connor and Zhang, 2006). Their presence enables a person to develop resilience, that is, the skills and mindset to respond effectively when faced with challenge or

adversity. Some temperamental or personal characteristics described as protective are also described as denoting resilience. This is because a resilient response is underpinned by qualities such as stress hardiness, communication skills, problem solving skills, self-discipline and connection to others (Goldstein and Brooks, 2013). These qualities are a result of protective processes.

Developmental and contextual considerations are important and children have different risk and protective processes in place at varied points of their lives (Wright and Masten 1997, in O’Dougherty et al., 2012). For example, O’Dougherty et al (2012) highlight that babies are extremely vulnerable to the loss of, and mistreatment by, caregivers due to their complete dependence at this stage of their lives. As children grow up, they become more independent from their parents, attending school, going on playdates, being part of a sports team. Depending on the nature of these environments, this can either increase exposure to adversity or act as a protective influence. Further, with increasing age and maturity, young people become more aware of the implications of losses or betrayals they experience and this is an added vulnerability (O’Dougherty et al, 2012).

In their 2005 review, Beautrais et al (2005) noted “reviews of resilience in children and young people have consistently identified three classes of individual and contextual protective factors which characterise resilient individuals:

- *individual attributes* – including cognitive abilities (e.g., IQ scores, executive functioning skills), self perceptions of competence (e.g., self-esteem), temperament and personality (e.g., adaptability, sociability), self-regulation skills (e.g., impulse control) and positive outlook on life (e.g., hopefulness)
- *relationships* – including quality of parenting, close relationships with competent adults (e.g., parents, relatives, mentors), connections to pro-social peers
- *community resources and opportunities* – including good schools, connections to pro-social organisations (e.g., religious groups), neighbourhood quality, and quality of social services and health care (Masten and Powell 2003)”.

Donnellan et al (2009) similarly summarised protective factors in a clinical population as:

- “Dispositional attributes that elicit mostly positive responses from environment
- Socialisation practices in family that encourage autonomy, trust, initiative, and connection to others

- External supports in neighbourhoods and community that reinforce self-esteem and self-efficacy “(p )

Resilience is also a multi-faceted human characteristic. It has been described as “Positive adaptation in the face of risk or adversity; capacity of a dynamic system to withstand or recover from disturbance” (O’Dougherty, Hearst, Syed, Kurzer, & Schmitz, 2012). It is the capacity to adapt functionally, with protective factors promoting the adaptation (Kaplan, 2013). The development of resilience is a normal part of healthy development that can be built upon over the life span (Everall et al, 2006; Goldstein and Brooks, 2013) so adversity does not necessarily have to mean trauma. Goldstein and Brooks (2013) point out that a resilient mindset is enabled by “providing children with opportunities to develop the skills necessary to fare well in the face of adversity that may or may not lie in the path to adulthood for that individual”.

There are many possible determinants of resilience, including neurobiologic, genetic, temperament, and environmental influences. (Connor and Zhang 2006). Noting the similarity between this list of determinants and the protective factors noted above, it would be fair to say that the determinants of resilience are the presence of protective factors across these varied domains.

*How might they work to contribute to the development of self-harming behaviour over time?*

An absence of protective factors and concomitant resilience contributes to the development of self-harming behaviour over time. This is because the skills that are necessary to deal with distress or cope with problems underpinning self-harming behaviour are not present. This is demonstrated in studies which have found lower levels of resilience among those who make suicide attempts (Everall et al., 2006; Nrugham, Holen, & Sund, 2010).

Resilience represents a biopsychosocial process which takes in to account a range of factors that influence functioning over time (Goldstein and Brooks, 2013). For example, the early years of a child’s life are foundational and the opportunity to develop a secure attachment to loving caregivers is extremely important. Such a relationship can moderate a young child’s exposure to adversity through the protection of the parents. For young children, the effects of adversity can also be moderated through their limited understanding of some events. However as children grow older and spend more time with peers, they may be exposed to adversity either directly or through becoming aware of world events through their peers. With growing age and maturity the implications of events can be better understood and this can present challenges as well (O’Dougherty et al, 2012). Without protective factors and processes in place to support young people to negotiate these developmental challenges, resilience is less likely to develop.

Another contextual factor is the degree of exposure to a risk. A risk may be proximal, that is, it is experienced directly by a child or young person or it may be distal, that is, it arises from the context but is mediated (or moderated) by more proximal means. Risk factors are cumulative in their impact (Madge et al., 2011; Plener, Singer, & Goldbeck, 2011) The more adverse conditions that exist in a young person's life, and the greater the severity of these stresses, the more heightened their risk of self-harm ((Foley et al., 2006; Madge et al., 2011; O'Dougherty et al., 2012).

Protective factors can also be cumulative, so that the more protective factors are present, the better the outcomes are likely to be (O'Dougherty et al., 2012). Protective factors appear to function both indirectly to reduce other risk factors such as depression, and also directly by make it less likely that young people will act on low mood or distress with suicidal behaviour (T. M. Fleming et al., 2007). However, protective factors seem to have a greater impact on the life course of those who grow up with adversity than the risk factors or stressful life events they must deal with (Werner, 1995).

The presence of protective factors in a young person's life, even if they are not uniform across all domains of their life, allows or promotes the development of a resilient mindset. A resilient mindset along with other protective factors, makes it likely a young person can overcome challenges without needing to resort to self-harming behaviour. They have other alternatives available to them. Resilience is reinforced by mastery so success with overcoming an adverse experience strengthens that mindset. It is an absence of protective factors and the presence of risk factors which contributes to self-harming behaviour.

## ***Chapter 3: Problem Solving Therapy***

### ***Introduction***

Social Problem Solving has been described as an essential component of behaviour change programmes for young people (Frauenknecht & Black, 2004). In fact, it could be considered "...the single most important social skill that a young person can acquire" (Frauenknecht & Black, 2004, p 153). This is because Social Problem Solving is the process we use to solve problems in the real world (D'Zurilla, MaydeuOlivares, & GallardoPujol, 2011). Without this skill we are limited in our ability to respond effectively when problems arise. In addition, Social Problem Solving is the problem solving process that underpins Problem Solving Therapy. In this chapter I begin with a discussion of problem solving therapy as a possible solution for the problem of self-harm. I then present four components essential to understanding problem solving therapy, the psychological intervention that forms the basis of this study.

The first component is a description of Social Problem Solving and what it entails. The second component is an examination of the stepped process of problem solving therapy as articulated initially by D'Zurilla and Goldfried (1971) and further developed by D'Zurilla and colleagues in ensuing years (e.g. D'Zurilla & Nezu, 2007). This section also draws on the work of Mynors-Wallis (Mynors-Wallis, 2005) and his primary care model of problem solving therapy. The third component presents a discussion of social learning theory (later renamed Social Cognitive Theory), the theoretical foundation of Social Problem Solving and problem solving therapy. It also considers the more recent relational/problem solving model of stress. This is followed by the fourth component, a brief consideration of the clinical application of problem solving therapy and how this intervention can be seen as relevant to the problem of self-harm in young people.

### ***Problem Solving Therapy as a possible solution***

Problem solving therapy is directed towards explicitly helping people to cope more effectively with problems that arise (Reinecke, 2006a). It is a manualised therapy which includes oral and written presentation of the steps by the therapist, accompanied by guided practice and between session assignments (Malouff, Thorsteinsson, & Schutte, 2007a). The aim is to encourage the espousal and implementation of effective problem attitudes and behaviours in a bid to reduce emotional distress and improve quality of life (Nezu & Nezu, 2010). In the context of suicidal behaviour it is hoped that using rational problem solving alleviates stressors in the young person's life at the same time as they learn more useful skills

and develop a more optimistic problem orientation (Reinecke, 2006a). I conducted a search of the literature to find reviews of the effectiveness of Problem Solving Therapy for self-harm. The reviews can be grouped into studies exploring: the efficacy of a broad range of interventions for depression; the efficacy of problem solving therapy for depression; and the (Gellis & Kenaley, 2008) efficacy of problem solving therapy for self-harm.

The most recent review found was a systematic review and meta-analysis of brief psychotherapy (fewer than 8 sessions) for depression (Nieuwsma et al., 2012). The authors analysed two existing systematic reviews and 15 randomised control trials. They found that brief psychotherapies, including problem solving therapy, were more efficacious than controls for the treatment of acute phase depression. In 2008, Cuijpers et al. conducted a good quality meta-analysis of comparative outcome studies for depression. They investigated a total of 53 studies which compared 7 major types of psychological treatments with other psychological treatments. They found that no treatment was more or less efficacious than any other except interpersonal psychotherapy being somewhat more efficacious and supportive non directive therapy being somewhat less efficacious. However, the dropout rate from cognitive behavioural therapy was significantly higher than for other therapies whereas it was significantly lower for problem solving therapy than for other therapies (Cuijpers, van Straten, & Warmerdam, 2007). This is important given that treatment engagement and retention can be a challenge among young people at risk of self-harm.

Three reviews were focussed on problem solving therapy in particular. In 2007, a meta-analysis was conducted, looking at the efficacy of problem solving therapy in reducing mental and physical health problems (Malouff et al., 2007a). Across the 31 studies that were included, strong evidence was found that problem solving therapy is effective in treating physical or mental health problems. It is significantly more effective than no treatment, treatment as usual and attention-placebo controls. However, it is not significantly more effective when compared with another bona fide treatment (Non directive supportive therapy in one study) although there was a trend in that direction. Including problem orientation and homework made problem solving therapy more effective (Malouff et al., 2007a).

Similar results were found in another meta-analysis of 21 controlled outcome studies, conducted in 2009, this time investigating the effectiveness of problem solving therapy for depression. Problem solving therapy was found to be effective for treating depression. It was found to be equally as effective as other psychosocial therapies and medical treatments and significantly more effective than no treatment and support/control groups (Bell & D'Zurilla, 2009). As with the previous review, it was more effective when it included problem

orientation. Another systematic review of problem solving therapy for depression conducted in 2009 came to similar conclusions (Gellis & Kenaley, 2008). After reviewing 22 studies that used problem solving therapy for the treatment of depression for adults in the community problem solving therapy was shown to be superior to several alternative interventions and the effects were maintained for substantial periods beyond the end of treatment (Gellis & Kenaley, 2008).

Finally, in 2001, a meta-analysis of the efficacy of problem solving therapy treatment after deliberate self-harm was conducted (Townsend et al, 2001). The analysis included six studies conducted with adult populations. At follow up, participants in the experimental conditions showed significantly greater improvements in depression and hopelessness, and significantly more reported improvement in their problems compared to those in the control treatment conditions. In addition there was a trend towards reduced repetition of self-harm (Townsend et al, 2001).

These reviews have all been conducted with adults. There is only one review that I could find specific to social problem solving and adolescents. In this 2005 systematic review, Speckens and Hawton assessed literature addressing social problem solving in adolescents with suicidal behaviour and any impairment in their social problem solving. They reviewed 22 studies, and most of the studies found evidence of problem solving deficits in young people who had self-harmed. However few of the differences remained after controlling for depression and hopelessness. Further, because most of the studies were cross sectional, it was not possible to distinguish whether deficits in problem solving lead to depression in adversity or whether depression is the main factor undermining problem solving. Future research is needed to clarify this association. They drew a “cautious conclusion” that there is some evidence for an association between suicidal behaviour and problem solving deficits in adolescents. This study is now 9 years old and the discussion presented in the previous section on the association between problem solving and self-harm suggests that evidence of this association has been strengthened since this time.

Problem solving therapy is based on a relational/problem solving model of stress and wellbeing. In this model social problem solving is understood as a mediator and moderator of the relationship between stressful life events and well-being (Bell & D'Zurilla, 2009). It is a time limited intervention which is active, problem focussed, collaborative, strategic and psycho educational (Reinecke, 2006a). The reviews that have been presented here provide consistent evidence that problem solving therapy shows effectiveness as a treatment for depression among adults. This is important given that depression has the strongest single

association with self-harm. Further, problem solving therapy is a treatment that is ideally suited to building resilience and has a strengths based focus (Brent et al., 2013) which is also important given that self-efficacy and good problem solving skills are protective against self-harm. Further, it is adaptable to a youth based population. On the basis of these reviews it would be fair to conclude that problem solving therapy is an intervention that is worth investigating further among young people at risk of self-harm. The following chapter (3) outlines problem solving therapy in more detail, including the origins, development and current practice. Then, in chapter 4 an in depth literature review is presented to further explore the evidence for using problem solving therapy with young people at risk of self-harm.

### ***Social problem solving***

Social problem solving is the process we use to solve problems in the real world (D'Zurilla et al., 2011), and it is the approach that underpins problem solving therapy. It sits within the cognitive-behavioural field and was first articulated as Problem Solving Therapy in a 1971 paper by D'Zurilla and Goldfried and then later refined by D'Zurilla and Nezu in 1982. Revisions have continued since that time (D'Zurilla & Nezu, 2007). This problem solving therapy model is primarily used in the emotional and mental health arenas. It has also been used for dealing with the psychological responses to physical illness such as cancer and diabetes (McGuire, 2005), as well as depression, anxiety and self-harm.

The word “social” in Social Problem Solving reflects concern with any kind of problem solving that affects a person’s functioning in life as distinct from problem solving that is laboratory based, or is artificial (e.g. Frauenknecht & Black, 2003; McGuire, 2005). So it can be understood as encompassing impersonal, intrapersonal, interpersonal, and even community and societal problems.

The purpose of Social Problem Solving is to move from a problem to a solution by working through a particular series of explicit steps (McGuire, 2005). Social Problem Solving provides a prescriptive outline of how these problem solving steps should occur (D'Zurilla & Nezu, 2007) . The importance of this stepped process lies both in solving the problem at hand, and also in being able to use the process again to solve future problems. This supports the development of health enhancing behaviours in young people and lessens any negative impact caused by the ongoing stress of an unresolved problem (Frauenknecht & Black, 2004). Frauenknecht et al. (2004) suggest that Social Problem Solving is “...one of the few variables that actually aid a person in controlling and modifying the behaviour that directly affects the quality of their life.” P1



The rationale for Social Problem Solving programmes is that impaired problem solving is associated with interpersonal challenges and other mental health or behavioural difficulties. Impaired problem solving may result from a lack of skill due to limited learning opportunities. For example, there may be parental constraints or other socialization influences. Impaired problem solving may also result from not applying skills that are in fact present. For example, it could be a motivational issue or it could also be due to imposed constraints around independence of action and thought (McGuire, 2005).

According to D’Zurilla and Nezu (2007, p 12) Social Problem Solving is “... a learning process, a general coping strategy, and a self-control method”. It is a learning process because undertaking the problem solving process results in a change in one’s abilities (Gagne, 1966 in D’Zurilla and Nezu, 2007). It is a coping strategy because improved problem solving leads to an ability to manage more effectively in the face of life challenges. Finally, it leads to improved self-control because problem solving is a self- directed learning and coping process which requires self-regulation.

Another important consideration is the distinction between problem solving and solution implementation (D’Zurilla & Nezu, 2007). Problem solving is about finding solutions to a given problem. Solution implementation is about creating a plan and enacting that solution. These two processes require different skill sets and a person may be good at problem solving but not at implementation or vice versa. Further, the problem solving process is similar regardless of the problem, while the implementation can vary enormously across varied solutions. For this reason, some people will need support in developing the constituent skills required for implementing a specific solution.

### *What is a problem?*

D’Zurilla and Nezu (2007) assert that a theory of social problem solving should articulate clear definitions for problem solving, problems and solutions. According to D’Zurilla and Goldfried (1971, p107) a problem is “...a specific situation or set of related situations to which a person must respond in order to function effectively in his environment”. Similarly, D’Zurilla and Nezu (2007) articulate it as any life situation or task (present or future) which requires a response but for which no immediate effective response is available. The problem may be external to the person (eg a task to be completed) or internal (e.g. a goal, commitment). Nezu et al. (2005, p 104) describe the possible barriers as “novelty, ambiguity, unpredictability, conflicting demands, performance skill deficits, or lack of resources”. A specific problem may be a single time limited event (a fight with a friend, a missed appointment), a repeated series of events (unreasonable demands from an employer), or a

chronic continuous situation (chronic illness). Additionally, although the situation itself may not be intra psychic, the problem that arises from it may be the “response-produced” personal thoughts and feelings –reactions - that occur. An example would be when a young person has to cope with parental separation.

### *What is an effective solution?*

An effective solution is one which solves, or contributes to solving, the current situation. The aim is to choose a solution that has a minimum of negative side effects for the problem solver or anyone else, while also choosing a solution with the most benefits. The solutions needs to be specific to the problem at hand and it results from the problem-solving process. The problem solver needs to consider the consequences of the solution for them and others along with both short term and longer term implications that may arise from the implementation of the solution (D'Zurilla & Nezu, 2007).

### *What is problem solving?*

D'Zurilla and Goldfried (1971) originally described problem solving as a process by which the problem solver generates a number of potentially successful solutions or alternatives. D'Zurilla et al. (2007) build on this and describe it as the “cognitive behavioural” process by which people identify and resolve problems in everyday living. These problem solving efforts may aim to change the situation, manage the response to the situation or both. D'Zurilla et al. (2007) describe problem solving as “...a conscious, rational, effortful, and purposeful activity” (p. 104).

## ***Problem Solving Therapy***

The development and use of problem solving therapy was originally based on two assumptions (D'Zurilla & Goldfried, 1971a). The first of these is that an inability to effectively solve problems can generate significant personal and social consequences. These consequences can lead to difficulties that result in a need for psychological support. The second assumption is that improved effectiveness at problem solving can be achieved by teaching people the processes and skills needed to eventually face and manage their problems independently. Nezu, D'Zurilla and Nezu (2005) continue to support these assumptions, noting that problem solving therapy aims to prevent and reduce psychopathology through improving the ability to cope with stressful life problems.

Problem solving therapy includes problem orientation, problem solving skills, and solution implementation but the three processes are distinct. Problem orientation is the motivational aspect and relates to self-efficacy. It is our thoughts and beliefs about problems

in general and our thoughts and beliefs about our own ability to solve problems. Problem solving is the process of finding solutions to apply to a given problem. Finally, solution implementation is about carrying that solution out. Solution implementation can require different skills across varied solutions. Clients may already have skill sets specific to one or other of these processes or they may need support with each.

### *The stages of effective problem solving*

In their early paper, D’Zurilla and Goldfried (1971) identified five stages from research into effective problem solving. The model has stayed essentially stable over the intervening years, although some steps have been renamed and redeveloped. In addition the original conception of problem solving therapy as a two factor model has been expanded to a five factor model (D’Zurilla & Nezu, 2007) .

The stages of problem solving therapy have some overlap and also interact with one another. They are: general orientation now known as problem orientation, problem definition and formulation, generation of alternatives now known as generation of alternative solutions, decision making, and verification now known as solution implementation and verification. The following section outlines and explains these stages in more detail, drawing mostly on the original paper and recent book in 2007, so as to illustrate both the starting point and the current model. This discussion of problem solving therapy also draws on the work of Mynors-Wallis (2005) who developed a primary care model of problem solving therapy for people living with anxiety and depression. His seven stage model excludes problem orientation and includes stages about recognition of symptoms as possible indicators of problems.

### *Problem orientation*

Originally known as general orientation, problem orientation can be understood as the mind-set and attitudinal factors we bring to problem solving. It is important because it influences our problem solving style - the way we respond when we are faced with a problem (D’Zurilla & Goldfried, 1971a) . Nezu et al. (2005) describe problem orientation as a metacognitive process which serves to provide the motivation – or otherwise – for problem solving. This process reflects a person’s general beliefs and feelings about problems in living, along with their beliefs and feelings about their own problem solving ability. In other words, the problem solver’s self-efficacy is reflected in their problem orientation.

Self-efficacy is fundamental to continued successful problem solving. Bandura (1989) notes that those without strong self-belief are likely to stop trying when they encounter failure, whereas those with a strong self-belief will intensify their efforts instead.

Additionally, achieving one's goals impacts positively on self-belief and efficacy. Our ideas about our own efficacy impact on many aspects of our lives, including job choices and perseverance in the face of disappointment or obstacles. Self-efficacy beliefs also impact on whether we think and behave in ways that help us or hold us back.

D'Zurilla and Nezu (2007) identify a number of problem orientation variables. These are: problem recognition; problem attribution; problem appraisal; perceived control; and time/effort and commitment. Problem recognition is the willingness to acknowledge a problem exists. It is important because it switches on the other aspects of problem orientation and shifts a person towards problem solving activity. Problem attribution refers to what we believe about the causes of a problem or whose "fault" it may be. Problem appraisal is about our consideration of how much a given problem might affect our emotional, psychological or physical wellbeing. Perceived control is about our beliefs in our capability to solve a problem and whether the problem is even solvable. Finally, time/effort and commitment refer to estimates of how long a problem may take to solve and the willingness to commit the necessary time and effort to the problem.

Problem orientation can be seen as negative or positive and it links with three problem solving styles. Positive problem orientation links with a rational problem solving style and this is seen as facilitative of effective problem solving. Negative problem orientation is linked with either an avoidant or impulsive/careless problem solving style. This is seen as inhibitory to effective problem solving. Together, problem orientation and problem solving style form the five factors of problem solving therapy. Frauenknecht & Black, (2004) look at problem orientation in terms of a cognitive set (this relates to intellectual self-efficacy), an emotional set (this relates to the emotions we tend to associate with problem solving) and a behavioural set (our willingness to engage actively with a problem).

If these problem orientation variables are translated into a description, positive problem orientation begins with acceptance of problems as a normal part of life and a belief that most problems can be coped with effectively. It also includes the ability to recognize problems when they occur and the capacity to inhibit any initial tendency to respond either impulsively or to do nothing at all. Nezu et al. (2005) outline positive problem orientation as the capacity:

1. to understand problems as a normal part of living
2. to appraise a problem as a challenge or an opportunity
3. to believe that problems are solvable

4. to believe in your own ability to solve problems
5. to appreciate that successful problem solving can take time, effort and persistence
6. to commit oneself to solving problems rather than avoiding them.

Conversely, negative problem orientation is characterized by impulsivity, impatience, and difficulty with persisting when a solution is not immediately apparent. It can also include avoidance. Nezu et al. (2005) outline negative problem orientation as the tendency to:

1. see a problem as a threat to wellbeing (social, economic, psychological)
2. to blame oneself when problems arise
3. to believe that problems are not solvable
4. to doubt one's ability to solve problems successfully
5. to become frustrated and upset when problems arise

Problem solving therapy studies that include a problem orientation component tend to have larger effect sizes than those which don't (Malouff et al., 2007a). Indeed, negative problem orientation has been found to predict greater future levels of negative affect such as anxiety, depression and stress (e.g. (e.g. Ciarrochi & Scott, 2006). This was reinforced by a longitudinal study (Ciarrochi et al., 2009) in which negative problem orientation was shown to be a precursor to fear, sadness, low joviality and hostility in young people. Findings such as these support the importance of including a problem orientation component.

### *Problem recognition and identification*

In the original D'Zurilla and Goldfried (1971) model, problem recognition was included in general orientation. However it has taken on a stronger presence over time and become a step in its own right. For example, learning how to recognize a problem and identify problem cues as a part of that, is included in Mynors-Wallis's work with problem solving therapy for depression and anxiety (cite).

Working with problem cues originally came from D'Zurilla and Goldfried's (1971) assertion that it is possible to recognize a problem by our affective reaction to it. Thus, instead of responding to the feeling and viewing it as a problem in its own right, clients are encouraged to view the feeling response as a cue that there is a problematic situation present that we need to address. Problem cues have been developed to include all of the domains in

the cognitive behavioural therapy Five Part Assessment model (Williams, C.J. 2001a) although they are worked with in a different manner than in a typical cognitive behavioural therapy format.

In problem solving therapy, clients are taught that changes can occur in their thoughts, feelings, physical experiences/sensations, and behaviours and that these changes take place in an environment. Changes in any of these can indicate that a problem exists that needs to be solved. They are then encouraged to take notice of what has been happening around the time of the onset of the change/symptom that they may need to address and this can help them to identify the problem. This is a particularly useful tool for people who tend to internalize or minimize their difficulties. In addition, recognizing the symptom as a clue to a problem helps to stop the symptom escalating and reduces distress about the symptom/s. Clients come to recognize their own particular problem cues and become familiar with their likely meaning. In this way, the symptoms can be re framed into something useful – your own being’s way of communicating to you – rather than something fearful.

In the Black and Frauenknecht (2006) model, this process is outlined as general problem identification which is then followed by specific problem identification. General problem identification is described as the “primary means of identifying that a problem exists” (p. 3). It may be experienced as a general feeling that something is wrong without necessarily being clear about what it is. This general feeling can be understood as a problem cue, manifesting through behaviours, thoughts, feelings, and bodily changes/experiences such as a racing heart. The specific problem identification refers to describing the problem more clearly which parallels problem definition.

#### *Problem definition and formulation*

Once a problem has been identified, it then needs to be clearly defined. The purpose of problem definition and formulation is to define a problem as clearly and accurately as we can. To do this successfully, D’Zurilla and Goldfried (1971) suggest we must define a problem in a concrete manner and turn it into something to which we can actually respond. This makes successful problem solving more likely.

We need to make sure we have included all the relevant information and excluded extraneous material. This requires detailed and comprehensive information gathering about the problem at hand. We do this by asking: who is involved? What happened? Where did it happen? When did it happen? Why did it happen? What was your response? (D’Zurilla & Nezu, 2007). In the process it is common to identify goals, to highlight sub problems or

barriers, and any other issues or conflicts that might be important. Sometimes it may be useful to break down a complex problem into more manageable components.

### *Generation of alternative solutions*

This stage is intended to create a range of possible solutions to the problem being addressed, and therefore increase the likelihood of finding one that works. The Osborn (1963) method of brainstorming is used. Brainstorming is not a matter of “anything goes”, however. Rather, the responses should bear some relevance to the problem being explored.

There are several principles to follow when brainstorming: accept all ideas without criticism (defer judgment); freewheeling is welcome “...the wilder the idea, the better; it is easier to tame down than think up” p8; the more ideas we can come up with, the better (quantity breeds quality); and, finally, the more variety in those ideas, the better (variety principle). The deferment of judgment is important because if we judge our ideas as we go along, we can end up shutting ourselves down completely and losing confidence. If we keep going instead, we can gather momentum in our idea production and arrive at solutions we would not otherwise have come to. As well as this, it has been found that as brainstorming progresses, better ideas are generated in the later stages of a brainstorming session. The variety principle is about ensuring we have distinct solutions that are not simply a lot of variations of the same basic idea. The aim is always to generate as many distinct types of solutions as possible.

### *Decision making*

The purpose of decision making is to select the best idea or ideas from the brainstorm. The best solution is the one most likely to solve, or contribute to solving, the problem at hand. At the same time it should maximise positive impacts and minimise negative impacts (D'Zurilla & Nezu, 2007). This involves estimations of the usefulness of a particular decision along with the estimation of any consequences generated by that decision (D'Zurilla & Goldfried, 1971a). In other words, we need to evaluate the pros and cons of a potential solution. The choice is to be made against the background of the likelihood of that decision to effectively resolve the problem being addressed.

The criteria for evaluating the pros and cons of each solution are personal feelings, needs and desires; the social effect on significant others along with the reactions of others to the client; any short term personal and social impacts in one's immediate life; and any long term impacts. Each can be considered in terms of being positive, negative or neutral. It is also

important to consider whether the solution is likely to work and whether the problem solver is able to carry it out.

### *Creating an action plan (and implementing it)*

In D’Zurilla and Nezu’s (2007) model, creating an action plan is included as part of decision making. This is followed by implementation of the plan and verification of its effectiveness. I believe the action plan more logically combines with implementation, which is consistent with Mynors-Wallis (1997) who includes making a plan as part of the implementation step in his model. Regardless of how it is placed, the overall purpose of this step is to create an action plan, carry it out and evaluate the effectiveness of the chosen solution.

An action plan is a detailed description of how a chosen solution will be translated into action. It should include details of actions, along with times and dates for each action to be carried out. The steps in an action plan can be as detailed as they need to be to ensure a person feels confident about carrying out the plan. This step is important as it translates the theoretical work done so far, into a tangible reality.

### *Implementation and verification (or evaluating the outcome)*

Whether implementation sits with decision making or verification, it simply means carrying out the action plan. The client is to carry it out between sessions and discuss the outcome at a subsequent session.

Verification, or evaluation of the outcome, takes place after the decision has been implemented. The purpose is to make an assessment of the effectiveness of the chosen solution. It prevents us from carrying on with something ineffective instead of making amends and changing plans. This can be achieved by asking: Did the solution solve the problem? What are the overall effects for me? What are the overall effects for others? If the plan has solved the problem, it is time for affirmation and celebration. If it hasn’t it is important to explore what got in the way. Perhaps unexpected obstacles arose, or the plan didn’t work as expected. The plan may need to be revisited and amended if appropriate; an alternative solution may need to be chosen; or unexpected obstacles may need to be addressed.



## ***Social Learning Theory and Problem Solving Therapy***

One of the remarkable things about problem solving therapy is how little it has changed since it originated in 1971. Moreover, as time goes by it seems to gain relevance by its relationship to current theory – theory that developed well after the therapy. For example, it is highlighted as an important skill for developing resilience, it works as a strengths based approach by reducing focus on psychopathology, and it fits in with developing understandings in neuroscience. All of these ideas seem to add explanatory power to the effectiveness of problem solving therapy. However, it is also important to understand the theory on which it was based. Social learning theory, as expounded by Bandura and others, transformed our understanding of learning and psychological change. It is a theory that remains important because it introduced new ideas about psychological functioning and learning. It places particular emphasis on the development of self-efficacy – belief in our ability to succeed in specific situations. It also lead us to understand the importance of learning from modelled behaviour.

At the time that social learning theory emerged, behaviorism was dominant in the therapeutic sphere. Behaviourists believed we were acted upon by forces outside ourselves, in the form of positive or extinctive reinforcement. In other words, our behaviour was determined by what happens to us as a result of our behaviour (Ivey, Allen E., Ivey, Mary Bradford & Simek-Morgan, 1997). Alternatively, human behaviour was seen as the result of internal drives and dispositions. Both of these processes were seen as essentially one way. Therefore, behavioural therapy sought to control the consequences of our behaviour in order to lead us to change. It was an approach that did not see people as having agency in their own right. Nor did it take much account of cognition or affect.

Albert Bandura was also a behavioural psychologist, but, along with others, he helped shift the field towards a more humanistic emphasis (Ivey, Allen E., Ivey, Mary Bradford & Simek-Morgan, 1997). Bandura was a key proponent of social learning theory (later renamed social cognitive theory), a theory which challenged traditional behaviourism and provided a bridge between behavioural and cognitive approaches. He believed and advocated that clients should not be acted upon by therapists, but rather should be deeply engaged in the choice and direction of therapy (Ivey, Allen E., Ivey, Mary Bradford & Simek-Morgan, 1997). This necessarily implied a view of people as inherently capable and envisions therapy as a collaborative process.

Social learning theory itself refers to the learning that occurs within a social context. Key components of this theory are that:

- People (their behaviour, cognition, and other personal factors) and their environments are inter dependent and act upon each other. This is known as triadic reciprocal determinism (Bandura, 1989).
- People learn from one another, through observation, through imitation and through modelling.
- Behaviour does not have to be immediately performed to be learned and it does not depend on immediate reinforcement.
- Humans have the capacity for self-regulation
- Humans can use symbolic thinking to represent events, to analyse, to communicate with others. They can also use it to plan, create, imagine and then finally engage in planned action.

These ideas have a direct relationship with problem solving therapy. Reciprocal determinism provides the foundation, the understanding that people and situations interact with one another. Within that relationship lies the potential for change. The psycho educative process of problem solving therapy uses observation, modelling and imitation as teaching and learning techniques. Behaviour is reinforced both in the therapeutic setting and, most importantly, through the resolution of problems. This is powerful as the reinforcement is self-created and within the power of the individual to recreate. We use symbolic thinking to brainstorm, to evaluate potential solutions, and to create step by step action plans. Because of their importance to the problem solving therapy process, I will examine each of these components more closely.

### *Reciprocal determinism*

Social learning theory explains human behaviour through reciprocal determinism – determinism being concerned with what decides our behaviour. Reciprocal determinism refers to the continuous interplay between cognitive, behavioural and environmental determinants (Bandura, 1989) . In other words, our thoughts, feelings, and beliefs, along with the environment all play a part in determining our behaviour. And, in turn, our behaviour impacts on each of these factors. The relative influence of each factor changes according to the setting and behaviour. Therefore, behaviour is an outcome of people and situations interacting.

This reciprocal relationship holds within it the potential for people to influence their own lives. However, this potential is limited by a person's self-efficacy or their perceptions/beliefs about their capacity for self-direction. Assessing and developing self-efficacy underpins the first step of problem solving therapy, problem orientation. Problem orientation is concerned with a person's beliefs and thoughts about their own capacity to successfully face and solve problems. This orientation impacts on how a person responds to problems in living. Problem orientation can be improved through successfully solving problems as well as through changes in thinking. This is reciprocal determinism in action.

### *Learning through modelling*

According to social learning theory, most human behaviour is learned through modelling and observation. Learning through modelling can shorten the learning process as well as make it safer. After the capacity for observational learning has been developed, one cannot stop people from learning what they have seen. Learning through modelling is governed by four component processes: attentional processes, retention processes, motor reproduction processes and motivational processes.

Attentional processes are about what seizes and holds our attention to allow observational learning to take place. These processes affect what we choose to observe from the many modelling influences to which we are exposed. Our attention is affected by the functional value to us of the behaviour we observe. For example, if we think something is no use to us, we take less notice of it. Interpersonal attraction impacts also. If we are drawn to someone we are more likely to seek them out and take notice of their behaviour. This makes the quality of the therapeutic relationship an important component in engaging people in problem solving therapy.

Retention processes are about remembering what we have observed, so that we may be influenced by it. Retention makes use of both imaginal and verbal abilities, capturing some memories in language, and others in images. Rehearsal, either mental or physical, can assist with retention.

Motor reproduction processes are about converting the symbolic representations we have learned into actual actions. This includes imitation, monitoring and refinement on the basis of information feedback. The only proviso here is that the learner must have the component skills to reproduce the modelled behaviour or these will need to be learned. This relates to implementing action plans.

Finally we need to consider motivational processes. Motivational processes are what give us reasons to translate our learning into action. The first of these is about rewards. We are more likely to exhibit a behaviour if we expect it to result in rewards. These can be intrinsic, such as better wellbeing and improved relationships; or extrinsic, something conferred on us by another. Noticing what happens to someone else also influences our behaviour. Depending on the outcome for someone else, we are more or less likely to carry out that behaviour. This is vicarious learning, that is, learning through observing another's behaviour and its consequences for them. Finally, self-regulation is also a motivational factor. We are far more likely to behave in ways we (and others) approve of and inhibit behaviours that fall outside accepted norms.

The implications of these learning processes for problem solving therapy are that the therapeutic relationship we establish, the teaching/learning process, and the resources we use in the intervention are important to the success of problem solving therapy. For example, as we verbalise and explain the skills and strategies use in problem solving therapy, we make them observable and therefore learnable to our clients (Bandura, 1989) . Similarly, ensuring opportunities for clients to reflect their learning (and thus rehearse) and learn component skills are important. According to social learning theory, the highest form of observational learning is achieved by first organizing and rehearsing the modelled behaviour symbolically, then enacting it overtly. This is the exact process we aim to create in problem solving therapy.

### *Self-regulation*

Self-regulation refers to the capacity to exercise some control over our thoughts, feelings and actions. This occurs through self-evaluative functions which serve to motivate us. For example, when we commit to a specific goal, there is a dissonance between what we currently do and what we seek to do which acts as a motivational inducement for change. Additionally, once a goal has been set, and self-satisfaction has been made conditional upon achieving it, then people tend to persist in their effort.

Self-reinforcement is a key mechanism through which self-regulation takes place. For example, most people set their own standards and respond in self-rewarding or self-punishing ways. Self-reinforcement requires self-evaluation, a process of deciding whether the behaviour warrants reward or punishment. Self-evaluations are likely to vary across domains. For example, we may have high regard for our work based functioning, moderate regard for our social functioning and negative regard for our athletic abilities. In social learning theory these self-evaluation strategies are an important part of self-concept and wellbeing.

For this reason, appropriate goal setting has an important relationship with self-regulation. For example, making a goal specific influences the degree to which it will act as an incentive. Being specific also means that the type and amount of effort involved is clear. In turn, this establishes clear signs of achievement so we can know when we have achieved our goal. In relation to problem solving therapy these considerations align with creating an achievable solution and action plan. It is important not to set a goal too high as this can be demotivating. One way around this is to break a goal or solution down into sub goals of moderate difficulty which are more achievable.

Evaluation, or reviewing progress, is also an important part of self-regulation. This occurs through self-reflection. Bandura (1989) suggests this is a fundamental capacity through which we are able to engage in metacognition – thinking about our own thinking. For example, knowledge of where we are at, correct and otherwise, can improve and sustain behaviour. Reflecting on what may have gone wrong and exploring amendments to goals is helpful and this helps to model and reinforce reflective thinking. Feedback on results also enhances performance. In terms of social learning therapy, informative feedback can act as motivation rather than as a correction. This aligns with the reviewing progress process in problem solving therapy.

### *Symbolic thinking*

Our capacity for symbolic thought is very powerful and intentional action is rooted in symbolic thinking. The capacity for forethought is part of this (Bandura, 1989). For example, imagining a desirable outcome acts as an incentive to creating courses of action to attain that outcome. Through the use of symbols people can solve problems without having to enact all the various alternative solutions. They can foresee the probable consequences of different actions. This engenders the capacity for reflective thought.

Bandura (1989) cautions that the use of thought for making decisions does not imply that the decisions are therefore rational. Rather, rationality is based on reasoning skills which may need to be learned. Further, even if someone is able to reason, their conclusions may be faulty if their reasoning is based on incomplete or incorrect information. Under these circumstances, the capacity for symbolic thought may actually lead to personal distress e.g. an increase in rumination.

Symbolic thinking is significant in problem solving therapy in fundamental ways. It is this capacity that enables most of the problem solving activity to occur prior to any action. It underpins clients selecting possible solutions to a problem and considering the advantages and

disadvantages of each. Symbolic thinking is also relevant to conceiving an action plan to implement a chosen solution.

### ***A relational/problem-solving model of stress***

More recently, D’Zurilla and Nezu (2007) have developed these theoretical underpinnings into what they dub a “relational/problem solving model of stress”. They integrate social problem solving and this early social learning theory with Lazarus’s relational model of stress. In Lazarus’s model, stress is understood as arising from a person’s interactions with their environment. A situation becomes stressful when it is appraised as being too hard to solve given current coping resources. Therefore there are two key features: appraisal of a problem, and coping skills. Coping, in this instance, refers to the cognitive- behavioural responses a person uses to respond to a problem along with the resultant emotions.

D’Zurilla and Nezu (2007) develop these understandings into a problem solving framework and posit that stress occurs as result of the reciprocal relationships between stressful life events, emotional stress responses, and problem-solving coping. These three concepts are discussed below.

#### *Stressful life events*

Stressful life events are divided into major negative events (such as a death, divorce, depression) and daily problems (an argument, a car break down). Major negative events may also include chronic situations, for example the development of an ongoing illness, or becoming a caregiver for someone who is unwell or disabled. Major negative events tend to generate numerous daily problems that require resolution. Similarly, unresolved daily problems can accumulate and generate a major negative event. Daily problems are seen as having the greater impact on wellbeing because they occur often, therefore this model focuses on coping with daily problems. However this should not be misinterpreted as meaning problem solving therapy can’t be used to address major negative events. Rather, in doing so, the major negative events are broken down in to manageable sub problems.

#### *Emotional stress responses*

An emotional stress response refers to the way a person responds emotionally to a stressful life event. This response is strongly influenced by how we appraise a problem and how we appraise our own coping abilities. This is the process we see at play with problem orientation. If we see the problem as too hard and don’t believe we can solve it, we are likely to have a negative emotional response to it. Such a response impedes our progress towards

solving the problem in front of us. And in turn this impacts wellbeing. Conversely if we see the problem as solvable and believe we can solve it, then we may have a positive emotional response (hope, anticipation). Obviously, we are then more likely to move towards the problem and increase wellbeing through this.

### *Problem-solving coping*

Problem-solving coping is essentially the social problem solving process previously discussed. It begins with appraisal of the problem as solvable and then works through the steps until the problem is successfully resolved. Problem-solving coping is the mechanism that sits between negative life events and emotional stress. Competence with problem-solving coping allows us to transform a negative life event into at least a manageable event and possibly even a positive one. This has a helpful effect on wellbeing.

In their relational/problem solving model, D'Zurilla and Nezu (2007) view problem solving as an important general coping strategy. It leads to better coping and increased wellness which in turn reduces and prevents the impact of daily stress on wellbeing (D'Zurilla & Nezu, 2007). It differs from Lazarus's focus on "mastery goals" and allows for either problem-focused goals or emotion-focused goals. Problem-focussed goals relate to the concrete controllable circumstances whereas emotion focused goals may relate to managing responses to something that is out of our power to change. They emphasise that regardless of focus, "...the ultimate and expected outcome of problem solving is to reduce and minimize the negative effects of stressful life events on well-being" (D'Zurilla & Nezu, 2007 p. 66).

### *Conclusion*

In this chapter, I have provided discussion and explanation of problem solving therapy and the underlying theory surrounding Social Problem Solving. Bandura (1989) notes that "Impoverished high-risk environments... severely tax the coping efficacy of youth enmeshed in them to make it through adolescence in ways that do not irreversibly foreclose many beneficial life paths" (Bandura, 1989 p. 68). Problem solving therapy shows considerable promise in being able to assist young people with developing better "coping efficacy". The following chapter presents a literature review to explore how problem solving therapy has already been used with young people at risk of self-harm.

## ***Chapter 4: Literature Review***

### ***Introduction***

Little is known about the most effective, empirically validated interventions to reduce suicidal behaviour among adolescents (Brent et al., 2013; Robinson et al., 2013a). In fact, given that suicidal risk is heightened (De Silva et al., 2013) and suicidal behaviour peaks (Brent et al., 2013) in adolescence, and is often recurrent, (Brent et al., 2013) it is surprising there have not been more psycho social interventions among those who self-harm (Hawton et al., 2012). In addition, there is a gulf between research that does exist and current practice (De Silva et al., 2013). The consensus among various reviews is that intervention studies in the field of suicidal behaviour of young people are lacking (De Silva et al., 2013; Hawton et al., 2012; Muehlenkamp, 2006a; Robinson et al., 2011; Robinson et al., 2013a; Washburn et al., 2012). The studies that do exist are small, without the power to adequately test the effects of the intervention on repetition of self-harm behaviour (Hawton et al., 2012; Robinson et al., 2013a). They also have inconsistent definitions of suicidal behaviour (Robinson et al., 2013a; Wenzel, Brown, & Beck, 2009), and use inconsistent outcome measures (Wenzel et al., 2009). Finally, in some studies young people at the highest risk of repeat self-harm are excluded because of ethical, legal and safety concerns (Muehlenkamp, 2006a; Robinson et al., 2013a; Wenzel et al., 2009). This means there is a paucity of evidence based research on which to base treatment recommendations. The development and assessment of high quality interventions for self-harm and suicidal behaviour should be a priority (Brent et al., 2013; Hawton et al., 2012; Robinson et al., 2013a; Washburn et al., 2012).

The overall purpose of this project is to contribute to this development and assessment. Therefore, in this chapter I begin with an overview of the existing individual therapeutic interventions for young people who self-harm, with a particular interest in any evidence that exists about the efficacy of problem solving therapy with this population. I provide this overview by evaluating a number of reviews, each pertaining to adolescents and with a different perspective or focus, which all reflect the scarcity of evidence based psychological interventions for this population. Some of these reviews note that problem solving therapy shows some promise (De Silva et al., 2013; Muehlenkamp, 2006a; Robinson et al., 2011; Washburn et al., 2012). I have gone on to present an in depth literature review conducted using Psycinfo, Medline, and the Cochrane Register of Clinical Trials [CENTRAL] and the Cochrane Library and discuss the implications, particularly in relation to problem solving therapy.



## *Therapeutic interventions for young people at risk of self-harm*

I began by searching the literature for systematic reviews or meta-analyses of treatment interventions for young people with self-harm. I have chosen a selection of papers that are recent, and which provide a cross section of the relevant literature and I excluded two reviews that focussed on only one form of treatment. The reviews I included are:

- an “evidence map” of prevention and intervention studies for suicidal and self-harming behaviours in young people (De Silva et al., 2013) because it provides an overview of the treatment studies that exist;
- a systematic review and meta-analysis on preventing suicide among young people because it is a high quality Cochrane style review which included meta-analysis (Robinson et al., 2011);
- a systematic review of school-based interventions aimed at preventing, treating, and responding to suicide-related behaviour in young people (Robinson et al., 2013a) because it is a high quality review with a focus on the school environment, a setting of interest for the current study;
- a systematic review of psychosocial interventions for suicidal adolescents (Corcoran, Dattalo, Crowley, Brown, & Grindle, 2011) because it included experimental and quasi experimental studies and therefore had a potentially wider and more inclusive brief than the preceding reviews;
- a review of empirically supported treatments that have shown effectiveness for non-suicidal self-injury (Muehlenkamp, 2006a) because it is a diagnostic category gaining increasing attention;
- a further and better described evidence based review of psychotherapeutic approaches to non-suicidal self-injury (Washburn et al., 2012) because, as above, increasing attention is being paid to this new diagnostic grouping;

### *An evidence map of existing interventions*

In this comprehensive evidence map of existing interventions, de Silva et al. (2013) set out to investigate how many and what kind of studies exist about interventions to prevent or respond to self-harm among young people and to highlight gaps in the evidence. This work was undertaken as part of a larger evidence mapping project undertaken within the Youth Mental Health Foundation in Australia. A total of 32 treatment studies and 6 reviews were

identified for inclusion. The 32 treatment studies were divided into interventions to prevent suicidal behaviour, interventions to treat suicidal behaviour and interventions for mental disorders. Across these three categories, there were problem solving therapy studies (6), psychoeducation (6), cognitive behavioural therapy (5), dialectical behaviour therapy (3), and range of other interventions for which there were one or two studies.

The authors noted a number of challenges with the studies. These included: variable outcome measures, incomplete or inadequate descriptions of treatment as usual, and different definitions of self-harm and suicidal behaviour (De Silva et al., 2013). Problem solving therapy received the most attention and cognitive behavioural therapy based interventions, which included the problem solving therapy studies, appeared promising (De Silva et al., 2013). However, the current evidence base of interventions is inadequate to recommend any specific intervention over any other in working with adolescents at risk of self-harm (De Silva et al., 2013).

#### *Systematic review and Meta-analysis of treatment studies*

In this second review, the authors conducted a high quality systematic review and meta-analysis (using Cochrane methodology) of all randomised control trials that tested interventions for adolescents and young adults with suicide attempt, suicide ideation, or deliberate self-harm. The inclusion criteria were specific including a requirement that study participants had presented to a clinical service with one of the above behaviours in the six months prior to study entry. A total of 21 studies were found that fit the necessary criteria: 15 of these had been published and the remaining 6 were ongoing (Robinson et al., 2011). Five of the fifteen published studies were individual psychological therapies: 2 were cognitive behavioural therapy studies (Power et al., 2003; Slee, Garnefski, van der Leeden, Arensman, & Spinhoven, 2008), 2 were problem solving therapy studies (Donaldson et al., 2005; McLeavey et al., 1994) and 1 was a dialectical behaviour therapy study (Turner, 2000). No significant differences were found between treatment and control groups except in one cognitive behavioural therapy study (Slee et al, 2008, in Robinson et al, 2011) which showed reductions in self-harm over the follow up period, and which also showed significant reductions in suicidal ideation; and the dialectical behavioural therapy study (Turner, 2000) which showed a significant difference in suicide attempts and suicidal ideation over a 12 month follow up period. The authors commented that in individual problem solving versus a control treatment (Donaldson et al., 2005) there were no treatment effects for the number of people attempting suicide or levels of suicidal ideation although most participants showed significant improvements in depressed mood, suicidal ideation, and problem solving skills in

both treatment groups. However, the reductions in depression and suicide ideation at both 3 and 6 months were greater in the problem solving therapy group (Donaldson et al., 2005). Further, in McLeavey et al. (1994) the rates of repetition of self-harm were 10% for the problem solving therapy group and 25% for the control group in the following year which has potential clinical significance.

The overall findings of the review show there is limited evidence of interventions that may reduce the risk of self-harm among young people (Robinson et al., 2011). Limitations of the review include the small number of studies resulting in a small amount of data for comparison, small sample sizes, varying definitions of suicidality and deliberate self-harm, varied treatment outcomes, and the tendency to exclude young people at risk from studies. In addition there was incomplete reporting of data in the studies, making it difficult to assess the risk of reporting bias. The authors suggest that only the individual cognitive behavioural therapy based interventions appear to show promise in this review (Robinson et al., 2011). However this needs to be interpreted in light of the very small number of studies, the small samples in the studies, and the lack of power to detect differences.

#### *Systematic review of school-based interventions*

In this good quality systematic review of school based interventions (Robinson et al., 2013b), the authors provided a comprehensive review of the empirical literature relating to suicide postvention, prevention and early intervention in school settings. There were no limitations placed on trial design. The review included all types of interventions that had a suicide related outcome including universal curriculum based suicide prevention programmes (n=15), gatekeeper programmes which aim to equip adults and young people (such as peer leaders) to respond effectively if they are approached by a young person who feels suicidal (n=12), screening programmes which aim to identify at risk individuals (n=11), indicated therapeutic interventions for those known to be at risk of self-harm (n=3), and postventions which are a response to a death by suicide (n=2). There were only a small number of intervention studies that had been conducted in schools and none of them were problem solving therapy trials. Nevertheless all three studies reported a reduction of suicide related behaviour although the effects of the interventions were unclear (Robinson et al., 2013b).

The reviewers could not provide a meta-analysis of the studies due to including non randomised control trials in their selection process, which is a limitation. In addition, they reported a lack of power, poor reporting of random sequence allocation, poor use of intent to treat analysis and masking. Further there was an absence of standardised definitions in this field of research (Robinson et al., 2013b). However, schools appeared to be a suitable site for

possible interventions. Indeed, school counsellors are viewed by young people as the most likely to be helpful with mental health matters (Robinson et al., 2013b) and are ideally positioned to take part in such studies. Further, Hawton et al. (2002) recommend development and evaluation of school counselling services suggesting that more school-based approaches being needed (Doey & Steele, 2008; Hawton, Saunders, & O'Connor, 2012) concur, noting that schools can be an important place for assessment, management and prevention of suicidal behaviour.

### *Systematic review and meta-analysis of psycho social interventions*

In a further good quality systematic review and meta-analysis of psychosocial interventions for suicidal adolescents, Corcoran et al. (2011) looked at experimental (n = 10) and quasi-experimental (n = 7) studies of young people aged 10 -18. The review also included unpublished studies to address any potential publication bias. Of the 17 studies included, six could be described as cognitive behavioural therapy, four as family therapy and the remainder could not be grouped. One study was a problem solving therapy intervention and was included in the previous review (Donaldson et al., 2005). The interventions that measured post-test outcomes at 6 or 7 months showed slightly lower suicidal and self-harm events for experimental participants than controls. By contrast they showed slightly higher levels of suicidal and self-harm events at follow-up. These results were also true for suicidal ideation. However, these results need to be interpreted in light of the difficulty with maintaining changes in self-harm behaviour across this entire field of study and also in light of the lack of rigour among a number of the studies.

Corcoran et al, (2011) recommend strengthening interventions through a focus on preventing future suicidal events, and providing booster sessions. They further recommend longer follow up periods and note methodological issues of small samples, a small pool of studies, and short follow up periods.

### *A review of Dialectical Behaviour Therapy and Problem Solving Therapy with non suicidal self injury*

I thought it was important to include two reviews that explored interventions for non-suicidal self-injury specifically. In chapter 1, I explain my definition of self-harm for this study, noting that an inclusive and broad definition has been adopted, consistent with NICE guidelines (National Institute for Health and Care Excellence (NICE), 2004). Nevertheless an increasing body of research is emerging pertaining to a group that some consider a discrete sub group of people who self-harm, that is, those with non-suicidal self-injury. Non-suicidal self-injury is defined as "... the deliberate, self-inflicted damage of body tissue that includes

bleeding, bruising, or pain, but is absent of evidence for suicidal intent and is not for purposes that are socially sanctioned (e.g. tattooing, piercing)” (Nock & Mendes, 2008).

In the first of these two reviews, Muehlenkamp (2006) examined dialectical behaviour therapy and problem solving therapy studies which are both described as coming under the cognitive behavioural therapy rubric. These modalities were chosen as the only two the author found which included a focus on, and showed some effectiveness with, non-suicidal self-injury. There were no trials specifically for adolescents with non-suicidal self-injury so studies with adults were reviewed. Muehlenkamp (2006) notes the aim of the review was to highlight studies that show some success in treating non-suicidal self-injury, rather than a systematic review of all studies that have addressed non-suicidal self-injury. There was no detailed search strategy described, and no table presented with the studies found. There were around 12 problem solving therapy studies (including 2 meta-analyses) and 15+ dialectical behaviour therapy studies included in the review.

Muehlenkamp demonstrated that problem solving therapy has been found to be effective in significantly reducing acts of self-poisoning and suicide ideation (compared with treatment as usual) but these differences were not maintained over a long term period of 24 months. Problem solving therapy has also been shown to generate greater reductions in parasuicide than other interventions but not to a statistically significant level (Hawton et al, 1998, in Muehlenkamp, 2006). Problem solving therapy does however show significant reductions in co morbid symptoms of depression, hopelessness and problem levels (Townsend et al., 2001). The findings for dialectical behaviour therapy were similar, showing effectiveness in reducing non-suicidal self-injury among adults with borderline personality disorder but not beyond twelve months. However, once again, for both interventions sample sizes are small so definite conclusions cannot be drawn. Further, Muehlenkamp (2006) notes methodological issues of varying definitions of self-harm, small sample sizes, short follow up periods and unclear treatment effects. Despite this review not providing explicit evidence of its robustness, the findings are similar to the other reviews in noting that evidence is unclear and more research is warranted. Muehlenkamp (2006, p175) concluded that “it is likely safe to tentatively conclude that problem solving therapy and dialectical behaviour therapy are effective approaches to treating non-suicidal self-injury behaviours” and recommends rigorous studies of both approaches.

## *An evidence based review of psychotherapeutic treatments for non-suicidal self-injury*

The second review that addressed non-suicidal self-injury was a good evidence based review of psychotherapeutic treatments for non-suicidal self-injury (Washburn et al., 2012). The review included a description of the search strategy which was robust but not exhaustive in the sources that were searched. As with Muehlenkamp (2006), no treatment studies were found that has been designed and evaluated specifically for adolescents with non-suicidal self-injury despite the review being conducted 6 years later. Therefore there was no summary of studies found specific to the literature search. The authors instead referred to studies addressing deliberate self-harm in young people and adults since this definition includes self-harm with and without suicidal intent and was therefore considered close to non-suicidal self-injury. The studies were a mixture of randomised control trials, quasi-experimental studies, and pre-post designs. No description of this further selection or search for papers was provided except to specify that the studies related to adults/young people with deliberate self-harm and with borderline personality disorder.

Washburn et al. (2012) cited cognitive behavioural therapy as the most promising intervention for non-suicidal self-injury across various settings however problem solving therapy was again included under this cognitive behavioural therapy rubric. The improvements participants experienced from the therapies included reductions in depression and hopelessness, and improvements in problem solving. Further, the authors highlighted that problem solving proved important in the straight cognitive behavioural therapy (non problem solving therapy) studies. For example, Washburn et al. (2012) noted that in cognitive behaviour therapy studies that had been found effective, for example, the TORDIA study, problem solving skills and social skills were identified as the most effective components of the intervention (Kennard et al., 2009, in Washburn et al, 2012). Another cognitive behaviour therapy study which was found to show effectiveness in reductions in deliberate self-harm also focussed on depression, suicidal cognitions and improving problem solving deficits (Slee et al, 2008, in Washburn et al, 2012). In a recent study of group based problem solving therapy for females who poison themselves, there were no differences between groups on deliberate self-harm outcomes, however neither group had any deliberate self-harm events in the two months following treatment (Bannan, 2010, in Washburn et al, 2012), highlighting the importance of longer follow-up periods and also the difficulty in showing differences in this high-risk, low frequency event. In addition, the treatment group experienced significant differences in depression, hopelessness, and suicide ideation plus improvement in social

problem solving and the treatment as usual group did not show such improvements (Bannan, 2010).

As with other reviews, the authors concluded problem solving therapy, and other therapies, show promise but have limitations. For example, studies tend to show reductions, sometimes significant, in depression, hopelessness, and suicidal ideation along with improvements in social problem solving but there is not necessarily an accompanying reduction in self-harm behaviour. However this is not specific to problem solving therapy. Other therapeutic approaches mentioned in the review also have limited impact on long term self-harm outcomes and this is a problem throughout the suicide prevention literature with both adults and young people. This is because large studies are needed to find significant differences in low frequency outcomes and treatment studies with people who self-harm are usually small. Again the authors highlight a lack of randomised control trials, meaning there are no specific treatment recommendations that can be made for non-suicidal self-injury at this time (Washburn et al., 2012).

### *A summary of the findings of these reviews*

These reviews show that present the body of research about effective interventions for young people at risk of self-harm is inadequate and it is not possible to endorse any one treatment over another. Problem solving therapy may show promise, although the number of studies included in the reviews is small. However problem solving therapy appears associated with consistent significant reductions in depression, suicide ideation and hopelessness, and improvements in problem solving. Reductions in self-harm have also been shown for short periods. The promise is reinforced by the finding that the most effective elements in at least two cognitive behavioural therapy studies included the problem solving component. Although there were no significant differences in self-harm outcomes between two treatment groups shown in two problem solving therapy studies (Bannan, 2010; Donaldson et al., 2005) there was a trend in that direction and the studies were under powered to show differences.

### *The strengths of the reviews*

This set of good quality reviews provided a comprehensive overview of the relevant literature. The authors each included details of the types of studies they selected, along with a rationale and objectives. The systematic reviews contained the most explicit information about the search strategies and the processes of selecting studies. The methodological issues in the studies themselves made meta-analysis challenging and in some cases impossible due to missing or incomplete data in the two reviews that conducted meta-analysis, however it

was conducted in two reviews. The conclusions presented in the reviews were consistent with the stated objectives. The authors of the reviews each had a different focus on the issue of effective treatment for young people at risk of self-harm. Yet they all concluded that the body of literature is, at present, inadequate to recommend one treatment over another. This overlap in findings makes the reviews mutually reinforcing and strengthens the veracity of these findings. Several reviews also demonstrated that problem solving therapy shows promise as an effective intervention.

### *The limitations of the reviews*

The reviews were all good quality reviews. While none of them could tick off every item on the PRISMA 2009 checklist, the systematic reviews, the meta-analyses and the evidence map in particular were of excellent quality, including one which specified using a Cochrane methodology. The first non-suicidal self-injury review (Muehlenkamp, 2006) was older than the other reviews, and had the poorest description of the process of the review including such details as how the studies were found and selected. However the findings and discussion were consistent with other reviews so this appears to be mainly a reporting issue. The main limitations in the reviews such as not reporting on risk of bias are generated by the limitations of reporting in the source studies themselves.

### *Conclusion*

The evidence from these reviews provides cautious support for the further exploration of problem solving therapy as a possible intervention for young people at risk of self-harm. Problem solving therapy is a time limited intervention, which is relatively easy to disseminate as it does not require long term specialist training. The studies that have been discussed in these reviews have all been small and there is a need to develop larger scale individual treatment trials to determine whether this promise will be maintained and strengthened with a larger study sample. However they have also shown reductions in depression, suicide ideation and hopelessness, along with improvements in problem solving.

The review authors consistently reported methodological issues across all of the studies of self-harm among young people (Corcoran, 2012; Hawton et al., 2012; Muehlenkamp, 2006a; Robinson et al., 2011; Robinson et al., 2013b). There are few intervention studies, and those that exist have varying definitions of self-harm and suicidal behaviour, small sample sizes, lack of power and short follow up periods. However this is consistent with their being early stage research ventures (Rounsaville, Carroll, & Onken,



2001) which is appropriate when establishing the efficacy of a particular treatment. With future studies in this area, it will be important to address these methodological weaknesses.

Suicide prevention literature is limited in being able to show significant, enduring reductions in rates of self-harm as a result interventions. This is because the adequate power to measure suicide as an outcome is very difficult to achieve and therefore proxy measures are used instead (Robinson et al., 2011; Wenzel et al., 2009). But even repetition of self-harm, a common proxy measure, is a low frequency, high-risk event (Donaldson et al., 2005). While these data are crucially important, using self-harm as a primary outcome in early stage research can be a barrier to establishing potential efficacy of studies. Depression may be a more meaningful primary outcome at this pilot stage since symptoms of depression have the strongest single association with self-harm and is also implicated in most deaths by suicide.

On the basis of these reviews, further investigation of specific problem solving therapy studies with young people is warranted to determine whether they appear to provide a promising way forward on close analysis.

### ***An in-depth review of Problem Solving Therapy studies***

#### *Overview*

Following the findings from the reviews in the previous section, I conducted an in-depth literature review to identify problem solving therapy treatment studies with young people at risk of self-harm. I was aware from the reviews that there were not a lot of studies so I established broad criteria (detailed below). These included participants who may already have self-harmed or those who are deemed to be at risk of an index episode of self-harm and also study populations that had an age range inclusive of adolescents.

#### *Aim*

The aim of this in-depth review was to identify treatment studies of problem solving therapy with young people at risk of self-harm and to evaluate the strengths and weaknesses of these studies. Particular considerations include the study design, outcome measures, choice of comparison group, the timing of the start of the therapy, integrity of the treatment, the importance of the therapeutic relationship, and data analysis.

## ***Method***

The following method was used to search for relevant studies to include:

*Figure 2: Inclusion and exclusion criteria for studies*

### *Inclusion criteria for studies*

- English language randomised control trials
- Designed specifically for adolescents from 13 to 24 or is inclusive of this age range.
- The study participants are assessed to be at risk of, or have engaged in, self-harm regardless of intent
- Problem solving therapy intervention

### *Exclusion criteria for studies*

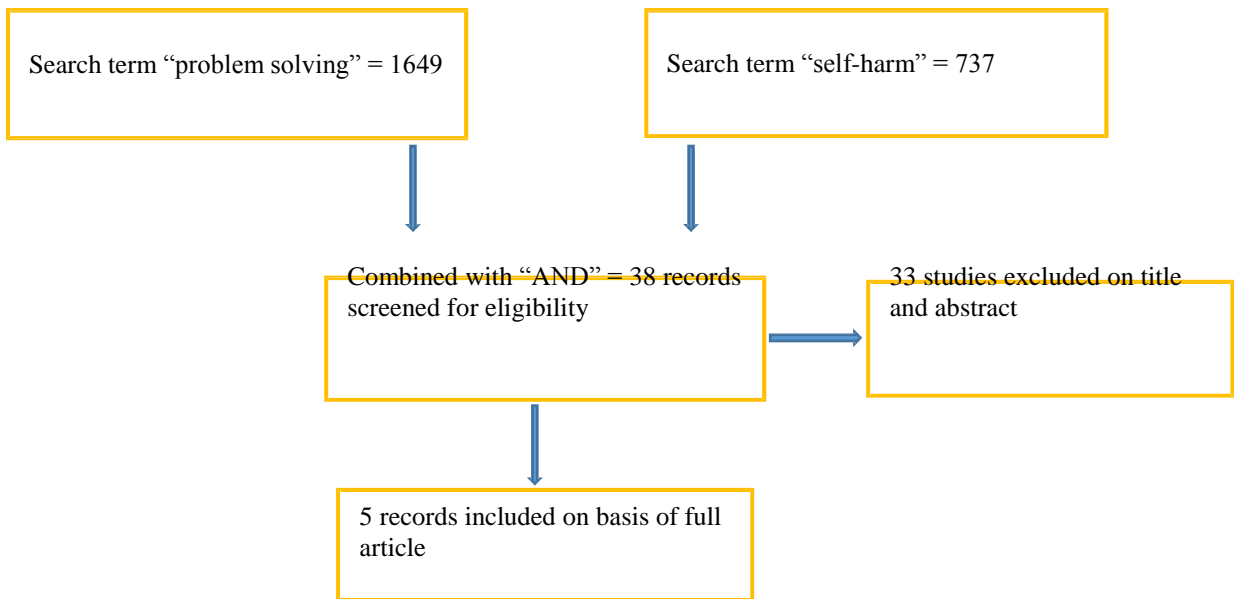
- Not including an adolescent study population
- Not being an intervention trial
- Family based interventions
- If the problem solving intervention was not targeted at self-harm

### *Search strategy*

In November, 2009, I searched the bibliographic databases of the Cochrane Library, the Cochrane Central Register of Controlled Trials [CENTRAL], PsycINFO, and MEDLINE, to search for relevant studies from 1980 until November, 2009. I used the following search terms, developed in consultation with a subject librarian and one of my supervisors.

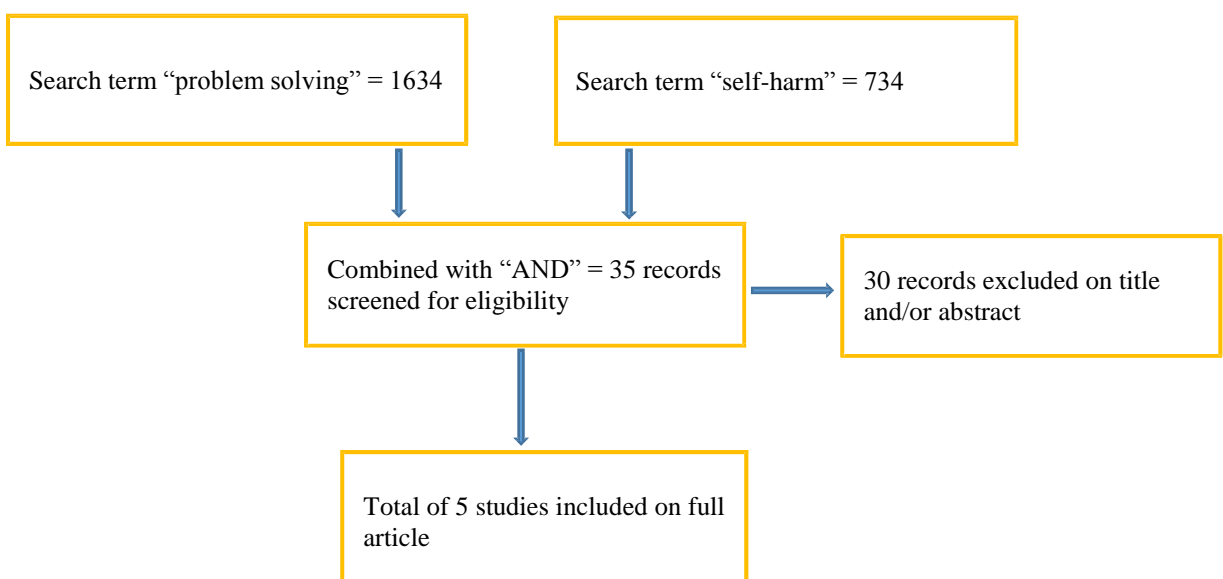
### *Cochrane Library*

1. I entered the search terms “Problem Solving Therapy” OR “PST” OR “problem solving” OR “social problem solving” = 1649 returns
2. I then entered the terms “self-harm” OR “self-injurious behaviour” OR “suicide attempt” OR “suicide” which yielded 737 results
3. Then I combined search 1 and search 2 with “AND” which yielded 38 results.
4. I went through these one by one and found 5 studies to include (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; McLeavey et al., 1994; Salkovskis et al., 1990)



*Cochrane Central Register of Controlled Trials [CENTRAL]*

1. I entered the term "Problem Solving Therapy" OR "PST" OR "problem solving" OR "social problem solving" and received 1634 results.
2. I then entered the term "self-harm" OR "self-injurious behaviour" OR "suicide attempt" OR "suicide" and this yielded 734 results.
3. I combined search 1 and search 2 with "AND" and this yielded 35 results
4. I searched through these by title and abstract and found 5 studies to include:  
(Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; McLeavey et al., 1994; Salkovskis et al., 1990)



*PsycINFO*

I entered the search terms “Problem Solving Therapy” OR “PST” OR “problem solving” OR “social problem solving” = over 43,549 returns

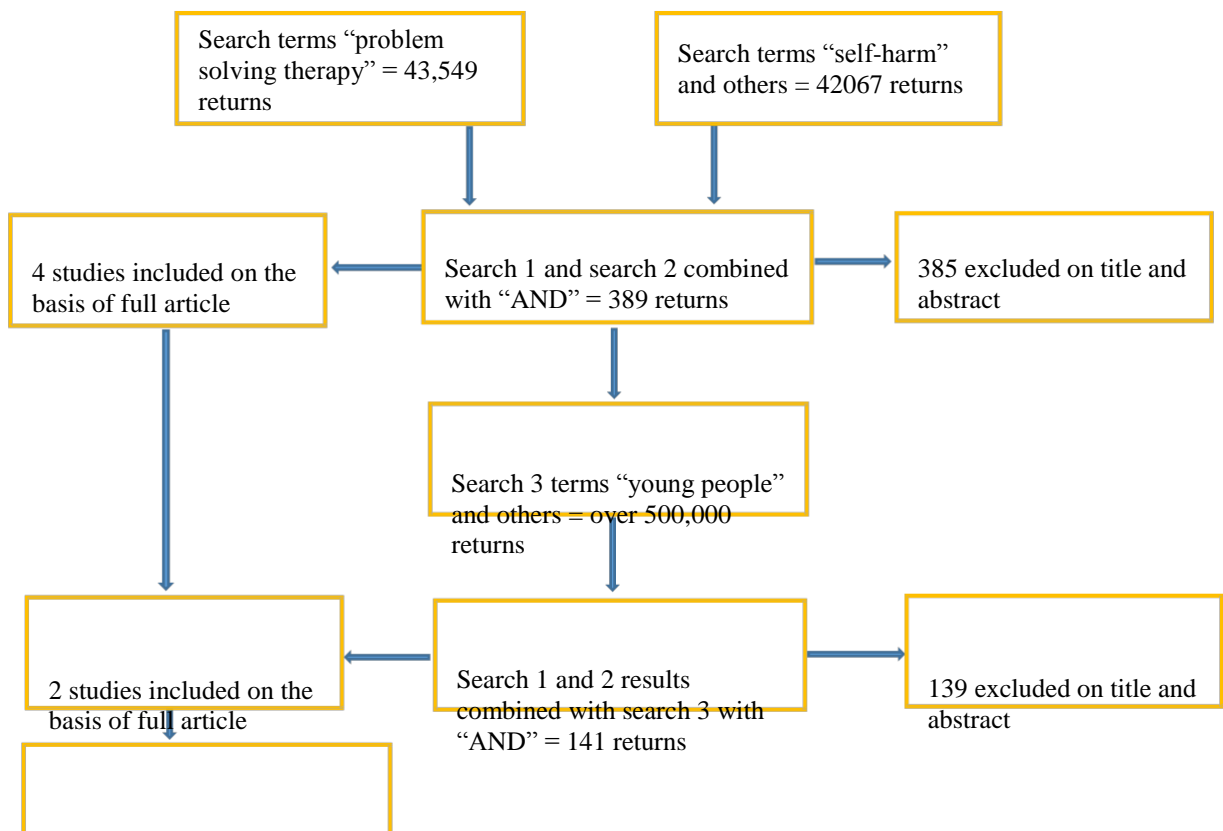
I then entered the terms “self-harm” OR “self-injurious behaviour” OR “suicide attempt” OR “suicide” which yielded 42067 results

Then I combined search1 and search 2 with “AND” which yielded 389 results.

I went through these one by one, looking at title and abstract. I found 4 studies to includes: (Donaldson et al, 2005; Salkovskis et al, 1990; McLeavey et al, 1994; Lerner and Clum, 1990.)

I then entered the search terms “young people” OR “adolescents” OR “youth” OR “children” which generated over 500,000 returns

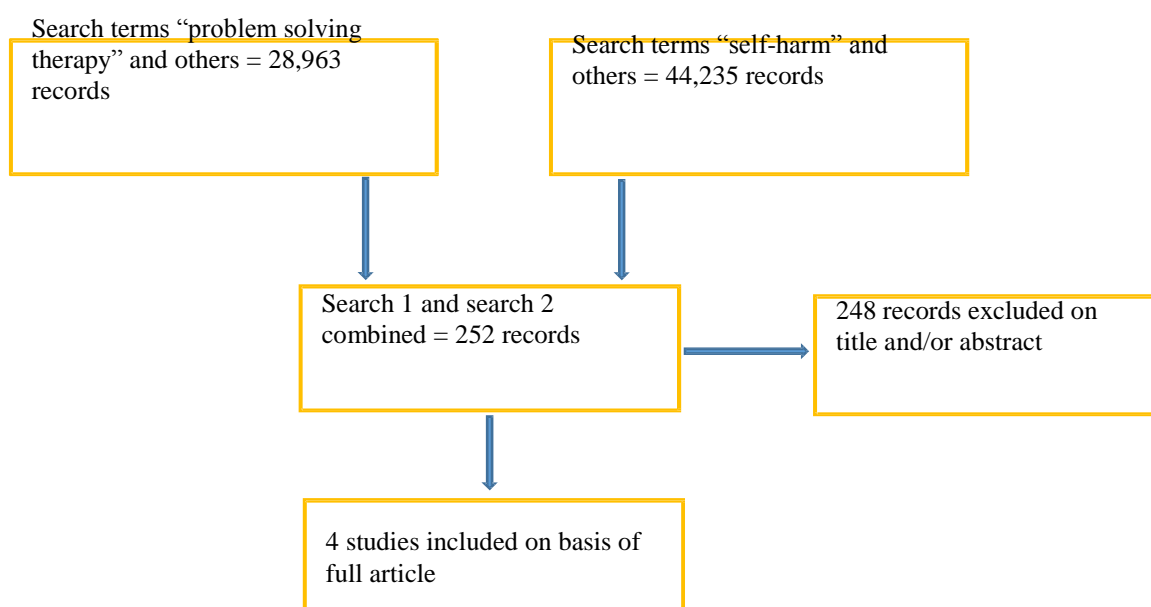
I then combined this with search 1 and search 2 using AND which yielded 141 results. I went through these one by one by title and abstract. I found 2 studies: (Eskin et al., 2008; Lerner & Clum, 1990)



A total of 6 studies included on the basis of the full article

## MEDLINE

1. I began by entering the search terms “Problem Solving Therapy” OR “PST” OR “problem solving” OR “social problem solving.” This is a very broad search and yielded 28,963 results.
2. I then entered the search terms “self-harm” OR “self-injurious behaviour” OR “suicide attempt” OR “suicide” which yielded 44,235 results
3. I then combined these two searches with AND which yielded 252 studies.
4. I went through these studies by title and abstract. Four studies were found (Biggam & Power, 2002; Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990).



## ***Results: Study design***

### *Overview of studies*

In this in-depth literature search I found a total of six studies that fit the criteria for inclusion. All of the studies in this review were randomised control trials targeting self-harm (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; Lerner & Clum, 1990; McLeavey et al., 1994; Salkovskis et al., 1990). The study populations were varied in size, but all were small. They ranged from a total of 18 participants (Lerner & Clum, 1990) through to a total of 46 participants (Biggam & Power, 2002; Eskin et al., 2008). All of the studies had well defined study populations (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; Lerner & Clum, 1990; McLeavey et al., 1994; Salkovskis et al., 1990). These included

numbers of participants, numbers of male and female participants, age range, mean age. All of the studies provided clear descriptions of the eligibility criteria (Table 1).

#### *Inclusion and exclusion criteria*

All of the studies had clear inclusion and/or exclusion criteria, but not all studies included both inclusion and exclusion criteria (Grant, Mayo-Wilson, Melendez-Torres, & Montgomery, 2013) so these could only be inferred. Three studies included people who had self-harmed in some way (Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990) including one study in which an inclusion criteria was to have a history of at least two episodes of self-harm behaviour (Salkovskis et al., 1990). The remainder of the studies used depressive symptoms or suicide ideation as the inclusion criteria. Of the three studies who included people who self-harmed, two provided clear definitions of self-harm (Donaldson et al., 2005; McLeavey et al., 1994) and the third did not (Salkovskis et al., 1990) (Table 1).

#### *Recruitment*

Recruitment took place in different ways. Three studies had potential participants referred from emergency departments (Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990); two studies invited participants to self-refer in response to advertising in high schools and universities (Eskin et al., 2008; Lerner & Clum, 1990), and the final study invited participants from a prison population into the study according to availability (Biggam & Power, 2002). All but one of the studies (Lerner & Clum, 1990) described their consent process (Table 1).

#### *Randomisation*

While most of the studies reported that participants were randomly assigned to either condition, none of them specified how this allocation took place, or how the randomisation sequence was generated although one study referred to "...following a predetermined random allocation" (Salkovskis et al., 1990). One of the relevant studies explicitly noted that the allocation was undertaken by the research nurse (Salkovskis et al., 1990) who also conducted the treatment intervention. Similarly, only two studies reported that the people who administered the outcome measures were blind to treatment condition (Lerner & Clum, 1990; McLeavey et al., 1994). A further study also reported that the inspection of session records was conducted by an independent research assistant (McLeavey et al., 1994). Blinding is important to reducing bias in these study procedures (Table 2).

### *The interventions*

Four of the studies (Biggam & Power, 2002; Eskin et al., 2008; Lerner & Clum, 1990; McLeavey et al., 1994) specified that they were based on the model of D’Zurilla and his colleagues and followed it without augmentation. Salkovskis et al. (1990) provided a description of their problem solving treatment which also followed this process articulated by Hawton and Kirk (1989). Donaldson et al. (2005) did not specify this detail about their intervention. As discussed in chapter three, D’Zurilla is one of the founders of PST. Three studies reported including supplementary homework exercises (Biggam & Power, 2002; Donaldson et al., 2005; Salkovskis et al., 1990). Problem orientation was excluded from one of the problem solving therapy studies (Eskin et al., 2008) (Table 2).

All of the interventions were brief, ranging from 5 sessions through to 10 sessions of an hour or more per session. The sessions were conducted in both group (Biggam & Power, 2002; Lerner & Clum, 1990) and individual settings (Donaldson et al., 2005; Eskin et al., 2008; McLeavey et al., 1994; Salkovskis et al., 1990). The time between recruitment and treatment was specified in the three studies who recruited participants following self-harm (Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990). Their first sessions with clients were all within 3 days of discharge at the latest.

### *Comparison group*

The choice of comparison groups varied. One study included treatment as usual as a control but did not provide a detailed description of this (Salkovskis et al., 1990). Two studies used control conditions that were designed to parallel treatment as usual. The first of the se used a non-directive supportive treatment (Donaldson et al., 2005), which was well described. The other used a non-intervention control which most closely paralleled normal care in the study environment (Biggam & Power, 2002) however this normal care warranted further description. Two other studies used alternative treatment controls, supportive therapy and problem oriented therapy without skills training respectively (Lerner & Clum, 1990; McLeavey et al., 1994). Both were well described. The final study used a wait list control with treatment following the wait period (Eskin et al., 2008) (Table 1).

### *Therapists*

Two studies used a crossed design (Rounsaville et al., 2001) with therapists trained in and conducting the sessions in both treatment conditions (Donaldson et al., 2005; Lerner & Clum, 1990). A crossed design is used to reduce differences that may occur due to different therapists (Rounsaville et al., 2001). Two studies used a single therapist to conduct all the

sessions (Biggam & Power, 2002; Salkovskis et al., 1990). The remaining therapy studies used graduate students in clinical psychology (Eskin et al., 2008) and clinical psychologists and registrars in psychiatry (McLeavey et al., 1994). Four of the studies reported that the therapists received supervision throughout the study period (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; Lerner & Clum, 1990) (Table 3).

Two out of six studies measured the therapeutic alliance (Eskin et al., 2008; Lerner & Clum, 1990). The problem solving therapy participants rated the therapeutic alliance as highly satisfactory in one study with a wait list control (Eskin et al., 2008) and the problem solving therapy group rated the therapist more highly than the control group in the other, perhaps because of achieving greater gains (Lerner & Clum, 1990) (Table 3).

### *Treatment integrity*

Studies varied in the comprehensiveness of their treatment integrity assessment. For example, Salkovskis et al, (1990) had no manual and reported no other measures of treatment integrity, although they did acknowledge this absence. The other studies in this review monitored treatment integrity through; audio recording of sessions (Donaldson et al., 2005); supervision (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; Lerner & Clum, 1990); review of session tapes by supervisors (Donaldson et al., 2005); monitoring manual adherence (Biggam & Power, 2002; Donaldson et al., 2005; McLeavey et al., 1994); ratings of sample sessions by project staff (Donaldson et al., 2005); inspection of session records by independent research assistant (McLeavey et al., 1994); and having a manual (Biggam & Power, 2002; Eskin et al., 2008; Lerner & Clum, 1990; McLeavey et al., 1994) (Table 3).

### *Outcome measures*

The outcome measures of most interest included changes in: depression, problem solving skills, hopelessness, suicide ideation, the therapeutic alliance and repetition of self-harm. The remaining measures, most of which were validated, included anxiety, self-esteem, self-perception and loneliness. None of the studies specified which of their measures were the primary and secondary measures. All of the studies reported who administered the outcome measures including two studies that specified the appropriate person was blind to treatment condition (Lerner & Clum, 1990; McLeavey et al., 1994).

All of the studies included a pre, post and follow up period at which the outcome measures were administered. These were: 3 months (Biggam & Power, 2002; Lerner &



Clum, 1990); 6 months (Donaldson et al., 2005; McLeavey et al., 1994); and 1 year (Eskin et al., 2008; Salkovskis et al., 1990) (Table 2).

### ***Results: Study outcomes***

#### *Depression*

Out of the five studies that reported on depression four showed significant reductions for the treatment groups (Biggam & Power, 2002; Eskin et al., 2008; Lerner & Clum, 1990; Salkovskis et al., 1990). The fifth study (Donaldson et al., 2005) also showed significant reductions in depression however this was true for the control treatment as well. These differences in depression scores were maintained at follow up (Table 4).

#### *Hopelessness*

Four of the studies measured hopelessness (Biggam & Power, 2002; Lerner & Clum, 1990; McLeavey et al., 1994; Salkovskis et al., 1990) and three of them showed significantly greater reductions for the treatment group compared with the control group. The fourth study (McLeavey et al., 1994) showed greater reductions for the treatment group but they did not reach statistical significance. However the results were clinically significant as the mean hopelessness scores for both groups ended up within the normal range. Salkovskis et al. (1990) showed very rapid changes in hopelessness scores which is likely to relate to the prompt beginning of the treatment along with the frequency and home based nature of sessions (Table 4).

#### *Problem solving skills*

The problem solving results are challenging to summarise as different measures were used (The PSI, the SPSPI-R, the SPQRS, MEPS). Additionally, some reported on problem solving skills overall (Donaldson et al., 2005; Eskin et al., 2008; McLeavey et al., 1994; Salkovskis et al., 1990) and others reported on sub scales (Biggam & Power, 2002; Lerner & Clum, 1990). However, all of the studies showed improvements in overall problem solving skills, with at least 4 (Biggam & Power, 2002; Eskin et al., 2008; Lerner & Clum, 1990; McLeavey et al., 1994) demonstrating significant changes in comparison with control groups on other measures. In addition, Salkovskis et al. (1990) showed possible generalization of problem solving skills across problems not addressed during treatment.

Three studies specifically reported significantly improved problem orientation or problem solving efficacy (Eskin et al., 2008; Lerner & Clum, 1990; McLeavey et al., 1994) although in the latter study these changes were observed from baseline to follow up, not at

post treatment. This result could be related to the measure used, the relationship between depression and problem solving skills or the opportunity to practice skills in the follow up period leading to improvements in scores at follow up (Eskin et al., 2008).

Other sub scales reported on were significant reductions in negative problem orientation, a significant reduction in avoidance, and a significant increase in rational problem solving skills – except in relation to solution implementation and verification which study participants did not have the opportunity to practice (Biggam & Power, 2002). This same study also reported on impulsiveness which did not show significant reductions, perhaps because it is a common trait in the prison population, with a disproportionate number having a diagnosis of ADHD (Biggam & Power, 2002) (Table 4).

### *Suicidal ideation*

Three out of the four studies that measured suicidal ideation showed significant reductions (Donaldson et al., 2005; Eskin et al., 2008; Salkovskis et al., 1990) and the 4<sup>th</sup> showed non-significant reductions (Lerner & Clum, 1990) (Table 4).

### *Repetition of self harm*

Three of the studies reported on repeat self- harm. In one study, there were no differences in repetition rates across groups or between 3 and 6 months (Donaldson et al., 2005) which may reflect gains experienced in both groups. However, stable functioning and no re attempts were found in sub sample of 18 at 1 year post attempt. In another, the treatment group had repetition rates of 10% in the year after treatment compared to 25% in the control group despite a higher repetition rate at baseline for the treatment group (McLeavey et al., 1994) which has clinical relevance. Salkovskis et al. (1990) showed a short term (6 month) reduction in repetition of self-harm for the treatment group and the amount of time until repetition was longer for the treatment group than for the control (Table 4).

### *Anxiety*

Only one study measured anxiety, possibly because while anxiety disorders are often associated with suicidal behaviour, the association does not appear to be direct (Evans et al., 2004). However in this single study, there were significant reductions in anxiety levels for the treatment group (Biggam & Power, 2002) (Table 4).

### *Retention rates*

In four studies there were no drop outs reported from the studies (Biggam & Power, 2002; Eskin et al., 2008; Lerner & Clum, 1990; Salkovskis et al., 1990). In the other two

studies, retention rates were still good. In Donaldson et al. (2005) approximately 80% of participants attended six or more sessions and in McLeavey et al. (1994) three control and two treatment participants dropped out of the study before completion of post treatment measures. This suggests that the participants found it an acceptable treatment.

The following tables summarise these six studies.

*Table 1: Type of study, intervention, participants, comparison group, setting, inclusion criteria and exclusion criteria*

Authors	Type of study	Intervention	Participants	Comparison group	Setting	Inclusion criteria	Exclusion criteria
Donaldson,D., Spirito,A.,& Esposito-Smythers,C. (2005)	RCT	Skills based treatment (problem solving and affect management)	- 39 recruited -7 males and 32 females - age range 12 – 17 with a mean age of 15.	Control treatment of a non-directive supportive treatment designed to parallel community treatment.	Recruited from hospital setting after suicide attempt	-Between 12-17 -Presented to hospital after a suicide attempt	-Non english speaking, - psychosis, - inadequate intellectual functioning for therapy.
Eskin, M., Ertekin, K., & Demir, H. (2008)	RCT	Problem-solving treatment for major depression and suicide potential.	- 46 recruited - 14 male and 32 female - mean age 19	- Wait list control to receive 6 sessions of PST when study finished.	Self-referred from schools and universities	Had to meet the criteria for DSM IV major depression	- Did not meet DSM IV criteria for major depression - Currently under medical treatment - Psychosis or bipolar affective disorder - Lack of parental consent
Lerner, M. S., & Clum, G. A. (1990).	RCT	PST group treatment of 10 sessions over 5-6 week.	- 18 recruited - 14 female, 4 male. - Age range 18-24 with a mean age of 18.8	Control treatment of supportive therapy group.. 10 sessions over 5-6 week.	Self-referred from university	- Subjects were experiencing “clinically significant” suicidal ideation	- No signs of psychosis or substance abuse

Authors	Type of study	Intervention	Participants	Comparison group	Setting	Inclusion criteria	Exclusion criteria
Biggam, F. H., & Power, K. G. (2002).	RCT: Parallel-controlled study.	- PST group treatment intervention of 5 sessions of 90 minutes PST in groups of 4 – 6.	- 46 recruited - all male - age range 16 – 21 with a mean age of 19	- A non intervention control group to parallel normal prison response.	Recruited from incarcerated young men	In one of the following three vulnerability categories: - at risk of suicide - under formal protection - being bullied in circulation	- Had experienced psychosis - Experiencing physical illness of clinical significance - Suspected or known bullies - In therapy already - Likely to move institutions or leave prison during the study period.
Salkovskis, P. M., Atha, C., & Storer, D. (1990).	RCT	- Problem solving treatment over 5 sessions of at least one hour over 4 weeks. - Homework assigned as needed.	- 20 recruited - 10 male, 10 female - aged 16 – 65 with a mean age of 27	TAU	Recruited from hospital following suicide attempt	Inclusion - 2 or more previous attempts; - Antidepressants had been part of previous attempt - A score of at least 4 on a six-point scale by Bulglass and Horton (1974). Subjects must have at least 2 out of 3 of these criteria.	Exclusion - not being of fixed abode - in need of immediate psychiatric treatment - psychotic - medically unwell

Authors	Type of study	Intervention	Participants	Comparison group	Setting	Inclusion criteria	Exclusion criteria
McLeavey, B.C., Daly, R.J., Murray, C. M. (1994).	RCT	- Problem solving treatment of 5 or 6 x 60 minute individual sessions held weekly.	- 39 recruited - 74% female, 26% male - aged 15 – 45 with a mean age of 24.4	Control treatment of individual problem oriented treatment without skills training.	Recruited following admission to Casualty Department after self-poisoning.	- Aged between 15-45; - No history of psychosis, mental retardation or cognitive impairment; - Self-poisoning was intentional; - Did not need psychiatric inpatient or daypatient care for psychiatric illness of suicidal risk.	

Table 2: Randomisation, consent, definition of self-harm, outcome measures, when measures were administered and by whom.

Authors	Randomisation	Consent	Definition of self-harm	Outcome measures	When measures were administered	By whom
Donaldson, D., Spirito, A., & Esposito-Smythers, C. (2005)	Randomly assigned. Assignment procedure not explained.	Parental consent and adolescent assent	“Any intentional, nonfatal self-injury, regardless of medical lethality, was considered a suicide attempt if intent to die was indicated” O’Carroll et al, 1996	<ul style="list-style-type: none"> <li>- primary and secondary not specified</li> <li>- DISC sections relevant to adolescent suicide attempters</li> <li>- CES-D</li> <li>- STAXI</li> <li>- SPSI-R</li> <li>- MEPS</li> <li>- SIQ</li> </ul>	<ul style="list-style-type: none"> <li>- Baseline</li> <li>- 3 months (end of active treatment)</li> <li>- 6 months (end of maintenance)</li> </ul>	<ul style="list-style-type: none"> <li>- Standard psych evaluation conducted by clinician not in the study to determine eligibility.</li> <li>- Other measures administered by trained bachelor’s level research assistant.</li> <li>- Blindness not specified</li> </ul>
Eskin, M., Ertekin, K., & Demir, H. (2008)	Randomly assigned. Assignment procedure not explained.	Informed consent signed by parents and participants	No definition and not a treatment outcome..	<ul style="list-style-type: none"> <li>Primary and secondary not specified.</li> <li>- HDRS , Turkish version</li> <li>- BDI, Turkish version)</li> <li>- PSI Turkish version</li> <li>- SPS Turkish version;</li> <li>- SIB Turkish version</li> <li>- (RSES) Turkish version</li> <li>- TAS Eskin, developed for this study, year not specified</li> </ul>	<ul style="list-style-type: none"> <li>- Baseline</li> <li>- Post treatment</li> <li>- 1 year follow-up</li> </ul>	<ul style="list-style-type: none"> <li>- HDRS by therapists.</li> <li>- None other specified</li> </ul>

Authors	Randomisation	Consent	Definition of self-harm	Outcome measures	When measures were administered	By whom
Lerner, M. S., & Clum, G. A. (1990).	Randomly assigned. Assignment procedure not explained	Consent process not specified	No definition provided and not a treatment outcome.	Primary/ secondary not specified - BDI - Modified MEPS - PSI - MSSI - BHS - UCLA Loneliness Scale - Ratings of Treatment Quality and Therapist	- Pre-treatment - Post-treatment - 3 month follow up.	- Conducted by three trained interviewers who were blind to treatment condition.
Biggam, F. H., & Power, K. G. (2002).	Random allocation to either group happened after balancing within the three vulnerability categories. Procedure not specified.	Informed consent provided.	Definitions of each category of vulnerability provided.	Primary/secondary not specified - HADS - SPSI-R - BHS	- Baseline - Post treatment - 3 month follow up	- The researcher
Salkovskis, P. M., Atha, C., & Storer, D. (1990).	Randomly allocated to treatment or control group by research nurse.	Informed consent obtained.	Must have two or more previous suicide attempts, antidepressants had been part of an overdose, and had to score 4/6 on a scale that predicts repeat suicidal behaviour.	Primary/secondary not specified. - BDI - POMS - PQRST - BHS - BSI, scales I and II; - a short scale giving subscale scores for depression, vigour, anxiety, tension, fatigue;	Interview at baseline. - Other measures: - One week - One month - Three months - Six months - One year after the index attempt.	- Pre allocation interview by assessing psychiatrist. - Remainder administered by Community Psychiatric Nurse.



Authors	Randomisation	Consent	Definition of self-harm	Outcome measures	When measures were administered	By whom
McLeavey, B.C., Daly, R.J., Murray, C. M. (1994).	Randomly allocated to either of the groups. Procedure not explained.	Study discussed and consent gained before discharge from Casualty Department.	Intentional self-poisoning.	<ul style="list-style-type: none"> <li>- MEPS</li> <li>- SRPS Scale</li> <li>- Problems Questionnaire;</li> <li>- BHS</li> <li>- Modified MSGO</li> </ul>	<ul style="list-style-type: none"> <li>- Pre treatment</li> <li>- Post treatment</li> <li>- 6 months post treatment.</li> </ul>	<ul style="list-style-type: none"> <li>- An independent assessor, blind to the treatment conditions, administered pre and post treatment measures.</li> <li>- Follow up conducted by post.</li> </ul>

Diagnostic Interview with Children (DISC) (Shaffer et al., 1998);

The Centre for Epidemiologic Studies – Depression Scale (CES-D) (Radloff, 1991);

Hamilton Depression Rating Scale (HDRS) (Hamilton, 1960), Turkish version (Akdemir et al., 1996);

Beck Depression Inventory (BDI), (Beck et. al, 1979), Turkish version (Hisli, 1988);

Beck Depression II (BDI-II), (Beck et al, 1996);

Hospital Anxiety and Depression Scale (HADS; Zigmond & Smith, 1983);

Profile of Mood States (POMS; McNair & Lorr, 1964);

Social Problem Solving Inventory- Revised (SPSI-R) (Maydiou-Olivares and D’Zurilla, 1996);

Means-End Problem-Solving Procedure (MEPS) (Platt et al, 1971);

Problem-Solving inventory (PSI) (Heppner and Petersen, 1982) Turkish version (Sahin et al, 1993);

Self-Rating Problem-Solving Scale (SRPS Scale; McLeavey et al, 1987);

Modified Means-End Problem-Solving Procedure (Modified MEPS). Based on the unmodified MEPS (Platt & Spivack, 1975);

Personal Questionnaire Rapid Scaling Technique (PQRST; Mulhall, 1977);

Hopelessness Scale (BHS; Beck et al, 1974);

Suicide Probability Scale (SPS) (Cull and Gill, 1988) Turkish version;

Suicide Ideation Questionnaire (SIQ) (Reynolds, 1985);

Modified Scale for Suicidal Ideations (MSSI; Miller, Norman, Bishop & Dow, 1986);

Beck Suicidal Ideation (BSI; Beck et al, 1979), scales I and II;

The State-Trait Anger Expression Inventory (STAXI) (Spielberger, 1988);

Scale for interpersonal behaviour (SIB) (Arrindell and van der Ende, 1985), Turkish version (Eskin, 1993);  
Rosenberg Self-Esteem Scale (RSES)(Rosenberg, 1965) Turkish version (Cuhadaroglu, 1996);  
Self-perception Scale, a modified version of the Miskimins Self-Goal – Other Discrepancy Scale (MSGO; Miskimins, 199);  
Quality of life (PedsQL) (Varni, J, 1998);  
UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980);  
Ratings of Treatment Quality and Therapist (Borkovec & Nau, 1972);  
Therapeutic Alliance Scale (TAS) Eskin, developed for this study, year not specified.

Table 3: Therapists, Training and the Interventions

Authors	Therapists	Supervision of therapists	Therapeutic relationship	PST as per D’Zurilla and Nezu	Treatment integrity
Donaldson, D., Spirito, A., & Esposito-Smythers, C. (2005)	Seven therapists trained in both treatment conditions and with an equal caseload of each.	Yes	No measures of therapeutic relationship	Not specified	<ul style="list-style-type: none"> <li>- Sessions recorded</li> <li>- Tapes reviewed by supervisors;</li> <li>- Clinician performance reviewed</li> <li>- Checklists used to assess adherence and therapist competence.</li> <li>- Ratings of sample sessions by project staff.</li> </ul>
Eskin, M., Ertekin, K., & Demir, H. (2008)	Two graduate students in clinical psychology	yes	Yes	Yes but no problem orientation	<ul style="list-style-type: none"> <li>- Manualised</li> <li>- Session lengths recorded</li> </ul>
Lerner, M. S., & Clum, G. A. (1990).	Three therapists (advanced doctoral students in psychology) across both treatments.	Yes	Yes	Yes. D’Zurilla and Goldfried, (1971)	<ul style="list-style-type: none"> <li>- Manualised</li> </ul>
Biggam, F. H., & Power, K. G. (2002).	The researcher .	Not discussed	Not measured	Yes. D’Zurilla and Goldfried, (1971)	<ul style="list-style-type: none"> <li>- Manualised</li> <li>- adherence to manual monitored</li> <li>- reflective discussions of group processes with an independent clinician.</li> </ul>
Salkovskis, P. M., Atha, C., & Storer, D. (1990).	Community Psychiatric Nurse	Not discussed	Not presented	Based on Bancroft (1986) and Hawton & Kirk, (1989)	No manual
McLeavey, B.C., Daly, R.J., Murray, C. M. (1994).	Clinical psychologists and registrars in psychiatry.	Not discussed	Not measured	Yes. D’Zurilla and Goldfried (1971).	<ul style="list-style-type: none"> <li>- Manualised</li> <li>- Adherence to a manual monitored</li> <li>- Inspection of session records by an independent research assistant.</li> </ul>

Table 4: Outcomes

Authors	Rates of repetition	Results	Treatment effects
Donaldson, D., Spirito, A., & Esposito-Smythers, C. (2005)	<ul style="list-style-type: none"> <li>- No diffs at 3 months</li> <li>- No diffs by 6 months</li> <li>- Stable functioning and no re attempts were found in sub sample of 18 at 1 year post attempt.</li> </ul>	<ul style="list-style-type: none"> <li>- Significant decreases in depression at 3 and 6 months</li> <li>- Significant decreases in suicidal ideation at 3 and 6 months</li> <li>- No significant differences between the two treatment groups but the improvements in the PST group were greater.</li> <li>- there were 6 re attempts in the follow up period across both groups</li> </ul>	<p>At follow-up:</p> <ul style="list-style-type: none"> <li>- No significant treatment or treatment by time interactions were found</li> <li>- SPSI-R total score = medium effect size (0.11) for the treatment main effect</li> <li>- Depression: Time <math>p \leq 0.01</math> Effect size: 0.24</li> <li>- Suicide Ideation: Time <math>p &lt; 0.05</math> Effect size 0.21</li> <li>- Problem Solving Total: <math>p &lt; 0.01</math> Effect size 0.33</li> </ul>
Eskin, M., Ertekin, K., & Demir, H. (2008)	Not reported	<ul style="list-style-type: none"> <li>- Significantly greater rates of recovery for depression for PST than the WLC group and maintained at follow up.</li> <li>- Significant reductions in suicide risk for PST group post treatment. WLC unchanged</li> <li>- The problem solving scores significantly higher for the PST group than WLC at follow up.</li> </ul>	<ul style="list-style-type: none"> <li>- Depression BDI: Significant reductions from baseline to post test for PST gp compared to WLC <math>p &lt; 0.0001</math></li> <li>- Depression HDRS: Significant reductions from baseline to post test for PST gp <math>p &lt; 0.0001</math> compared to WLC <math>p &gt; 0.05</math></li> <li>- Suicide potential: Significant reductions from baseline to post test for PST gp <math>p &lt; 0.0001</math> compared to WLC <math>p &gt; 0.05</math></li> <li>- High effect sizes observed between treatment and no-treatment groups, and between pre and post treatment for depression.</li> </ul>
Lerner, M. S., & Clum, G. A. (1990).	Not reported	<ul style="list-style-type: none"> <li>- the PST group generated marginally more relevant means to solve a problem than control group at post-test.</li> <li>- the PST group continued to be less depressed, less hopeless, and less lonely as compared to those in the control group at 3 months follow up.</li> <li>- Suicidal ideation reduced for both groups.</li> </ul>	<p>Clinical Impact: Significantly more subjects in the PST group (8/9) showed clinical improvement as compared to the supportive group (4/9) <math>p &lt; 0.05</math></p> <p>Depression: Post test- PST group significantly less depressed <math>p &lt; 0.05</math></p> <p>Depression: Follow-up- PST group significantly less depressed <math>p &lt; 0.01</math></p> <p>Problem solving efficacy: Post test - PST group had significantly higher problem solving self-efficacy <math>p &lt; 0.05</math></p> <p>Follow-up - PST group significantly less hopeless <math>p &lt; 0.05</math></p>

Authors	Rates of repetition	Results	Treatment effects
Biggam, F. H., & Power, K. G. (2002).	Not reported	<ul style="list-style-type: none"> <li>- The PST group experienced significant reductions in depression at 3 months follow up.</li> <li>- A large number of the PST group showed significant reductions in hopelessness</li> <li>- Significant changes were shown for the PST group on problem solving subscales including Negative Problem Orientation, Avoidance Style and Rational Problem Solving.</li> <li>- Non-significant improvements in Positive Problem Orientation for the PST while the comparison group scores remained unchanged.</li> </ul>	<ul style="list-style-type: none"> <li>- HADS depression subscale: Gp p &lt;0.05 Time p 0.0001 Gp x Time p &lt;0.0001</li> <li>- HADS anxiety subscale: Gp p&lt;0.05 Time p 0.0001 Gp x Time p&lt;0.01</li> <li>- The BHS : Gp p &lt;0.05 Time p &lt;0.0001</li> <li>Negative Problem Orientation: Gp p&lt;0.01 Time p 0.01 Gp x Time 0.05</li> <li>Rational Problem Solving: Gp p&lt; 0.05 Time p 0.01 Gp x Time p&lt; 0.05</li> <li>Problem Definition: Gp p&lt; 0.01 Time p 0.0001 Gp x Time p&lt; 0.05</li> <li>Generating Alternatives: Gp p&lt; 0.05 Time p 0.01</li> <li>Decision Making: Gp p&lt; 0.01 Time p 0.0001</li> <li>Avoidance scale: Gp p&lt; 0.05 Time p 0.05</li> </ul>
Salkovskis, P. M., Atha, C., & Storer, D. (1990).	6 month reduction in the frequency of repeat suicide attempts from post test to follow up.	<ul style="list-style-type: none"> <li>- The treatment group showed reductions in psychological distress.</li> <li>- The treatment group showed significant reductions in suicide attempts for up to 6 months</li> <li>- The treatment group appear to have generalised the problem solving skills beyond those focussed on during treatment.</li> </ul>	<ul style="list-style-type: none"> <li>Significant group effects for BDI, hopelessness and problem 1, 2, and 3.</li> <li>BDI depression: Gp p &lt;0.005</li> <li>POMS subscale depression: Gp p &lt;0.001</li> <li>Hopelessness: Gp p &lt;0.01</li> <li>BSI Scale 2: Gp p &lt; 0.025</li> <li>Problem Solving: Problem 1 Gp p &lt; 0.005; problem 2 Gp p 0.001; Problem 3 Gp p &lt; 0.005</li> <li>Rates of repetition: Gp p 0.049</li> </ul>

Authors	Rates of repetition	Results	Treatment effects
McLeavey, B.C., Daly, R.J., Murray, C. M. (1994).	Repetition rates of 10.5% for treatment group and 25% for control group in the year post treatment.	<ul style="list-style-type: none"> <li>- The PST group made significantly greater gains than the control group on the MEPS at post test</li> <li>- The PST group made a significantly greater improvement on the perceived ability to solve problems at post test and follow up.</li> <li>- Both groups showed reductions in hopelessness</li> <li>- The difference between groups on the SPS was statistically significant</li> <li>- Repetition rates 10% for treatment gp in year following treatment and 25% for control group in year following.</li> </ul>	<ul style="list-style-type: none"> <li>- significant differences bet groups in MEPS changes <math>p &lt; 0.01</math></li> <li>- Significant differences bet groups in changes in optional thinking <math>p &lt; 0.01</math></li> <li>- Significant differences bet groups in changes in awareness of consequences <math>p &lt; 0.05</math></li> <li>- Significant differences bet groups in changes in perceived ability to solve current problems <math>p &lt; 0.05</math></li> <li>- differences in hopelessness did not reach significance or in the number of current problems.</li> </ul>

## ***Discussion: Strengths and limitations***

Over time, research has indicated that deficits in problem solving are linked with negative life events, hopelessness, suicidal ideation and suicidal behaviour (Reinecke, 2006b). Research also suggests that problem solving therapy can improve the adjustment of suicidal patients and reducing the risks of suicide attempts (Reinecke, 2006b). Even passive problem solving has been found to be more effective than no problem solving (Linda et al, 2012). The results of these 6 studies are consistent with these findings. The results demonstrated significant reductions in scores for depression, suicide ideation, anxiety, and hopelessness while also demonstrating significant improvements in some problem solving scores. In addition, short term reductions in repetition rates for self-harm were shown.

### *Type of study*

All of the studies are randomised control trials. This is a strength as a randomised control trial overcomes weaknesses seen in non-randomised studies when it is undertaken rigorously. T. C. Clark et al. (2013) also recommend that authors should include this full description in their title so they can be more easily found (T. C. Clark et al., 2013). However, the sample sizes were small (Corcoran, 2012; Muehlenkamp, 2006b), they were under powered to detect differences (Brent et al., 2013; Robinson et al., 2013b) and they lacked power calculations. These limitations are typical for early stage research in which investigators are gathering early evidence of efficacy (Rounsaville et al., 2001). For example, Salkovskis et al. (1990) stated that they had not got the number of participants they hoped for (Salkovskis et al., 1990) which is not uncommon in self-harm research. The relatively short follow up periods (Corcoran et al, 2011; Muehlenkamp, 2006) are also typical of early stage research projects such as these (Rounsaville et al., 2001), however three of the studies had a one year follow-up which is a respectable period.

### *Risk of bias*

Randomisation includes sequence generation, allocation concealment and implementation and should be described in randomised control trials (Boutron, Moher, Altman, Douglas G. D Sc, Schulz, Kenneth F. PhD, MBA, & and Ravaud, Philippe. MD, PhD, for the CONSORT Group\*, 2008; T. C. Clark et al., 2013; Grant et al., 2013). But none of these processes were discussed in these studies which detracts from their strength because a risk of bias cannot be eliminated. Nor were methods of blinding discussed in four studies, although it was pleasing to see it had been used in two studies for the administration and analysis of outcome measures (Boutron et al., 2008).

### *Study population*

The study populations were well described throughout the studies and the participants were drawn from different settings which allows for a broader view or potential effectiveness across the combined studies. Given that people at high risk of self-harm are commonly excluded from studies, it was a particular strength that one study made it a criteria to have a history of previous self-harm to be eligible for inclusion (Salkovskis et al., 1990). This was in order to show that any treatment effects were genuine and not indicative of spontaneous recovery that is common after a first self-harm episode (Salkovskis et al., 1990).

Two studies had self-referred populations (Eskin et al., 2008; Lerner & Clum, 1990) which can skew results as the choice to opt in implies a motivation towards change. Additionally these were university students, which limits generalization to other populations. Similarly, while referring young people from acute services (Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990) provides important information for responding to these people, it tells us little about whether the treatment is applicable to community samples.

### *Retention rates*

Retention rates of study participants were high among the studies. Salkovskis et al. (1990) ran the sessions in a very intensive way and engaged with clients as early as possible. They also used very assertive outreach with its participants to reduce barriers to attending sessions. Another study also used assertive outreach with its participants to improve treatment adherence (Donaldson et al., 2005) which is a strength of both of these studies.

### *Type of comparison*

These studies used a range of comparison options which are each valid choices. However, the results from this body of research would be more consistent and easier to compare if there were some standardised form of control group. Given that there has been no single efficacious treatment shown for young people at risk of self-harm, it may be more useful to concentrate on establishing efficacy for problem solving therapy in comparison with treatment as usual before focussing on comparisons with other treatments. In addition, better descriptions of treatment as usual would have strengthened the studies that made use of it as a comparator.

But treatment as usual is extremely variable and without measurement or control, it is difficult to know what it actually entails (Spirito, Stanton, Donaldson, & Boergers, 2002). Further, a standard of best practice for behavioural therapies which would constitute treatment



as usual has not been clearly defined (Rounsaville et al., 2001; Spirito et al., 2002). One way to resolve this is to provide a detailed description of treatment as usual including the setting, frequency, and duration of sessions along with details of interventions (Boutron et al., 2008; Spirito et al., 2002).

Another way is to use a comparison comprised of a simulated treatment as usual. However, a simulated treatment as usual is likely to be free of the pressures and constraints of an authentic community clinical setting (Donaldson et al., 2005). A further comparison used is another bona fide treatment which can show relative efficacy between treatments. More often, though, equivalency between two bona fide treatments, intended to be therapeutic, is common (Wampold et al., 1997).

Therefore, the studies that demonstrated findings approaching equivalence between two treatments (Donaldson et al., 2005; Lerner & Clum, 1990) should not be seen as diminishing the findings about the problem solving therapy arm of each study, especially when both treatment arms showed significant change and given that there were higher rates of improvement in the problem solving therapy groups. But nor can they be seen as establishing the superiority of problem solving therapy over another intervention.

### *Treatment integrity*

Measures of treatment integrity varied in detail but were quite well described overall. Unfortunately, although it was reported they were measured, the results were not necessarily detailed. This is an area that could benefit from more attention although it was a particularly robust feature in Donaldson et al. (2005) and Lerner and Clum (1990).

### *The intervention*

Precise details of an experimental intervention are recommended (Boutron et al., 2008) and were provided in these studies. In addition, five of the studies could be described as true problem solving therapy studies (Malouff, Thorsteinsson, & Schutte, 2007b). In other words, they followed the procedure as laid out by D'Zurilla and colleagues, the originators of the therapy. This is important because problem solving therapy is a specific intervention which was developed by D'Zurilla and colleagues (D'Zurilla & Goldfried, 1971b; D'Zurilla & Nezu, 2007). To be an authentic problem solving therapy trial, the intervention therefore ought to follow the process as outlined by the originators (Malouff et al., 2007b).

One problem solving therapy study did not include problem orientation, however they acknowledged this as a limitation of the study (Eskin et al., 2008). The inclusion of problem

orientation has been found to contribute to treatment effects in problem solving therapy (Malouff et al., 2007b) and negative problem orientation is the problem solving characteristic most consistently linked to suicidality (Clum & Febraro, 2004; Orbach et al., 2007).

### *Beginning of treatment*

Adolescents are most at risk for repeat self-harm in the 3 months following discharge from a psychiatric hospital (Brent et al., 1993; Prinstein et al., 2008) and beginning treatment soon after a self-harm episode is of importance with both engagement and retention of young people in therapy (Spirito et al., 2011). Intensity of treatment may need to be higher at this time and emphasise good care coordination (Brent et al., 2013).

This was a pronounced strength in the three studies included here that recruited participants after a self-harm event (Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990), all of whom had been recruited and engaged within a three day period at the longest.

### *Outcome measures*

None of these studies clearly specified their primary and secondary outcomes (Boutron et al., 2008) which was a limitation. This is unfortunately common as demonstrated in a systematic review of reporting on social and psychological trials, in which fewer than half reported primary and secondary outcomes sufficiently to be included in a meta-analysis (Grant et al., 2013). However, the outcome measures which were selected and implemented were a strength of the studies overall.

Suicide ideation was measured and significant improvements were again shown in three studies (Donaldson et al., 2005; Eskin et al., 2008; Salkovskis et al., 1990). Repetition of self-harm was reported in the three studies in which it was a measure of interest (Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990) reductions were seen in all three studies which is an encouraging finding. Studies tend not to show statistically significant differences in follow up rates of suicidal behaviour mostly because of the limited power of the small samples to measure this effectively (Reinecke, 2006b). However, the reductions reached significance in Salkovskis et al. (1990) in the six month follow up period and the time to repeat self-harm was greater than for the control group. McLeavey et al. (1994) showed clinically relevant reductions. For example, in one study, the treatment group had a 10% repetition rate compared with 25% in the control group despite higher repetition rates at baseline (McLeavey et al., 1994). From a clinical perspective, this is important. Donaldson et al. (2005) showed no differences between groups on repetition rates with six re attempts in the

follow-up period, however in a sub sample of 18 participants, they were found to be clinically stable with no repeat self-harm events at 18 months follow-up. The results in this study are consistent with the equivalency typically shown between two similar treatments.

Depression, as a major risk for self-harm, was measured in all but one of the studies and showed significant improvements. Not all of the studies provided measures of hopelessness which also has a close association with self-harm and suicide (Asarnow et al., 2011; e.g. Evans, Hawton, & Rodham, 2005b) which was a surprising omission.

The problem solving measures were comprehensive but varied which can affect meaningful comparisons between studies because they measure different things and use different data gathering measures. For example, the MEPS does not allow for the detailed measure of specific areas of problem solving deficits in the way the SPSI-R does (Schotte & Clum, 1987). Further, it is interesting to note that only two studies used the problem solving measure (SPSI-R) specifically designed to measure the problem solving therapy intervention. Careful attention needs to be paid to matching the problem solving intervention to the appropriate problem solving measure and additional problem solving measures can be used to augment this data.

#### *Definitions of self-harm*

Unclear and inconsistent definitions of self-harm were cited in the earlier reviews as a factor which limits comparison between studies (e.g. Robinson et al., 2013b). This is an issue when comparing studies. Of the three studies for which it was of relevance, they each provided a definition of some sort for self-harm (Donaldson et al., 2005; Salkovskis et al., 1990). The definitions that were provided were specific to suicide attempt in one case; intentional self-poisoning in the second; suicide attempt and predictors of future suicidal behaviour in the third. While these are specific and relevant to each study, it does provide challenges for comparisons between studies, perhaps reinforcing the importance of standardised terms and definitions.

#### *Therapeutic relationship*

The therapeutic relationship was measured in two of these studies (Eskin et al., 2008; Lerner & Clum, 1990) which is a strength, but it was a limitation in not being measured in the remaining four studies, given its centrality in the therapeutic process.

### *Data analysis*

None of the studies reported a power calculation which increases the risk of type II errors. Only one study analysed data on an intent to treat basis (Donaldson et al., 2005) with 80% of participants completing the 3 and/or 6 month follow ups. However, overall the reporting of data analysis was of high quality. The processes were well described, with most including a preliminary analysis of the groups before presenting the main analysis. Tables were provided with demographic data, means, standard deviations, p-values and effect sizes. Main treatment effects were analysed using ANCOVA (Lerner & Clum, 1990; Salkovskis et al., 1990) or ANOVA (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008).

### ***Strengths and limitations of this review***

#### *Strengths*

There are a number of strengths in this review. I conducted an in-depth search of the literature with broad inclusion criteria, allowing for as much of an overview of this small body of literature as possible. This particular group of studies, focusing specifically on young people, has not been brought together in a single review to consider problem solving therapy for young people in particular. The review identifies important elements of study design to include in any future randomised control trial, through its examination of each of these studies. It was also a strength that the study populations varied, as this shows problem solving therapy has similar outcomes among young people along the continuum of risk factors.

#### *Limitations*

There are also a number of limitations in this review. There were only a small number of studies which precludes any definite conclusions about the efficacy of problem solving therapy for young people at risk of self-harm. In addition, there was no meta-analysis performed of the studies in this review. I conducted the entire review myself with no independent review of what I included or excluded.

### ***Conclusion***

In this review I have shown that there is some evidence that problem solving therapy shows early promise as a treatment intervention for young people at risk of self-harm. There is currently no specific psychological intervention shown to have well established efficacy with young people at risk of self-harm. Intervention studies with this population are not common so studies such as the ones in this review are needed. The studies presented in this literature review were useful in contributing to the developing body of research on

interventions for young people at risk of self-harm. The fact that it is a small body of studies spanning 29 years highlights the need for further work in this area.

These problem solving therapy studies with young people are comparable with adult studies in generating reductions in risk factors and improvements in problem solving. In addition they showed reductions in suicidal ideation and behaviour, at least for a period of time. These findings make a tentative case for the use of problem solving therapy for treating depression and suicide potential in adolescents and young adults. This seems consistent with the findings of the treatment reviews which suggest that problem solving therapy is worthy of further investigation as an intervention which could potentially prove efficacious.

## ***Chapter 5: A description of the current programme of work***

### ***Introduction***

In this chapter I provide a description of the current programme of work that ran from June 2011 until December 2012. Despite promising results in the studies I reviewed, none of them went on to develop further large scale studies. Therefore, my intention was to carry out an exploratory programme of work to investigate the question of whether problem solving therapy is an acceptable and feasible intervention for young people at risk of self-harm and for the practitioners who deliver the intervention. This programme of work aims to gather data to inform a future large scale randomised control trial. This is a new area of research with young people in New Zealand and it is therefore important to assess the acceptability and feasibility of the intervention (Lancaster, Dodd, & Williamson, 2004; Leon, Davis, & Kraemer, 2011) before planning such a study. This is also consistent with Stage 1 research development with the focus on manual development, therapist training, and feasibility assessment (Rounsaville et al., 2001). An acceptability and feasibility study can be used to trial a new treatment, study measures, study procedures, training, recruitment and consent. It can also be used to gather data helpful in calculating an appropriate sample size for a future randomised control trial (Lancaster et al., 2004).

### ***Study questions***

The overall programme of work is made up of seven mixed methods studies with a strong qualitative emphasis. This work can be seen as an iterative process of developing and testing an intervention in collaboration with relevant stakeholders.

The main research objective was to answer the question:

1. Is problem solving therapy an acceptable and feasible treatment option for young people at risk of self-harm and for the practitioners who deliver it?

The remaining research questions were:

1. Test quantitative measures of mood, problem solving, hopelessness, suicidal thinking, overall functioning, and the therapeutic alliance;
2. Test whether health professionals found the training helpful;
3. Test whether health professionals found the follow up supervision helpful;

4. Test whether health professionals found the resource helpful and consider it is likely to be effective within their practice; and
5. Test whether clients found the resource and overall intervention helpful.

### ***Overview of the programme of work***

My programme of work is made up of three inter related sections *that run throughout the entire study period*. These sections are: the resource development, the training of practitioners, and an open trial of RE:SOLVE problem solving therapy with young people. The overall plan of the programme is for me to train practitioners in RE:SOLVE problem solving therapy with a view to them offering the therapy in their workplace. These newly trained practitioners will then identify potential client study participants from their own setting. Young people who were eligible for the study were invited to take part and the practitioners conducted the therapy with them, while receiving supervision from me. The first section of the programme is the development of the RE:SOLVE problem solving therapy client workbook and training manual (studies 1 – 4). The second section is a pilot training programme of RE:SOLVE problem solving therapy for practitioners (study 5). The third section is an open trial which pilots the RE:SOLVE problem solving therapy intervention with youth participants recruited to the study (studies 6 and 7).

### ***Section 1: Resource development***

The studies in the literature review did not appear to include consultation with stakeholders about the development of the manuals they used in their treatment trials. Therefore this section is made up of four small studies, designed to gain qualitative feedback from stakeholders to collaboratively develop the relevant resources for a future larger scale randomised control trial. The first two studies took place prior to the open trial and the last two studies took place after the open trial. The resources include a training manual for practitioners and a workbook for clients. As recommended by Malouff et al. (2007) I will follow the five factor problem solving therapy model proposed by D’Zurilla and Nezu (2007) as described in chapter 3.

#### ***Study 1: Evaluation of client workbooks by youth reviewers***

Prior to the open trial, the client workbooks were presented to a small group of youth advisors. They were asked to provide individual feedback via a questionnaire designed for the purpose. Following thematic analysis of this feedback, the client resources were amended for use in the training workshops and the open trial.

### *Study 2: Evaluation of the manuals in the training workshops*

The practitioner training manual and amended client workbook were trialled in the training workshops with the practitioners who took part in the study. Again, this was prior to the open trial. At the end of the training workshops, practitioners were asked to fill out questionnaires providing feedback on their initial perceptions and views on the practitioner manual and the client manual, prior to using them in a clinical setting.

### *Study 3: Evaluation of the manuals in the clinical setting*

Following the open trial, the practitioners were asked to fill out a second questionnaire about their views, perceptions and experiences of the training manual and the client workbook at the end of the study period, after having used them in a clinical setting with clients.

### *Study 4: Evaluation of the client workbook by clients who took part in therapy*

Following their problem solving therapy sessions, clients took part in a semi structured interview to provide feedback on their experiences of the sessions and the client workbook.

The combined results from study 2, 3 and 4 will form the basis for future amendments of both the client workbook and the training manual. The results will be analysed using descriptive statistics (including means and standard deviations) and thematic analysis (see Data Analysis at the end of this chapter).

## ***Section 2: Qualitative pilot study - The training***

### *Study 5 Evaluation of the training workshop*

This study trialled a one day training workshop for practitioners to learn and practice the RE:SOLVE problem solving therapy intervention. The training workshop included didactic teaching with the support of a power point presentation. It also included discussion, questions and paired practice over the course of the day. The practitioners that took part were invited from secondary schools, a primary healthcare organization, and a Child and Adolescent Mental Health Service.

Practitioners were asked to fill out a questionnaire at the end of the training day that was created for the purpose of evaluating the training workshop. The results of the questionnaires were analysed using descriptive statistics (including means, medians, standard deviations, ranges, frequencies and percentages) and thematic analysis (see Data Analysis at the end of this chapter). These results will inform future development of the training workshops.



### ***Section 3: Open trial pilot study***

#### ***The RE:SOLVE problem solving therapy pathway.***

The problem solving therapy programme in the current study is based primarily on the model of D’Zurilla and Nezu (2007). It also includes some features from Mynors Wallis’s (1997) primary care model, in particular the use of problem cues. It was divided into seven steps, and was named “RE:SOLVE : a problem solving pathway”. The name RE:SOLVE captured three things for me. First, the programme is about solving problems. Second, it requires resolve and determination to learn and follow through. Third, it teaches resolve.

The RE:SOLVE programme was conceptualized as a journey along a pathway that had signposts pointing the way. The signposts each represented a step in the problem solving process. The process was illustrated as circular to communicate that once you completed the cycle, you could begin again with another problem. It was also intended to communicate the idea that problem solving is continuous, an everyday part of life rather than a stop/start linear process.

The problem solving steps were divided into seven signposts, as follows:

The Starting Post: Problem Orientation

The Second Signpost: Recognising and Identifying a Problem

The Third Signpost: Choosing a Problem and Making it Clear

The Fourth Signpost: Generating Ideas

The Fifth Signpost: Decision Making

The Sixth Signpost: Making an Action Plan and Carrying it Out

The Seventh Signpost: Checking Progress (How’s it Going?)

#### ***Study 6 Open trial pilot study***

This exploratory study investigated the question of whether RE:SOLVE problem solving therapy is an acceptable and feasible intervention for young people at risk of self-harm and for the practitioners who offer the intervention. For this reason, an open trial was chosen as the most accessible design to use. As an open trial, there is no control group or randomisation included in this study. Although a feasibility study may be conducted with the intention of following on with a more substantive randomised control trial, it is acceptable for randomisation not to take place in the feasibility study (Lancaster et al., 2004). The open trial

also pilots the various measures to establish whether they are the most appropriate measures for a future definitive randomised control trial (Lancaster et al., 2004; Rounsaville et al., 2001).

In this part of the study, a number of the newly trained practitioners implemented the RE:SOLVE problem solving therapy programme with clients at risk of self-harm. They were asked to trial the intervention with up to 3 clients within the study period. They conducted 6 – 10 sessions of one to one therapy with each client in addition to treatment as usual. They received supervision from the investigator throughout their involvement with the study.

### **Study population**

In the open trial I aimed to recruit approximately 20 clients. The client population was young people aged 13 – 18 who are at risk of self-harm. They were recruited from participating secondary schools, a participating Primary Healthcare Organisation, and a participating Child and Adolescent Mental Health Service. Participants were engaged in RE:SOLVE problem solving therapy as soon as possible after recruitment as this showed positive and rapid results in relation to engagement and hopelessness scores (Donaldson et al., 2005; Salkovskis et al., 1990).

There is no formal power calculation for this study. As a feasibility study it is not required to have the usual type of power calculation expected for a randomised control trial (Lancaster et al., 2004). However, the number of participants has been assessed as adequate for determining acceptability and feasibility and it is also in keeping with international studies of this ilk.

### **Inclusion criteria for the open trial**

The inclusion criteria differ slightly according to where the participants are being recruited from.

Figure 3: Inclusion and exclusion criteria for open trial

### *Inclusion criteria*

The inclusion criteria differ slightly according to where the participants are being recruited from.

#### CAMHS and PHO

- Between the ages of 13 and 18 years inclusive
- Cognitively able to cope with therapy
- Fluency in English
- Along with one of the following criteria:
  - Referral to the service occurs following a first episode of self-harm OR
  - Referral to the service occurs amid concerns about self-harm with a history of at least one previous episode of self-harm OR
  - Currently involved with the service and self-harms during study period

#### Secondary Schools

- Client presents at mild to moderate risk of self-harm
- Client is not accepted by CAMHS following a referral about self-harm
- Between the ages of 13 and 18 years inclusive
- Cognitively able to cope with therapy
- Fluency in English

### *Exclusion criteria*

- Current psychosis
- Currently involved or participating in another study

*\*It was a requirement of the Ethics committee to include fluency in English as an inclusion criteria as we were unable to provide an interpreter.*

### *Quantitative outcome measures*

An important aim of the open trial was to explore whether the chosen outcome measures were useful and whether the signals of efficacy are good. In the studies I reviewed, there did not appear to be a distinction between primary and secondary outcome measures. I have clearly outlined these outcome measures below. There were also a wide range of measures used in the reviewed studies, and at times a high number. For this study I have selected commonly used measures to heighten the possibility of useful between study comparisons for the future and to establish their usefulness for a follow up study (Rounsaville

et al., 2001), with the exception to this being the SPSI-A, for reasons detailed below. Client participants will fill out the outcome measures at three intervals: baseline, on completion of the sessions, and at a one month follow up.

Outcome measures are designed to provide evidence of a treatment's promise (Rounsaville et al., 2001). Yet the choice of outcomes in suicide prevention research is challenging. Suicide is a statistically rare event and is therefore not a useful measure. Suicide attempt is commonly used instead, both because it is a useful proxy measure and because self-harm is important in its own right. However large studies are still needed for this to be a reliable measure so it was entirely appropriate that it was not included in any of these studies. Nevertheless collection of data about self-harm is important and it was pleasing to see this reported in three studies (Donaldson et al., 2005; McLeavey et al., 1994; Salkovskis et al., 1990). Further, even though they were not powered for self-harm to be a primary outcome measure, reductions were seen in all three studies in which it was measured. In the current study, data will be collected about any history of self-harm and about any self-harm that occurs during the study but it will not be a primary outcome measure as the study is too small for this to be a meaningful measure.

Depression is the affective disorder most commonly associated with suicidal behaviour (e.g. Beautrais, 2000; Evans et al., 2005b; T. M. Fleming et al., 2007) and for this reason it has been selected as the primary outcome measure for the current study. Given the strength of this association it was surprising that not all of the studies in the literature review provided measures of mood. Nor did they all provide measures of hopelessness which also has a close association with self-harm and suicide (Asarnow et al., 2011; Evans et al., 2005b) and which is included here as a secondary outcome measure. There is debate about the extent to which hopelessness is a factor in adolescent self-harm with some arguing it is less pivotal than depression for adolescents (in Speckens & Hawton, 2005) and others finding it to be predictive of suicidal ideation (Zeyrek, Gencoz, Bergman, & Lester, 2009). Given this uncertainty, it is prudent to include it as a measure.

Problem solving skills are a key measure because an important difference between those who attempt suicide and those who don't is the effective use of coping and problem solving skills (Williams et al., 2005b). Additionally, effective problem solving is an important part of resilience (e.g. Everall et al., 2006). The problem solving measures were comprehensive but varied which can affect meaningful comparisons between studies. For example, the MEPS does not allow for the detailed measure of specific areas of deficit in the way the SPSI-R does (Schotte & Clum, 1987). Further, it is interesting to note that some of

the studies that used the framework of D’Zurilla and Goldfried (1971) did not use the problem solving measure (SPSI-R) designed to measure this. Careful attention needs to be paid to matching the problem solving intervention to the appropriate problem solving measure. For this reason I have chosen to use the SPSI-A. This is an adolescent problem solving measure developed from the SPSI-R for young people (Frauenknecht & Black, 2003). I chose this because it is designed to measure problem solving therapy and is specifically designed for young people.

### **Primary outcome measure**

The primary outcome measure is of mood as measured by Reynolds Adolescent Depression Scale (RADS-2). This measure is a 30 item self-report questionnaire, designed to measure depressive symptoms in adolescents (Brooks and Kutcher, 2001). The measure has a Cronbach’s Alpha rating of 0.92, demonstrating excellent internal consistency (Reynolds, 2002) (Appendix 11).

### **Secondary outcome measures**

Hopelessness is measured by the Kazdin Hopelessness Scale for children (Kazdin HPLS). This measure is a 17 item self-report measure, assessing hopelessness. It has a Cronbach’s alpha of 0.75 indicating acceptable internal consistency (Kazdin, French, Unis, Esveldt-Dawson, & Sherick, 1983). It is important to measure hopelessness because it is correlated with suicidal intent (Kazdin et al., 1983) (Appendix 14).

Function is measured by the Paediatric Quality of Life Enjoyment and Satisfaction Questionnaire (PQ-LES-Q). This is a 15 item self-report questionnaire which assesses the current feelings of satisfaction and enjoyment with life (Endicott, Nee, Yang, & Wohlberg, 2006). The PQ-LES-Q has a Cronbach’s alpha score of 0.87 – 0.90, indicating good internal consistency (Endicott et al., 2006). It is important to take notice of whether quality of life improves alongside treatment (Endicott et al., 2006) (Appendix 15).

Problem solving skills are measured by Social Problem Solving Inventory for Adolescents (SPSI-A). This is a 30 item self-report questionnaire developed to measure the social problem solving skills of young people in personal and social contexts (Frauenknecht & Black, 2003). It was adapted and modified from the SPSI-R, a measure designed for adults. It requires a lower reading level which makes it more accessible for adolescents. The SPSI-A short version has a Cronbach’s alpha of 0.91 – 0.94, showing excellent internal consistency (Frauenknecht & Black, 2003) (Appendix 12).

The SPSSI-A has a total score which is calculated from three scales: the Automatic Process Scale, the Problem Orientation Scale and the Problem Solving Skills Scale. These scales in turn are made up of 9 subscales. The Automatic Process scale is a single measure scale. The automatic process is described as the learned response a person applies to a problem situation that has been adequate in resolving other problems. The point at which this process ceases to be effective is the point at which a person has to make use of more active problem solving. This problem solving is measured by the Problem Orientation and Problem Solving Skills scales (Frauenknecht & Black, 2003).

The Problem Orientation scale is calculated from three sub scales: the cognition subscale, which measures confidence in one's intellectual ability to engage with the problem; the emotion subscale which measures the feelings, such as degree of distress, that occur when faced with a problem that needs solving; and the behaviour subscale, which measures a person's willingness to approach rather than avoid the problem.

The Problem Solving Skills Scale is calculated from six sub scales: the problem identification subscale, which measures the general recognition that a problem exists through defining the problem in specific terms; the alternative generation subscale which measures the ability to produce a range of possible solutions to solve the problem; the consequence prediction subscale, which measures a person's ability to weigh the advantages and disadvantages of potential solutions and then select the most promising; the plan implementation subscale which measures the translation of the solution into a step by step action plan that is then implemented; the evaluation subscale, which measures the extent to which a person reflects on the effectiveness of the chosen solution; and, finally, the reorganisation subscale, which measures the evaluative process of assessing whether one's problem has been effectively resolved or whether they need to re-engage with the problem solving process (Frauenknecht & Black, 2003).

Suicidal orientation and ideation as measured by the Inventory of Suicide Orientation (ISO). This is a 30 item self-report questionnaire, measuring orientation towards suicidal behaviour and current suicidal ideation (King & Kowalchuk, 1988). The raw score indicates the level of suicide orientation and the critical items measure suicidal ideation specifically. The overall risk classification is based on both of these scores. It has a Cronbach's alpha of 0.90 – 0.92, indicating excellent internal consistency (King & Kowalchuk, 1988). Suicide orientation is about the degree to which a person holds a life affirming perspective on life difficulties. Progression towards having a suicide orientation occurs through a failure of

coping mechanisms, the accumulation of stress and hopelessness, and a move towards viewing suicide as a viable solution (King & Kowalchuk, 1988) (Appendix 13).

The Working Alliance Inventory (WAI) is a 12 item self-report measure for therapists and clients which measure the alliance between them. It primarily measures the general alliance, and to a lesser degree the dimensions of goal, task and bond. It has a Cronbach's alpha of 0.95-0.98 for the general alliance and 0.83 – 0.92 for task, bond and goal, indicating good to excellent internal consistency (Tracey & Kokotovic, 1989) ( Appendix 16 and 17).

#### **Additional data being collected**

- Notes of each problem solving therapy session
- Any clinical diagnosis will be recorded
- Repetition of self-harm will be recorded
- Audio recordings of problem solving therapy sessions to monitor therapist adherence as with several of the studies in the literature review
- Problem solving therapy practitioners will be provided with one to one and/or group supervision while working with clients
- Monitoring of recruitment rates
- Dropout rates

#### ***Study 7: Evaluation of the exit questionnaire by the practitioners***

At the end of the study period, the practitioners who attended the training workshops were asked to fill out an exit questionnaire. The purpose of the questionnaire was to evaluate practitioners' experience, confidence and knowledge of RE:SOLVE since taking part in the training workshop. It also provided practitioners with the opportunity to comment on strengths of the programme and to make recommendations for improvement. The results of the questionnaires were analysed using descriptive statistics (including means, medians, standard deviations, ranges, frequencies and percentages) and thematic analysis (see Data Analysis at the end of the chapter). These results will inform future development of the training workshops.

#### ***Data analysis***

##### ***Quantitative data analysis***

The quantitative data analysis will include summarising and analysing the following:

- Changes in mood as measured by pre-test/post-test standardised scales will be compared using paired T tests, Wilcoxon signed rank tests, and McNemar's chi square tests as appropriate.
- Changes in levels of hopelessness, function, problem solving skills and suicidal thinking as measured by pre-test/post-test standardised scales will be compared using paired T tests, Wilcoxon signed rank tests, and McNemar's chi square tests as appropriate .
- Comparison of post-test to 3 months post-test for primary and secondary outcomes will be compared using paired T tests, Wilcoxon signed rank tests, and McNemar's chi square tests as appropriate.

### *Qualitative data analysis*

In addition to the quantitative measures, there were semi structured interviews for clients following their sessions of problem solving therapy, enabling them to provide feedback about the client book and the RE:SOLVE programme. There were also questionnaires filled out by the youth reviewers, the practitioners at the end of the training workshop, and the practitioners at the end of the study period. These were analysed using descriptive statistics (including means, medians, standard deviations, ranges, frequencies and percentages) and thematic analysis.

### *The use of thematic analysis*

Braun and Clarke (2006, p 81) describe thematic analysis as "...a method for identifying, analyzing and reporting patterns (themes) within data." Further, it aims to report on and interpret "...the experiences, meanings and the reality of participants". There are several components involved when carrying out a thematic analysis.

A thematic analysis begins with coding. Each data item, for example a comment, is given a code and may be given more than one code or, conversely remain uncoded. The codes, in combination with one another, lead to the generation of themes. A theme identifies a finding that relates to the research question. It signifies some level of repeated pattern or meaning within a data set. Prevalence is one aspect that signals a theme although prevalence does not automatically make the theme more important.

The data collected in this study is generated in part by questions I composed as the researcher, evidencing areas of particular interest, and also in part by open ended responses. The structured questions were included to elicit data that would contribute to understanding a



specific aspect of participants' experiences. The space for open ended responses was intended to augment this and capture data beyond what I may have considered relevant.

I initially began the coding and generation of themes from the open ended comments to allow for an inductive analysis. In this, I aimed to remain alert for themes that arose from the data itself rather than beginning with the questions I had asked. This thematic analysis is conducted primarily on a semantic level i.e. at the surface meanings of the data without looking for anything beyond what the participant has said or written.

## ***Chapter 6: Resource Development***

### ***Chapter overview***

I begin this chapter with a brief description of how I developed the client workbook and practitioner training manual for this project. I then present four studies that were carried out following the development of a client workbook and practitioner manual for the RE:SOLVE problem solving therapy intervention. These four studies aimed to test the acceptability and feasibility of the client manual and practitioner training manual among the people who would use them. This includes both practitioners and clients. In the literature review, five of the six problem solving therapy studies were manualised. However, there was a lack of attention given to describing resource development. This informed the decision to conduct these studies into resource development.

Four studies about resource development were carried out. Two of the studies were conducted before the open trial. These were:

- A questionnaire survey designed to gain the views of youth about the client workbook;
- A questionnaire survey about the client workbook and the practitioner manual administered to practitioners who attended a training workshop on RE:SOLVE problem solving therapy.

The other two studies were conducted after the open trial. These were:

- a semi structured interview about the client workbook with young people who had been treated with RE:SOLVE problem solving therapy;
- a questionnaire survey about both the client workbook and the therapist manual administered to the practitioners who had taken part in the RE:SOLVE problem solving therapy training workshops.

Ethics approval for these studies was gained from the Upper South A Regional Ethics Committee (Ethics ref: URA/10/08/057). Participant information sheets and consent forms were required and provided for all participants. For participants under 16 years of age, parental consent was required and the parents were given participant information sheets and consent forms if their child had agreed to take part (Appendix 18).

## ***Manual development***

### *Overview*

Prior to this study, I worked on the development of Problem Solving Therapy client and practitioner manuals for use with adults in my role as a trainer and supervisor on a pilot study. The manuals for this current study were based on these existing resources. I simplified the content for the client manual, added quotes to support each “chapter”, and changed the case studies from an adult client story to that of two young people, Michael and Lydia. I employed a designer to create a logo, illustrations to go with each signpost, and the faces of the two case study characters. I also named it “RE: SOLVE – a problem solving pathway” and introduced the concept of the pathway.

### *The name of the programme*

The initial part of the name, RE:SOLVE, denotes three things. First, the programme is *about* solving problems. Second we are aiming to *resolve* current life problems. Third, the programme helps to *develop resolve* and this is an internal quality that is necessary for persevering in the face of life challenges. Indeed, resolve is a quality aligned with positive problem orientation, the thoughts and beliefs necessary for, and fostered by rational problem solving.

The rest of the name – a problem solving pathway - introduces the notion of the problem solving pathway and signposts. While the idea of a pathway is not unique, I wanted to capture the sense of the whole self being engaged in a journey of change. I wanted it to be a predictable pathway, a map that can be followed, signpost by signpost. I made it circular so it is clear that problem solving is a continuous process; that whenever we resolve one problem or challenge we can move on to the next one. Further, I wanted to capture the sense of movement and change.

### *The logo*

The logo was designed to represent connection. Primarily, it is about the generation of ideas and their inter connection. It also relates to the seeding, and subsequent proliferation of ideas. This idea and image is aligned with the natural world, and the organic process of unfolding that takes place through attention to one’s problems. Finally, I wanted to represent a holistic approach – the relationship of all aspects of being to one another. This is an important concept in RE:SOLVE. For example, participants are taught to use their feelings, thoughts, bodily sensations, and behaviours as clues to recognize that a problem may exist. They are also taught to use all of these aspects of their being to solve them.



*Figure 4: RE:SOLVE logo*

### *The illustrations*

The images throughout the workbooks have several purposes. I wanted them to create an appealing aesthetic so the book was not just text. More importantly, they were intended to support the learning style of participants who are visual and kinaesthetic learners. Further, they were intended to reinforce learning for all participants. Each image was designed to represent the signpost with which it was paired. This way, participants would ideally come to associate a particular image with a signpost that would then aid them in remembering the entire pathway.

The illustrator had the idea of designing the images as if from the point of view of the person who was travelling the pathway. This resolved any dilemma about what the person might look like, and the risk of alienating participants who did not connect with that “look”. He also felt it gave a sense of immediacy to the images, as if you are right there and those are your own hands, or you are looking out at the landscape before you. I liked this concept and supported its development. There were also illustrations created for the characters in the case studies, Lydia and Michael.



*Figure 5: Lydia and Michael, the case study characters*

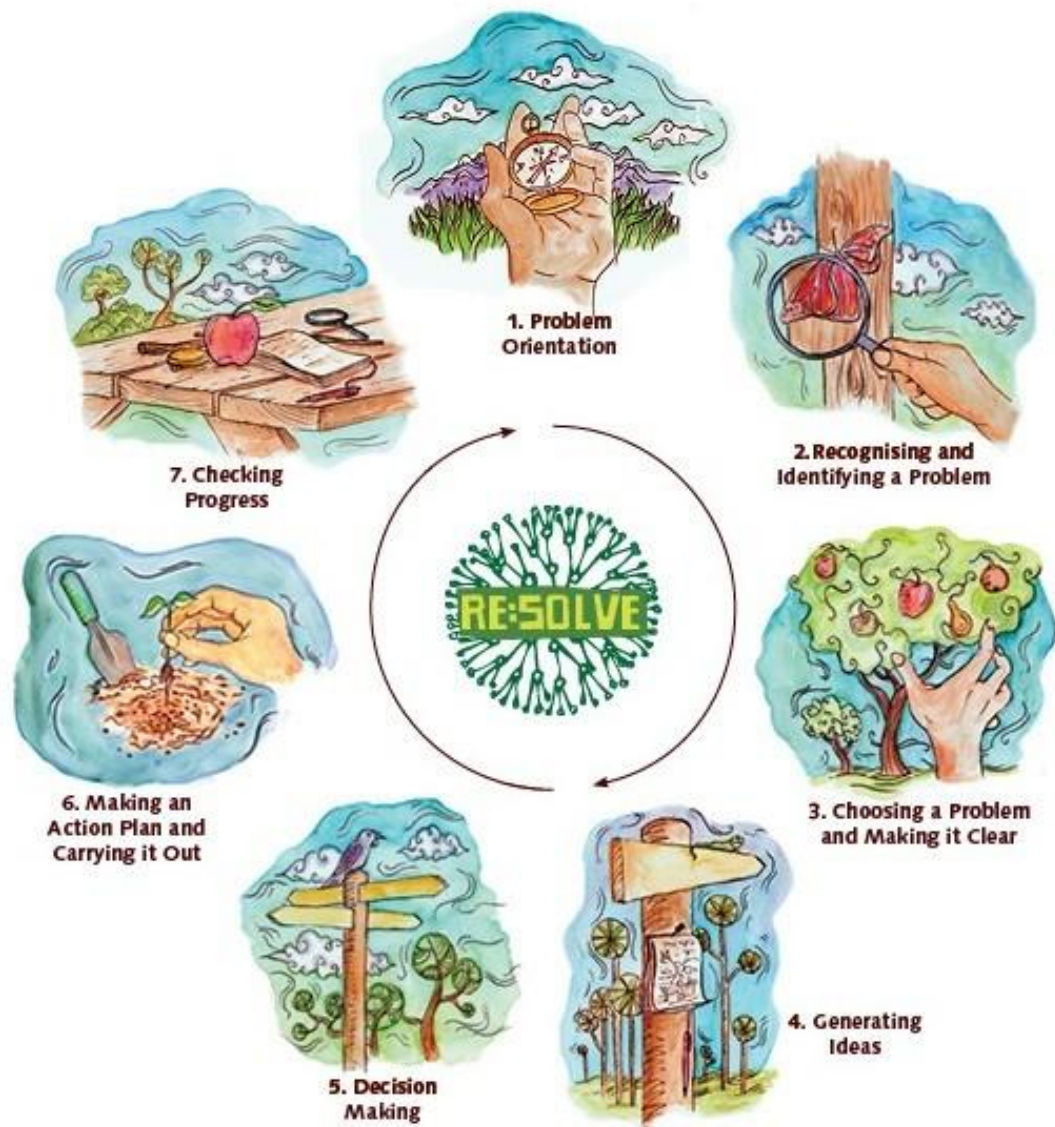


Figure 6: Illustration of RE:SOLVE pathway signposts

### *Learning style preferences*

I developed the resources to cater for different learning style preferences. Learning style preferences are the varied ways we each favour for taking in new learning and for conveying that learning. There are four recognised learning preferences: “visual”, “aural”, “kinaesthetic”, and what is called “read/write” (Dobson, 2009; N. D. Fleming & Mills, 1992). Some people have a strong preference for one learning style, while others may have a degree of balance across all four styles (N. D. Fleming, 1995).

The visual mode has often been used to encompass both the visual and read/write preferences (N. D. Fleming & Mills, 1992). However, these preferences are distinct from one another. People with a visual learning style prefer to learn through pictures, graphs, diagrams (Dobson, 2009) or other diagrammatic material that could otherwise have been presented in

print (N. D. Fleming & Mills, 1992) . People with a read/write learning style prefer text as a way of receiving and expressing learning. The aural learning preference relates to “heard” information. These people are likely to learn well from lectures and tutorials. They also learn well through discussion. The kinaesthetic preference is commonly understood as learning by doing, with practical activities and manipulation of materials (Dobson, 2009). However, it should also be understood as multi-modal (N. D. Fleming & Mills, 1992), meaning people with this preference like to learn using all their senses (N. D. Fleming, 1995). Therefore, a concrete multi-sensory environment is ideal. Fleming (1995) points out, however, that kinaesthetic learners can take in abstract and theoretical learning as long as it is presented alongside examples, metaphors etc. This suggests that what is most important for a kinaesthetic learner is a connection to reality through “...experience, example, practice or simulation” (N. D. Fleming & Mills, 1992, p140).

In relation to the manuals this led me to include:

- Case studies ( kinaesthetic, example, real life)
- Text (Read/write)
- Images and worksheets (visual, kinaesthetic)
- Psycho educational delivery (aural, kinaesthetic - discussion)
- Quotes ( read/write; kinaesthetic – metaphor)
- Real life practice (kinaesthetic)

### *Cultural consultation*

Maori young people are at heightened risk for self-harm compared to their non-Maori peers. I therefore approached a Maori cultural advisor, one Maori, to gain feedback on any points of cultural inappropriateness in the client workbook. The Maori advisor was a psychotherapist who had experience working with problem solving therapy. She reported that she considered the client workbook really good overall, and that there was nothing in it that was offensive or problematic. She particularly liked the stories because they read as if someone was speaking and she thought this worked really well. Finally, she noted that there was room to be more inclusive or targeted towards Maori youth. In the context of this project, it was only possible to generate one workbook with the intention of it having broad appeal to young people. However this is an important area for development in a future definitive study.

## *Studies carried out before the open trial*

### *Study 1: Evaluation of client workbooks by youth reviewers*

#### *Aim*

The aim of this study was to seek the views of a small group of youth advisors about the client workbook before it was to be used clinically. This feedback would inform possible amendments to the client workbook before it was used in the open trial.

#### *Method*

This study was carried out using a mixed methods questionnaire (see appendix 1) to be completed by six young people across the age range the resource was targeting (13 -18 years of age) which is the target age range of the open trial. The questionnaire was a combination of open questions with space for open ended responses, along with questions to be answered on a Likert scale. I used open ended questions, along with Likert scales in the questionnaire as I did in all of the questionnaires throughout this body of work. I see the open ended questions as a strength because they can elicit information and feedback from participants that I might not have thought to ask about.

The scale went from 1 – 5 with 1 meaning “I really like it/them” and 5 meaning “I really don’t like it/them”. The questionnaire began with a description of the therapeutic context in which RE:SOLVE problem solving therapy would be used. The reviewers were asked to imagine themselves in that situation while reading the workbook. They were then asked to fill out the accompanying questionnaire. When I received the questionnaire and workbook back again, the participant was sent a \$20 gift voucher to say thank you.

I chose to gain individual feedback rather than use focus groups. Focus groups can be a useful tool for gaining insight into opinions, beliefs and values of a segment of the population. They are particularly effective when the group shares common characteristics (Nestel et al., 2012). Yet there is also a risk of a dilution of individual response resulting from group dynamics and differentials of power within a group, even with skilful facilitation (Nestel et al., 2012).

While it could be argued that a group of 13 – 18 year old share the characteristic of youth, the developmental diversity of the age range also makes for potentially considerable variations in their experience of the resource. I wanted to maintain the clarity of each individual voice and capture the differences that may naturally exist between them. I anticipated this would assist with understanding the resource’s suitability or otherwise for

such a varied age range.

The participants were recruited through: colleagues who knew people with children in the appropriate age range; family members who knew of other families with children in the appropriate age range; and through members of the local community who knew of families with children in the appropriate age range. The young people or their parents (if the young person was under 16) were approached about taking part in the study. If they were interested, I rang them to explain the study and invited them to participate. Upon agreement to take part, they were posted a participant information sheet and a consent form along with a copy of the client manual and the questionnaire and reply paid envelopes to return them.

The questionnaires were filled out by participants in their own homes. Given they filled out the questionnaires at home there is no guarantee their responses are not influenced by family members. On the other hand, they are mostly of an age where they are familiar with working independently and I emphasised that their feedback was wanted for the betterment of the book for other young people.

### *Data analysis*

The Likert scales were analysed using descriptive statistics and the open ended feedback was analysed using a thematic analysis (Braun & Clarke, 2006). All of the Likert scales in this questionnaire range from one to five with one meaning “I really like it/them” and five meaning “I really don’t like it/them”.

### *Results*

#### **Participants**

A total of six youth advisors provided feedback on the client manuals. Their age, gender and ethnicity are shown in Table 5. The ethnicity descriptions are in the words of each participant. This is a small number but was within the advice I received and it is in proportion to the study. Within the small number, I had even number of male and female participants, reviewers from all age groups the workbook targeted, and one Pacifica student. There were no Maori students which is a limitation. In a future definitive study, I would apply for interim funding to make links with Maori, perhaps through the Werry Centre, in order to gain more Maori participation in all aspects of the study.



Table 5: Characteristics of youth advisors

Respondent	Age	Sex	Ethnicity
1	15	Male	European
2	16	Male	NZ European
3	16	Female	NZ European
4	19	Male	NZ European
5	16	Female	NZ European
6	13	Female	NZ born Samoan

### Questionnaire Results

#### The stories

The reviewers were asked four questions about the stories in the workbook: what they thought of each story, and whether each story was realistic. The mean scores for both Michael and Lydia’s stories showed that the reviewers liked or really liked them. In line with this five people (83%) thought Michael’s story was realistic and one person did not. All six respondents (100%) rated Lydia’s story as realistic (Table 6).

Table 6: Lydia and Michael's stories

1= I really like it/them 5 = I really don't like it/them	<i>M</i> scores		<i>SD</i>
What do you think of Michael’s story?	1.7		0.75
What do you think of Lydia’s story?	1.3		0.47
Does Michael’s story sound realistic to you?	Yes 5	No 1	
Does Lydia’s story sound realistic to you?	Yes 6	No 0	

#### The illustrations

The reviewers were asked four questions about the illustrations. These were about the cover, the signpost illustrations, the illustration of Lydia and the illustration of Michael. The mean scores indicated that respondents liked the cover and the overall look and layout of the book. The remainder of the scores are in the range of liking the pictures that went with the signposts and liking the picture of Lydia with a neutral response to the picture of Michael (Table 7).

Table 7: *The look of the book*

1= I really like it/them    5 = I really don't like it/them	<i>M</i> scores	<i>SD</i>
What do you think of the cover?	1.8	0.7
What do you think of the pictures that go with each signpost?	2.2	0.9
What do you think of the picture of Michael?	2.7	0.75
What do you think of the picture of Lydia?	2.3	0.47
What do you think of the overall look and layout of the book?	1.8	0.69

The content of the book

The reviewers were asked four questions about the content of the book. The mean scores indicated a neutral response to the name of the programme, the quotes and writing style. However, the majority of participants really liked the content of the book.

Table 8: *The content of the book*

1= I really like it/them    5 = I really don't like it/them	<i>M</i> scores	<i>SD</i>
What do you think of the name of the programme?	2.3	0.75
What do you think of the quotes that go with each signpost?	2.3	0.75
What do you think of the style of writing, the type of language used throughout the book?	2.3	0.75
What do you think of the overall content of the book?	1.3	0.4

## Thematic Analysis

I used thematic analysis to analyse the qualitative data (see Chapter 5 for a full description of the method). The response rates to the open ended questions were pleasing. The questionnaire included four opportunities to add open ended comments. This was taken up by all respondents at least twice. There were four overarching threads of feedback with several themes related to each. These are: feedback on the case studies, the illustrations, the RE:SOLVE pathway and accessibility. The themes have tended to reflect the major areas where I sought feedback.

### Feedback on the case studies.

The case studies of Lydia and Michael described the experiences of two young people, aged 14 and 16. Lydia and Michael were introduced at the beginning of the book with the background of how they came to be part of the RE:SOLVE programme. Then at the end of each signpost in the workbook, there was a description of how these characters undertook this signpost and the results they obtained. The stories were loosely based on real life clients whose stories were changed to maintain anonymity. These stories generated several themes. These included being easy to relate to, being authentic, being engaging, acting as a template, and normalising clients' own experiences or reflecting something of their own reality.

The first theme was about being able to relate to the stories, and perceiving them as authentic, for example:

*"I liked both stories and feel that a lot of teenagers could relate to their stories"*

and

*"4<sup>th</sup> paragraph is realistic and I as a teenage girl of the same age can relate to that so good job"*.

This pattern of finding the stories easy to relate to and authentic was repeated throughout the comments. This was important as it was a way of engaging the young people, drawing them into the pathway, for example

*"The booklet is very interesting and keeps my eyes locked in on the stories"*

and

*"I liked both the stories because it feels like they're talking to me and keeps me interested in the story"*.

A second theme was that the stories seemed to normalise the problems of some of the readers and act as a template for the problem solving pathway. This was highlighted in the following comment:

*“Having both Lydia’s and Michael’s stories was effective as a template for the reader. Their stories show there are other teenagers going through many problems, and it is likely at least one of the things they describe in their life will relate to the reader”.*

### The illustrations

The second theme that arose was the illustrations, one of the major areas where I sought feedback. There were two relevant sets of illustrations. The first set was of Lydia and Michael, the two characters in the stories. There was a portrait of each of them. The second set was the illustrations for each of the signposts. These pictures were intended to represent the idea behind the signpost to which it was connected, and assist in learning the pathway.

One theme around the illustrations was age appropriateness. There were two relevant comments and each suggested the illustrations were perhaps too “young”. For example, a 14 year old respondent commented

*“being that this book is for teenagers the book could maybe have more a teenage touch. The cartoons are a little bit too childish. Other than that it’s great”.*

Further, an 18 year old respondent commented

*“The look of the book at the moment I think would suit the 13-15 year old target audience. However I think a lot of 16-18 year olds may find the look a bit childish but overall great art”.*

So they both had the impression of the illustrations being too young, despite being at either end of the age range of interest.

### The RE:SOLVE pathway

The third theme was the RE:SOLVE pathway itself. The pathway was the structured programme of seven signposts to guide clients through a rational problem solving process. There were several themes related to the pathway. The first of these was finding structure useful, for example

*“I really enjoy that the instructions, the signposts and the language is clear and straight to the point”.*

The second theme was liking the RE:SOLVE problem solving pathway, as noted by this comment,

*“I think the whole RE:SOLVE pathway is amazing!”*

The third sub theme was valuing the problem solving potential of the RE:SOLVE problem solving pathway, for example

*“I really like the clear steps to be able to solve a problem presented to a teenager”.*

### Accessibility

Accessibility was the fourth overarching theme identified. This theme is about navigating the client workbook, accessing the content of the workbook and the way the varied aspects of the workbook work together. There were three themes: layout, text, and overall impact.

The layout of the manuals was designed by a graphic designer in collaboration with me, the researcher. It included design and placement of graphics, the amount of text per page, colour, font, spacing and all other details pertaining to the physical presentation of the client workbook. The comments about the layout indicated that it made the client workbook accessible and easy to navigate, for example

*“I really like the layout of the book. Easy to follow and clear”*

and

*“The headings and layout of pages are clear and easy to understand”.*

The second theme was the amount of text that needed to be dealt with at one time. For example, one respondent noted

*“There isn’t a large amount of writing on each page which is a great thing”.*

The third theme was overall impact which showed that the varied aspects of the manual – text, illustrations, colour, quotes, work sheets - worked as a whole. This was indicated by these final comments:

*“The quotes along with the colours and pictures were inspirational and calming”,*

and

*“Feels well put together and cohesive”,*

and

*“Really liked the quotes”.*

Further comments also point to the language being appropriate and clear, for example

*“I really enjoy that the instructions, the signposts and the language is clear and straight to the point”.*

### **Improvements suggested**

Although they did not reach a level of prevalence that could constitute a theme, I wish to mention some suggestions for improvements that were made by the youth reviewers. This

is for the purpose of transparency and also to note where changes were made in response to these suggestions.

#### Problem list

One section of improvements related to a question in which respondents were asked whether they would add anything to the problem list in the manual. There were several suggestions. These included: teacher/student relationship; low self-esteem/body image; fitting in; depression; pressure/expectations; homework; and boyfriend/girlfriend relationships.

#### Problem appraisal chart

Another suggested improvement related to the problem appraisal flow chart. One respondent suggested clarifying that "...even if the problem is out of my control, to continue on the pathway and how this is achievable when just focusing on feelings/actions".

#### Inclusion of games

There were two other comments. The youngest respondent, a 13 year old commented

*"For some it is kind of boring. I think maybe you should put in some games the reader can use to help problems with friends or family".*

#### Story changes

The final improvement suggested related to the level of detail in Michael's story. One of the female respondents described the level of detail she would like to have seen in it however this was not mirrored by any of the male respondents.

#### Changes made as a result of feedback

A number of small amendments were made to the client workbook as a result of this feedback. All of the problems suggested by the reviewers were added to the problem list. In addition I adapted the problem appraisal flow chart.

I did not include any games as per one person's suggestion. This is because it was the only comment of its kind so was not strong enough to warrant such a big change at this stage and I wanted to see if this sentiment was further reflected among users of the workbook in the clinical trial. However it is an idea to bear in mind for future development.

Nor did I make changes to Michael's story, as one reviewer suggested. I thought it could be a gender based perception on her part. I therefore asked several males to read the story after getting her feedback without disclosing the reviewer's comment. They all felt it was realistic for a 14 year old boy. I therefore chose not to make changes at this stage, though I certainly would consult carefully around the stories for a future edition.

### ***Statement of principal findings***

The results from these youth reviewers suggest that they found the client workbook acceptable, as measured by the comments they made and the ratings they provided for the client workbook. They seem to have been able to imagine the context, and to read and assess the workbook outside of the therapeutic context it is designed for, which indicates the resource is feasible for young people to use. The case studies, the pathway structure and the layout emerged as particular strengths of the workbook.

There was a level of neutrality expressed about the title, the language used and the quotes. This suggests that the title and the writing/language style could be further developed for a youth audience for future editions of the manual. There were also some suggestions for changes.

### ***Strengths***

A key strength of this study is the inclusion of young people as consultants on the resources. This was not something described in any of the other studies I read. A further strength of this study is the broad age range of the participants which covered the range targeted in the clinical open trial. The numbers of male and female respondents were equal. Further, I was able to be responsive to suggestions for change in the text content of the client workbook.

### ***Limitations***

Key limitations are that the group was very small and was predominantly New Zealand European. There was also limited time and resource for making comprehensive change to the workbook, for example, to the illustrations. Finally, the design process did not involve any of the young people in the initial stages. This showed in the lack of enthusiasm for the illustrations by some reviewers. For any future edition, the illustrations should be reviewed by young people who should also be involved in the conception and design. A final limitation was that the questionnaires and comments were analysed by me which could introduce bias into the process.

### ***Conclusion***

This study has shown that the client workbook was acceptable to the youth reviewers. They were able to read them independently which suggests they are easy to use. In any future project, I would aim for a larger review group with greater cultural diversity and include focus groups as well as individual feedback. I would also allow more time for feedback processes

and for any changes to be made. It may also be that two separate manuals are required to cater to this entire age range. However, indications are that the client manuals were acceptable to this small group of youth reviewers.

## ***Study 2: Evaluation of the manuals in the training workshops***

### *Aim*

The aim of this study was to test whether the practitioners who took part in the RE:SOLVE training workshops perceived the client workbook and therapist manual to be acceptable and feasible for them to use in a clinical context.

### *Method*

This study was carried out using a mixed methods questionnaires. At the end of their training workshop the practitioner participants were asked to fill in a post training questionnaire. The questionnaire contained sections about the client workbook and the therapist manual, with seven questions for each. The questions were written as statements and respondents had to decide to what extent they agreed with each statement. There was a 9 point Likert scale with 1 indicating “I strongly disagree with this statement” and 9 indicating “I strongly agree with this statement” and 5 indicating “I neither agree nor disagree with this statement”. There were also spaces provided after the questions for open ended comments.

### *Data analysis*

The Likert scales were analysed using descriptive statistics and the open ended feedback was analysed using a thematic analysis. The practitioners were asked to respond to five questions about the client workbook by rating them from 1 – 9 on a Likert scale. A score of 1 indicated strong disagreement and a score of 9 indicated strong agreement.

### *Results*

#### **Participants**

The participants in the workshops included a total of seventeen practitioners who attended three separate workshops. Two practitioners left the first workshop early and did not return their post training questionnaires. One further respondent also failed to return their questionnaire. Table 9 outlines the details of the participants who returned their post training questionnaires.



Table 9: Practitioner participants

Profession	Sex	Workplace	Decile	Ethnicity
Clinical Psychologist	F	PHO	n/a	NZ European
Child and Adolescent Psychologist	F	PHO	n/a	NZ European
Clinical Psychologist	M	CAMHS	n/a	Asian
Mental health nurse	M	CAMHS	n/a	NZ European
Youth worker	M	NGO	3 (based in school)	NZ European
School Guidance Counsellor	F	School	4	Maori
School Guidance Counsellor	F	School	3	NZ European
School Guidance Counsellor	F	School	3	Fijian Indian
School Guidance Counsellor	F	School	3	NZ European
School Guidance Counsellor	F	School	10	NZ European
School Guidance Counsellor (trainee)	F	School	10	NZ European
School Guidance Counsellor	F	School	1	NZ European
School Guidance Counsellor	F	School	10	NZ European
School Guidance Counsellor	M	School	10	NZ European

### Questionnaire results

#### Client workbook

Most of the practitioner participants rated the client book highly. The presentation of the client workbook and the quotes included throughout were given mean scores of over 8 by practitioners. Similarly, the mean scores for the effectiveness of the illustrations, the helpfulness of the case studies, and the levels of comfort among practitioners with offering the client book to young people ranged from 7.4 to 7.8. These results indicate the majority of practitioners find the client manual acceptable and that they can imagine using it which also suggests they view the workbook as feasible to use (Table 10).

Table 10: Practitioner responses to client workbook

1=strongly disagree 9 = strongly agree	<i>M</i> scores	<i>SD</i>
The client book was well presented	8.6	0.62
The illustrations for each signpost were effective	7.8	1.5
The case studies were helpful in understanding the RE:SOLVE pathway	7.4	1.26
The quotes that went with each signpost were interesting	8.2	0.98
I would feel comfortable offering the client book to young clients	7.8	1.4

### Practitioner Training Manual

There was strong agreement that the practitioner training manual was acceptable overall. For example, the presentation of the training manual, the quality of writing, the clarity of the RE:SOLVE problem solving pathway, and the instructions of how to implement RE:SOLVE problem solving therapy received mean scores ranging from 8.2 to 8.5 (Table 11). In addition, the case studies, the information on risk management, and the information on relapse prevention section received mean scores of 7.3 to 7.6 which also indicates agreement (Table 11).

*Table 11: Practitioner responses to practitioner training manual*

1=strongly disagree 9 = strongly agree	<i>M</i> scores	<i>SD</i>
The manual was well presented	8.5	0.75
The manual was clearly written	8.4	0.92
The manual clearly outlined the RE:SOLVE problem solving pathway	8.5	0.63
The case studies included in the manual were helpful 1 (n/a)	7.4	1.3
The instructions of how to implement RE:SOLVE with clients were helpful	8.2	0.7
The information on risk management was useful	7.3	1.3
The information on relapse prevention was useful	7.6	1.1
Including the content of the client book in the practitioner manual was helpful	8.5	0.75

### **Thematic analysis**

#### Client workbook

The comments by the practitioners about the client workbook were analysed using a thematic approach (Braun & Clarke, 2006). The comments were limited in number, and did not reach a level of prevalence that indicates any strong theme. However there were repeated items that indicated two tentative themes: literacy, and cultural appropriateness.

#### Literacy

The literacy theme was about practitioners' perceptions of the clients' capacity to manage the written material in the workbook and it contained two sub themes. The first sub theme was about the limited literacy of some of the young people in the workplaces of the practitioners taking part in the training. For example, one respondent indicated they would not feel comfortable offering the client book to young clients because

*“a lot of students at my school have very little reading skill”.*

Similarly, another person noted

*“some of my clients have low levels of literacy and may find the vocabulary challenging”.*

An interesting difference between these two was that the first respondent saw it as a reason not to offer the resource, whereas the second considered it might be challenging but did not present this as a reason for not going ahead.

The second sub theme was wordiness, indicating that the text had too many words. For example, one person suggested that the

*“wording could be made simpler still”*

while another noted

*“A bit wordy at times for young people I work with”.*

In other words, the wording in the workbook is perceived as overly detailed for some students. A further respondent commented that it was written clearly

*“for literate students/English language speakers”*

and therefore, by implication, perhaps it was not clear for others.

### Cultural appropriateness

The second theme was about cultural appropriateness. One respondent commented

*“Will be interested in how Pasifika enjoy it”.*

It is not clear whether the respondent makes this comment because they think it won't be appealing to Pasifika students or because they think it will be. Either way, the comment raises the important question of how students of varied cultural and ethnic backgrounds will respond to the resource.

### Practitioner training manual

It was difficult to analyse the practitioner responses to the training manual in a thematic way because there were very few open ended comments. However I have grouped the comments to contribute to the cumulative data picture.

### Lack of time to read the manual

Four respondents commented that they hadn't fully read either the practitioner manual or the case studies. This impacted on their capacity to comment fully on the manuals. It highlights the need to create more dedicated time prior to, or during, the training workshop to read both of the manuals or to find another way to present the material.

### Wordiness

One person made an isolated comment about wordiness. She noted:

*“I thought the practitioner manual was too wordy. Joanne moved through it skipping some pages and I felt that was adequate to implement the programme”.*

In other words she felt that the content I presented in the workshop was adequate whereas the manual included far more content than I used in the presentation. Therefore the manual was too wordy in her opinion. The participant gave this feedback in the workshop context as well as on her questionnaire. In the workshop, others disagreed with her. However, given that comments about wordiness arose in the analysis of the client workbooks, this is relevant.

### ***Statement of principal findings***

A total of seventeen practitioners attended training workshops and fourteen completed questionnaires rating both the client workbooks and practitioner training manuals. Overall the ratings indicate that the practitioners found both resources to be acceptable and feasible to use.

The results about the usefulness of the case studies contrasted to the youth feedback which was much more strongly supportive of the stories. This is likely to be because they are targeted at the young people and perhaps did not therefore affect the practitioners in the same way. In addition, there was limited time to fully read the manuals during the workshops and respond to them which may have impacted on these findings.

There were mixed results about the usefulness of the risk management section. This is likely to be due to not spending as much time on this during the workshop as originally intended. This was a result of limited time and also questioning of participants who all felt skilled and confident in risk assessment. Therefore, for some it was not especially helpful as it did not add to their skill set.

### **Strengths**

The strengths of this study are that it included a range of practitioners (psychologists, mental health nurse, and school guidance counsellors) across varied settings (primary healthcare organisation, child and adolescent mental health services, secondary schools). The combination of Likert scales and open ended questions provided ample opportunity for practitioners to give feedback.

## **Limitations**

The limitations of this study were that the questionnaires were designed, collated and analysed by me which is likely to introduce some bias. The practitioners were aware of my role in developing the resources and this may have inclined them to try and be positive. In addition it was a small sample and was only delivered by me, the first author of the resource and principal investigator.

## *Conclusion*

In this study I sought to test the acceptability and feasibility of the client manual and the practitioner training manual with practitioners who took part in the RE:SOLVE problem solving therapy training workshop. Practitioners filled out questionnaires with a combination of Likert scales and open ended questions. Some participants expressed concerns about the wordiness of the books and felt that the literacy levels of their students might not be well matched to the resource. In addition, the practitioners needed more time to read the manuals more thoroughly during the training day. However, the ratings of the manuals were high, with practitioners agreeing they were well written and well presented. They rated the case studies as helpful and the quotes as interesting. On the basis of the feedback from practitioners, it would be fair to conclude that the people in this study found both of the workbooks acceptable and considered them feasible for use, except for the person who had concerns about the literacy of her students, and the cross cultural applicability of the resource.

## *Studies carried out after the open trial*

### *Study 3: Evaluation of the client workbook and training manual in the clinical setting*

#### *Aim*

The aim of this study was to test whether the practitioners found the client workbook and practitioner training manual acceptable and feasible once they had used it in a therapeutic setting. I wanted to find out whether their views had changed at all since they viewed the books in the training workshops.

#### *Method*

Following the completion of the open trial, all practitioners who had taken part in the training were asked to complete an exit questionnaire covering different aspects of the study. The questionnaires were posted out along with a reply paid envelope. One section of this questionnaire related to the client workbook and another related to the practitioner workbook. In each of these sections a number of statements were made and participants were asked to

provide ratings on a Likert scale. They were then provided with an opportunity to comment further with ideas that might improve the quality of the books.

### *Data analysis*

The Likert scales were analysed using descriptive statistics and the open ended feedback was analysed using a thematic analysis (Braun and Clark, 2006). Participants were asked to rate questions from 1 to 5 with 1 meaning “I strongly disagree” and 5 meaning “I strongly agree”.

### *Results*

#### **Participants**

A total of eleven practitioners filled out and returned their questionnaires.

#### **Questionnaire results**

##### Client workbook

A total of ten practitioners answered this section on the client workbook. The respondent who did not complete this section had not received a copy of the client manual because she had not enrolled to take part in the open trial.

The practitioners rated the client workbooks highly after using them in a clinical setting. These results are outlined below in table 12. All but one of the statements about the client workbook received mean scores above 4 indicating moderately strong agreement. Practitioners agreed that the client workbook was well written, that it clearly outlined the signposts, that the RE:SOLVE pathway was accessible for clients, and that the level of the language was appropriate for the young people they worked with. One question received a mean score of 3.5 however this related to a suggestion made during the training rather than about the quality of the resource (Table 12).

Table 12: Results for the client workbook after clinical use

1 = Strongly disagree 5 = Strongly agree	<i>M</i> scores	<i>SD</i>
The illustrations were an effective part of the client workbook	4.3	0.64
The case studies given in the client manual seemed helpful for clients	4.5	0.67
I used a copy of the client book rather than the therapist manual when working with clients	3.5	1.2
I found the client workbook helpful when working with clients	5	1.3
Overall I found the workbook a useful resource in implementing RE:SOLVE with a client	4.5	0.81
The client workbook was clearly written	4.5	0.5
The client manual clearly outlined the signposts of the RE:SOLVE Pathway	4.6	0.49
The level of the language in the workbook was appropriate for the young people I worked with	4.2	0.97
The instructions of how to follow the RE:SOLVE Pathway seemed accessible for clients	4.2	0.87

#### Practitioner training manual

A total of eleven practitioners answered this section. The results indicated a high level of agreement with all of the statements about the quality and usefulness of the training manual. All of the mean scores were 4 or more, ranging from 4 to 4.9 (Table 13).

Table 13: Results of the practitioner manual after clinical use

1 = Strongly disagree 5 = Strongly agree	<i>M</i> scores	<i>SD</i>
The illustrations were an effective addition to the manual	4.3	0.75
The manual was clearly written	4.8	0.4
The manual was well presented	4.9	0.3
The manual clearly outlined the signposts of the RE:SOLVE Pathway	4.9	0.3
The instructions of how to work through the signposts of the RE:SOLVE Pathway with clients were useful	4.6	0.5
The case studies of Lydia and Michael given in the manual were helpful	4.6	0.5
The information on risk management was useful	4.5	0.7
The information on relapse prevention was useful	4.3	0.8
I found it straightforward to use the manual when working with a client	4	0.6
Overall, I found the manual a useful resource in learning and	4.5	0.7

## **Thematic analysis**

### Client workbook

As with the previous analyses, a thematic approach was used to analyse the responses to the open ended questions about the client workbook. There were two themes that I derived from these data.

#### Theme 1: It's good!

One theme that was apparent in this section was that practitioners felt the workbook was good. This included broad appreciation, for example

*“client workbook very good”*

along with particular strengths being identified, for example

*“Clearly presented and easy to convey to adolescents”.*

One practitioner commented

*“my client really liked having and using her book”.*

This points to a sub theme of the role the workbook plays in providing a sense of continuity to the therapy and a sense of ownership on the part of the client. It could also be seen as a transitional object that allows the client to remain connected to the therapist.

#### Theme 2: Literacy

The theme of literacy was also apparent in this section, although it did not emerge as strongly as in the practitioner responses prior to using the workbook with clients. In particular one practitioner noted that

*“one client was dyslexic and unable to read”.*

Clearly this student has specific needs that were not easily met by this workbook, however it raises the broader issue of working with clients with specific needs around literacy. The other literacy related comment was that

*“the students were all articulate and competent readers in my context – proficient English speakers”.*

Therefore her clients had not experienced any difficulties. There were no other comments or concerns expressed about literacy or language.

### Practitioner training manual

A thematic approach was used to analyse the open ended comments. Two themes were identified. \



### Theme 1: Align the two books

The strongest theme that emerged was the lack of connection between the client workbook and the practitioner manual, making it difficult to work easily from the practitioner manual while a client had a client workbook. For example, one respondent commented

*“the practitioner manual and the client workbook need to be aligned so the same information is on the same pages”*

while another suggested

*“... the counsellor book could simply state in brackets the corresponding client book page next to the section being discussed”.*

This theme emphasises the relationship between the two books and the importance of them functioning as a unit. In the words of a participant

*“...you need to look at the client book and training manual together”.*

A further comment pointed out that I had not included the page numbers for the client book in the relevant sections of the training manual. This made it difficult for therapists to direct their clients to a particular section while working together.

### *Theme 2: Illustrations*

The illustrations attracted comment once again. It should be noted there was only one comment which does not make a theme. However this was a strong theme in an earlier section so I wanted to capture this, especially as it echoed earlier comments. One respondent suggested that

*“perhaps a different artist or style might help it to appeal more, especially for your streetwise type of young people”.*

### *Statement of principal findings*

This final questionnaire was returned by eleven of the practitioners at the end of the study period, which included practitioners who had not actually seen clients as part of the open trial. This means I received a broader range of feedback than if it had only been those who ended up seeing clients in the open trial. A number of practitioners used the resource in their daily work with clients which indicates they found it an acceptable and feasible resource to use, despite having been unable to recruit anyone to take part in the open trial (See study 7 for more discussion about this issue).

These results draw on the personal and professional expertise of participants using the manuals in clinical contexts, which will assist with making relevant changes to benefit future

clients and practitioners who use the manuals. There is continued agreement that the client book is clearly written, following clinical use of the resource by practitioners. Similarly the illustrations were rated as effective. It would seem that after working with clients, there was a slight strengthening of agreement with the usefulness of the case studies and the illustrations.

The ratings of the workbooks were largely unchanged following clinical use except in two areas. The mean score for the helpfulness of the case studies improved from 82% to 90% for the client book and 92% for the practitioner manual. The information on risk management was given a rating of 84.4% following the training and this improved to 90% following clinical use. These differences could reflect the smaller number of respondents who completed the exit questionnaire, along with the likelihood that those who returned the questionnaire may have been more likely to feel favourable towards RE:SOLVE. It could also reflect that the value of the case studies became more evident when using the resource was used with clients. This would be consistent with the high ratings that clients gave to the case studies. No scores reduced following clinical use.

For any future edition of the client workbook, issues around language will need addressing – in particular, complexity and youth appropriateness. To address the complexity issue, it may be that a version of the manual using simpler language is required for those with literacy difficulties or who have English as their second language. It is also likely that instructions for particular signposts (for example problem clues, or making a problem clear) could be simplified.

### **Strengths**

Strengths of this study include seeking ongoing input from practitioners into the manual. It also includes the feedback from practitioners who used the resource in their general clinical practice and in the open trial. The study included closed and open questions, allowing for a greater breadth of response. This experiential feedback will inform future development of both of these resources.

### **Limitations**

The main limitation is that only four practitioners used the therapy in the context of the study environment, although more than four used it clinically (see study 7). This was largely due to difficulties with recruitment however it also means that not all of the feedback relates to working with clients at risk of self-harm in particular. In addition, the questionnaires were designed, collated and analysed by me which could introduce bias into the analysis. The participants were aware of my role in the study and this may have impacted on their responses although they did seem willing to give critical feedback.

### *Conclusion*

In this study I tested whether practitioners found the client workbook and the therapist training manual acceptable and feasible after using them in a clinical context. The ratings of both therapy resources show that the practitioners found them acceptable and feasible to use but better alignment between the books would have made the resource easier to use. The practitioners expressed stronger agreement about the value of the illustrations and the case studies after using the client workbooks clinically. The results were useful in identifying areas that need to be improved in future development of the client workbook and the practitioner training manual.

## ***Study 4: Evaluation of the client workbook by clients who took part in therapy***

### *Aim*

The aim of this study was to test whether the young people who had taken part in RE:SOLVE problem solving therapy perceived the client workbook as acceptable and feasible.

### *Method*

Each participant was interviewed by me, the researcher, when their problem solving therapy sessions and follow up questionnaires were complete. The interview was a semi structured interview and allowed space for clients to speak freely about their experiences. The interviews covered:

- the client's experience of PST
- any life/personal changes that have occurred through taking part in PST
- any perceived changes in problem solving
- liked/disliked about PST
- perceptions of the client workbook
- difficulties/challenges that arose while taking part
- recommended changes (see appendix 9).

### *Data analysis*

The interviews were recorded and transcribed and I then conducted a thematic analysis to derive relevant themes (Braun and Clark, 2006).

### *Results*

#### **Participants**

Nine young people who took part in RE:SOLVE problem solving therapy completed all three assessments and took part in a semi-structured interview. The characteristics of the participants are detailed in table 14 below.

Table 14: Characteristics of participants who took part in semi-structured interviews

Decile	Sex	Year	Ethnicity
10	F	9	NZ European
10	F	12	NZ European
10	F	11	Indian
10	F	11	Indian
4	M	11	Indian
4	F	10	NZ European
3	M	9	Korean
3	F	9	Pacific
3	F	12	Indian

### Thematic analysis

The comments from the follow up interviews with client participants fell into five main themes. These were: the case studies, the problem list, problem orientation, presentation and language. These themes were similar to those that emerged from the youth reviewers.

#### Case studies

Several participants liked the case studies and found them helpful. They appeared to derive comfort, support, and hope from these stories. For example,

*“...Michael and Lydia were quite neat because they’ve gone through similar things and they are doing the same things I am so that’s quite comforting”*

and

*“ I thought it was good because they had problems and stuff and then they’d go step by step and finally reach the point where they could fix it”.*

The participants perceived these case studies as realistic and viewed Lydia or Michael as a role model,

*“ I found the stories helpful to read through and understand that you’re not the only one. And if they could work through their problems it gives you the motivation that you can solve yours as well”.*

Further, one respondent “borrowed” ideas from Lydia’s brain storm for her own brain storm. The stories also appeared to assist with feelings of shame or abnormality about their own experiences. For example,

*“I liked how there were other people’s stories. I enjoyed that because there was one I could relate to. I think that was good, to know you’re not the only one ‘cos you can feel quite abnormal going through it”.*

One respondent who liked the case studies suggested

*“ I think it would be good to have more of them ... not heaps to overload you, maybe just a few more for variety I guess ”.*

Another supported this idea, suggesting that as well as the continuous stories following the whole pathway, it would be useful to have more vignettes, providing discrete examples of how each signpost worked for different people and problems.

It would seem that the case studies played a part in helping clients reduce the embarrassment they felt about having problems and needing help. The characters in the stories served as role models and were an important tool in ensuring learning of the pathway, and encouraging participants to believe they too could make changes. The case studies are a key strength that can be built on in future resources.

#### The problem list

One participant commented that she found it hard writing the problem list

*“... because it does make you feel a little down having all these problems ”.*

In contrast, a different participant commented

*“...it was quite good to outline all the different problems and concentrate on separate ones so you could work through them ”.*

Writing a problem list can, on occasion, lead a client to feel “problem-laden”, especially if they are used to avoiding problems. However, it is uncommon. The concept underpinning the problem list is that of externalization and generally writing the problem list has the effect of easing stress and worry and reducing rumination. However, if it seems likely the client will feel overwhelmed by a problem list, it is fine to work one problem at a time.

Problems worked on by client participants were: friendship issues; boyfriend/girlfriend issues; academic stress; difficulties with parents; difficulties with siblings; problems with teachers; self-harm; decisions about school and/or work; self-image; loneliness; and grief. All problems were included already in the problem list. These problems are consistent with the kinds of problems young people at risk of self-harm report from their lives.

#### Problem orientation

Changes in problem orientation were reported by participants, with a greater awareness of the need to face problems when they arise. For example, this participant commented on changes she has observed in herself

*“... I kind of let them [problems] bunch up and they would all become too much for me but I know now to have a problem, make it clear and decide what I am going to do about it and then move on to the next one without them all getting to me”.*

This is important and encouraging given that positive problem orientation is an important component of successful problem solving and assists in developing resilience (see Problem Solving Confidence discussion in Chapter 2) .

However it is a challenging concept to communicate and understand. For example, one participant noted that she didn't always like the problem orientation because

*“... it's not always easy to bring yourself to the positive orientation”.*

To counter this kind of concern, it is important to emphasise that the recognition and naming of our negative problem orientation is an important step. It should also be taught that problem orientation can change through learning the problem solving process. The comment suggests that more focus should be placed on information and teaching around the critical concept of problem orientation.

#### Presentation

Only very general comments were made about the presentation, content and overall pathway. These comments were all positive. For example,

*“no I don't have a lot of criticisms. It's really helped and it's really good”.*

*Two people commented on liking having their own book. One noted,*

*“ I liked that I could write in it. It was a lot easier than having a piece of paper”.*

#### Language

I asked specifically about the language because it had been raised by practitioners in their feedback. This did not appear to be a problem for the participants. For example, this year 9 student commented,

*“ I think it was just right. I could understand. It gave me a better view to what to do”*

and another Year 9 student noted

*“ No I like words so that was ok with me”.*

She then added,

*“Maybe not as many words. Not a problem for me but I know I have friends who don't like reading and it might have been annoying for them”.*

### *Statement of principal findings*

The comments the young people made suggest they liked the client workbook and found it useful. They could relate to the case studies, they found the process helpful, and the language was well understood. In addition, they liked having a book of their own, which perhaps provided a connection to the ongoing therapy. The experiences of the young people support the finding that they find the workbook acceptable and feasible to use, with suggestions for improvements and developments, such as fewer words and more stories.

### **Strengths**

The strengths of this study lie in the open ended nature of the feedback the participants were able to give and the addition of their lived experience of the therapy to the overall data. The students came from varied ethnicities, and covered a range of year levels. They were also drawn from schools with quite different decile ratings, which can indicate a varied range of personal and family socio economic circumstances.

### **Limitations**

The limitations are that the sample is very small and not representative. Interviews were conducted and analysed by me, the researcher, and the young people knew I had written the books. I had also conducted the therapy with some of them. Although I explained that I wanted all their feedback, not just positive, so we could improve things for other young people, they may have found it hard to offer criticism directly to me. It would have been ideal to have them interviewed by someone else. In addition, I was not able to conduct interviews with those who did not complete their sessions and this would have added to this data picture.

### *Conclusion*

In this study I conducted semi-structured interviews with nine young people who had taken part in RE:SOLVE problem solving therapy and completed all three assessments. I transcribed the interviews and use thematic analysis to identify themes arising from the interviews. The themes I identified were the case studies, the problem list, problem orientation, the presentation of the workbook, and the language used. The comments reflected positive views of the workbook with some suggestions for improvements. The young people who took part in these interviews found the client workbook acceptable and feasible to use.

### *Chapter conclusion*

In these four studies, two of which were conducted before the open trial, and two of which were conducted following the open trial, I sought to test the acceptability and feasibility of the client workbook and practitioner training manual. This was achieved through



review of the client manuals by a small group of youth reviewers; trialling both manuals in the training workshops and asking practitioners to fill out questionnaires; conducting follow-up interviews with young people who had taken part in the study; and asking practitioners to complete another questionnaire at the end of the study period.

As far as I am aware, these four studies are unique among treatment trials for young people at risk of self-harm for involving clients and practitioners in the development of the therapy resources. My hope is that this involvement will reduce barriers to treatment engagement and make therapy more accessible and youth friendly. Overall, the ratings of the client workbook and the practitioner training manual indicate that they are acceptable and feasible to use for the youth reviewers, the client participants and the practitioners who deliver the intervention. They found the books well written and well-presented and the RE:SOLVE problem solving pathway was easy to follow. The case studies were helpful, the illustrations were effective and the instructions for use were accessible and useful.

The youth reviewers and the client participants consistently rated the case studies highly. They related to the Michael and Lydia and their stories, found them affirming and normalizing and drew on their stories for ideas. In future editions I would take on suggestions about including more stories in the book, both short vignettes as suggested and more complete stories.

There are, however, areas to review in the hope of increasing this acceptability and feasibility even further. For example, the illustrations attracted comment. Although most people rated the illustrations highly, there were comments questioning their appropriateness from practitioners and a small number of youth reviewers. In future editions of the manuals, I would invite more youth involvement in the development of the illustrations, through individual feedback and through focus groups.

The wordiness of the books and the complexity of some of the language was critiqued by a small number. Although difficulties with literacy were not indicated by any of the youth reviewers or participants, this is an area to review more closely, especially given that one practitioner withdrew after the training because of her concerns in this area. It may be that more than one version of the manual is required to cater for differing literacy levels. The practitioner training manual will also be reviewed and the editing errors will be corrected to ensure a more seamless relationship between the two books.

The client workbook would be subjected to a larger and more robust youth review group process, allowing time and resources for changes to be made and tested. This would

address all aspects of the manual, including the name of the programme, the illustrations, the language, the case studies, and any new examples and stories. The practitioner manual would also be subject to a practitioner review group to consider similar areas as well as practice specific content.

On the basis of the results from the youth reviews, the client reviews and the practitioner reviews, there is preliminary evidence to suggest that the resources have been found to be acceptable and accessible as well as feasible to use in sessions.

## ***Chapter 7: The training (Study 5)***

### ***Overview***

Having developed the training resources, I went on to test the acceptability and feasibility of training practitioners in RE:SOLVE problem solving therapy via a one day workshop.

### ***Aim***

The aim of this study was to test whether it was acceptable and feasible to train practitioners in RE:SOLVE problem solving therapy via a one day training workshop. A further aim was to recruit some of these practitioners to take part in the open trial. Acceptability was measured through the thematic analysis of the open ended feedback of the workshop in the follow up questionnaire. Feasibility was measured through the number of practitioners who attended, how many enrolled in the open trial following their attendance at the workshop, and the ratings they gave to the training workshop in the follow up questionnaire (appendix 8).

### ***Data analysis***

The Likert scales were analysed using descriptive statistics and the comments were analysed using a thematic approach (Braun & Clarke, 2006).

### ***Method***

#### ***The training workshop***

I developed a one day workshop to train practitioners in learning RE:SOLVE problem solving therapy. The workshop was based on a similar training workshop which was part of a pilot study in which practitioners were trained in how to conduct problem solving therapy with adult clients. I was employed as the trainer and supervisor on this pilot study and developed the one day training workshop in collaboration with colleagues. The workshop included didactic teaching, discussion and practice exercises. The training resources included a keynote presentation using text and illustration to support the teaching. The combination of delivery mechanisms (spoken, visual, text), along with live practice, was intended to ensure that a range of learning preferences would be catered for, and be mutually reinforced. All participants were given a copy of the client workbook and the training manual for the workshop.

I recruited participants via face to face presentations and via email. The criteria for participation was working clinically with young people and being willing to fulfil the tasks required. I have not stated the number of potential participants because I was not in control of the numbers who attended the presentations and I was not aware of the number of recipients of the email as these were sent out to network that was confidential.

I began the training workshop with an introductory round during which participants introduced themselves and commented about what they hoped to gain from the day. Then I provided an overview of the day (see Figure 1). I began the workshop content with a discussion of the statistics relating to suicide and self-harm among young people in New Zealand. This was followed with discussion of known risk factors. Then I introduced problem solving therapy and a brief history about its use with people at risk of self-harm. Following this, I began working through the signposts of the RE:SOLVE problem solving therapy programme. These signposts are: problem orientation; recognizing and identifying a problem; choosing a problem and making it clear; generating ideas; decision making; making an action plan and carrying it out; and reviewing progress. I explained the signposts one by one, and then provided the opportunity for questions and discussion. Then the workshop participants took part in paired practice activities for the signpost under discussion. While they did their paired practice I circulated, assisting people who asked, or listening in and offering feedback. When participants had worked through the entire problem solving pathway, I discussed risk assessment and implementation of RE:SOLVE in their respective work places.

A unique feature of the training workshop was that each participant was asked to bring a challenge/problem of their own that they could work on during the day. When they were in the client role, they used their personal challenge/problem as their presenting issue. Their practice partner acted as the therapist guiding them through the RE:SOLVE pathway to solve their problem. By the end of the workshop they had therefore experienced the RE:SOLVE problem solving therapy process as both a therapist and a client through their paired practice. Ideally, each had an action plan relating to their own problem to take away with them.

At the end of the training workshop, participants were asked to fill out a questionnaire providing feedback on the day. The questionnaire was made up of questions which were answered on a Likert scale and questions with the opportunity for open ended answers. They also had the option at this point of enrolling in the open trial in which they agreed to deliver the intervention to clients back in their work environment under study conditions.

*Figure 7: Outline of training workshop*

<b>Planned training workshop structure</b>	
9.00	Introductions (20 mins) Overview of the day, including housekeeping matters (Total:10 mins) The first signpost: Problem Orientation Total: 60 mins
10.30	MORNING TEA 20 MINS
10.50	The second signpost: Recognising and Identifying a problem Total: 30 mins
11.20	The third signpost: Choosing a Problem and Making it Clear Total: 40 mins
12.10	The fourth Signpost: Generating Ideas Total: 25 mins
12.35	LUNCH 45 MINS
1.20	The fifth signpost: Decision making Total: 35 mins
1.55	The sixth signpost: Making an Action plan and carrying it out Total: 25 mins
2.20	The seventh signpost: Checking Progress Total: 10 mins
2.30	Reviewing the Pathway Total: 20 mins
2.50	AFTERNOON TEA 20 MINS
3.10	Risk Assessment 20 mins
3.30	Implementation and making it work in your context 20 Engagement 5 - 10 Questions 15 Evaluation sheets 10 Closing 20
4.45	FINISH

### *Recruitment*

School guidance counsellors were chosen as the main study group because self-harm among high school students is common and problematic (T. C. Clark et al., 2013). School guidance counsellors are often the sole or main mental health practitioner available for students and are viewed as accessible by students (Robinson et al., 2013a). In Auckland, where the study was based, school guidance counsellors have regular cluster meetings in their

respective geographical areas. I gained the contact details for the co-ordinators of these cluster meetings. I approached them via phone or email about presenting my planned research at their meetings in the hope of gaining participants for the workshop.

One of the co-ordinators reported that there was a meeting very soon, so I presented at this particular cluster group meeting and gained some interested participants. Another cluster group had a meeting a number of weeks into the future. The co-ordinator offered to circulate an email from me about the study, to everyone on the cluster group contact list. I sent this email and gained further participants for the workshop. I also approached two other counsellors on an individual basis, having been given their details by a colleague who thought they may be interested in the training. Finally, I approached a child and adolescent mental health service, and a primary healthcare organisation. The geographic spread of schools and organisations that took part included the North Shore, East Auckland and South Auckland.

### *Consent*

Prior to the workshop, participants were sent a participant information sheet, a consent form and a pre training questionnaire, with a reply paid self-addressed envelope. Ethics approval for this study was gained from the Upper South A Regional Ethics Committee (Ethics ref: URA/10/08/057) (see Appendix 18).

### *Data collected*

Participants were asked to fill out a participant information sheet prior to the workshop. This provided information about their work place, their experience, qualifications, ethnicity and length of experience. At the end of the training workshop, participants completed a post training questionnaire. In the questionnaire, I asked questions about: course content, quality of teaching, the client manual, the practitioner training manual and course outcomes. These categories had a 9-point Likert scale and participants were asked to indicate the extent of their agreement with statements in each category. A rating of 1 indicated “I strongly disagree with this statement”, and a rating of 9 indicated “I strongly agree with this statement” while a 5 indicated “I neither agree nor disagree with this statement”. In addition there were open ended questions about how the workshop could be improved, what aspects of the workshop worked well, and how the workshop has affected them individually.

## ***Results***

### *Participants*

I originally anticipated running one workshop. I wanted ten people to take part in the workshop and eleven participants enrolled. I anticipated that this number would be adequate for gaining sufficient enrolments (20) of youth participants into the open trial. All participants in the initial workshop were school guidance counsellors. Two participants had to cancel at the last minute due to unforeseen personal circumstances, so a total of nine attended the first workshop.

Three of the participants from the initial workshop declined to take part in the open trial. One participant felt the materials were inaccessible for the literacy levels of the students in her low decile school. She also believed that RE:SOLVE did not fit with her way of working. The remaining two were from the same religious school and they did not believe the board of trustees would accept their participation in the study at this stage. The remaining six participants all signed up for the open trial.

Once the recruitment of students was underway, it became clear it was not going to be straightforward to gain the necessary student numbers for the open trial so I decided to run a second workshop. This had fewer participants, with six people attending. Two participants were school guidance counsellors; two were psychologists from a primary healthcare organisation; one was a psychologist from a child and adolescent mental health service and one was a mental health nurse from a child and adolescent mental health service. All of these participants agreed to enrol for the open trial at the end of the workshop.

Further to this second workshop, I was contacted by one of the study participants about two of her colleagues who were interested in the training, but had been unable to attend the workshops. One worked as a guidance counsellor, and one was a youth worker from a local Christian non-governmental organisation who worked in the school as a mentor. Due to their keen interest I ran a workshop for the two of them which took place over three sessions of 2 ½ hours each, at their workplace. They both signed up for the open trial.

Over the course of the three training workshops, a total of seventeen participants attended (see Table 1). There were seven male and ten female participants. Twelve were school guidance counsellors, three were psychologists, one was a mental health nurse and one was a youth worker. The participants who were not school based came from a primary healthcare organisation (n=2), a child and adolescent mental health service (n=2) and an non-governmental organisation (n=1). The decile ratings of the school varied from one through to

ten and were located in varied areas of Auckland. Table one provides a summary of the training participants.

*Table 15: Participants in the training workshops*

Profession	Ethnicity	Sex	Workplace	Decile
Clinical Psychologist	NZ European	F	PHO	n/a
Child and Adolescent Psychologist	Asian	F	PHO	n/a
Clinical Psychologist	NZ European	M	CAMHS	n/a
Mental health nurse	NZ European	M	CAMHS	n/a
Youth worker	NZ European	M	NGO	3 (based in school)
School Guidance Counsellor	NZ European	M	School	4
School Guidance Counsellor	NZ European	M	School	3
School Guidance Counsellor	NZ European	F	School	3
School Guidance Counsellor	Fijian Indian	F	School	3
School Guidance Counsellor	NZ European	F	School	10
School Guidance Counsellor	NZ European	F	School	1
School Guidance Counsellor	Middle Eastern	F	School	2*
School Guidance Counsellor	Middle Eastern	M	School	2*
School Guidance Counsellor (trainee)	NZ European	F	School	10
School Guidance Counsellor	NZ European	M	School	10
School Guidance Counsellor	NZ European	F	School	1
School Guidance Counsellor	NZ European	F	School	10

\* The school decile rating in this scale is misleading in that it reflects the local community rather than the school. The school is a special character state integrated religious school with annual fees of over \$10,000. It attracts students from diverse geographic locations due to its special character. However it is located in a low socio economic area, hence the decile rating.

### *The post training questionnaire*

I received a total of 14 completed questionnaires at the end of the training. Two practitioners from the first workshop had to leave early and took their questionnaires with them. I did not ever receive them despite asking for them. There is one questionnaire unaccounted for.



### Quality of teaching

Table sixteen contains data about the quality of the teaching and workshop presentation which both received high ratings. For example, participants rated the learning environment, and the presenter highly with mean scores from 8.5 to 8.8 (Table 16).

However, the ratings of how well the course was paced ranged were lower with a mean score of 7.7. Similarly the time allowed for learning and discussion was also given a mean score of 7.7 (Table 16).

Table 16: Quality of teaching

1 = I strongly disagree 9 = I strongly agree	<i>M</i> Scores	<i>SD</i>
A supportive learning environment was established	8.5	0.73
The course was well paced	7.7	1.6
The presenter allowed adequate time for learning and discussion	7.7	1.6
The presenter was knowledgeable about the RE:SOLVE problem solving pathway	8.6	0.35
The presenter responded well to questions	8.8	0.41

### Course Content

In the course content section of the questionnaire, the mean scores ranged from 8.1 to 8.8 indicating a high level of agreement that the content of the workshop was clear, useful and well balanced (Table 17).

Table 17: Course content

1 = I strongly disagree 9 = I strongly agree	<i>M</i> Scores	<i>SD</i>
Learning objectives were clearly stated	8.1	0.74
The RE:SOLVE problem solving pathway was clearly explained by the trainer	8.5	0.63
Implementing the RE:SOLVE problem solving pathway with clients was clearly explained	8.8	0.63
The PowerPoint presentation and handouts were helpful	8.8	0.62
The practice activities assisted learning and understanding the RE:SOLVE pathway	8.4	0.82
The course had a good balance of teaching and practice	8.4	0.72

## Course Outcomes

Table 18 shows the results on course outcomes, that is, the immediate gains that participants feel they received. All fourteen respondents strongly agreed that their knowledge had increased, that the content was relevant to their practice, and that they would like to use RE:SOLVE. These questions received mean scores ranging from 8.4 to 8.9 (Table 18).

There was moderate agreement from the participants that their skills had increased to some extent from the training with a mean score of 7.2. , this was spread from 6 (I slightly agree) to 9 (I strongly agree). Finally there was only minimal agreement from practitioners that confidence in conducting a risk assessment had improved (Table 18).

Table 18: Course outcomes

1 = I strongly disagree 9 = I strongly agree	<i>M</i> scores	<i>SD</i>
My knowledge has increased as a result of attending this workshop	8.9	0.35
My skills have increased as a result of attending this workshop	7.2	1.4
The material presented was relevant to my clinical practice	8.4	1.04
On completion of this workshop, I would like to use RE:SOLVE with some clients	8.4	0.84
My confidence in conducting a risk assessment has improved as a result of attending this workshop	6.0	2.2

### *Thematic analysis*

I used thematic analysis based on the general inductive approach to analyse the comments that were provided throughout the post training questionnaire. I found four themes: teaching and learning, paired practice, course outcomes and the RE:SOLVE structure. These themes were influenced by the focus of the questionnaire.

### **Teaching and learning**

There were four themes relating to teaching and learning. These were: quality of teaching; presentation and resources; pacing; and the usefulness of the day. The feedback on the quality of teaching indicated it was of a high standard. Participants valued the opportunity for discussion, for example:

*“Good discussion/environment for questions and sharing”.*

Others commented that the quality of the teaching was “excellent” and the subject matter was “explained clearly”. In addition, one person commented specifically on the balance of the day, noting,

*“Teaching and content and discussions well balanced”.*

The overall balance and high quality of teaching was reflected in this final comment. When asked what worked well, this person said:

*“Presenter – well prepared, welcoming, clearly teaching and helpful”.*

The second subtheme of the teaching and learning theme was the presentation and resources. These resources included the client workbook, the practitioner training manual, the PowerPoint presentation, and the photocopy of the PowerPoint for each participant. These were perceived as useful and accessible. For example, one person commented:

*“Wonderful presentation and resources, Joanne!”*

and another noted

*“Excellent resource that I can easily implement into my current psychological practice”.*

The third subtheme was pacing. There were eight comments about the pacing and intensity of the day. All but one of them indicated that the day was overly full. For example, it was *“a full on day”* with *“a lot packed in to a day”*. Three comments pertained to feeling rushed, for example

*“Some of the activities felt a bit rushed”* and *“a bit hurried in parts”*.

When asked what could be improved one person commented *“More time!”* In contrast to this another person commented that it was a

*“Small group”* with *“ample opportunity for discussion”*.

However the general indication was that the workshop would benefit from more time and a greater spaciousness. It is likely that in future training workshops I would extend it to a two day training process.

The final subtheme was the usefulness and interest of the day. The comments indicated that the quality of teaching had made the day *“very interesting”*. This was echoed by another person who commented

*“Extremely useful day, both personally and professionally”*

indicating that benefits went beyond the workplace. One person perceived it to be a

*“Really worthwhile learning and day”*

and when asked what could be improved, a further participant commented there was

*“no need – all good”.*

## **Paired practice**

Paired practice was the second theme present in the comments, with two sub themes. The first sub theme was experiential paired practice, and the other sub theme was modelling of paired practice.

In the paired practice, people worked through the RE:SOLVE pathway with a partner over the course of the day, using a real life challenge or problem of their own as their focus. Each partner would have a turn as the client and as the practitioner, and therefore gained an authentic experience of each role. There were six comments and all indicated a view of the practice being effective and enjoyable. For example, when asked what worked well, four people commented on the paired practice, citing

*“practical paired practice”, “practicing pathways in person” “working through the process in pairs” and*

*“doing the practice”*

as an element that worked well. A further person commented

*“I loved the opportunity to do co-counselling using the model”.*

One person expressed ambivalence noting that on the one hand

*“Breaking up the practice sessions made them a bit “jerky”. Hard to have good flow.”*

On the other hand, they commented

*“But also nice to NOT have that all in one lump – [it] assisted learning”.*

These comments indicate support for the paired practice and an acknowledgment that the way it was structured worked well despite a perceived lack of continuity in at least one instance. Finally, at least one person found it personally valuable to work through their own challenge and

*“Enjoyed making a good decision”.*

The second paired practice sub theme reflected dissatisfaction that there was no modelling of the RE:SOLVE pathway by the presenter. Nor were there video examples they could view prior to trying it out themselves. For example,

*“It would have been good to have seen examples i.e. videos of the different steps being taught”.*

Indeed, in response to a question about what could be improved in the workshop, three people made reference to this lack. For example, one person noted the workshop was

*“excellent but a video of a client session might have been useful”.*

Another wanted video or live demonstration *“watching some video or live demonstration”* while the final person suggested

*“Examples of steps at work e.g. video or working through case study with sessions in more detail”.*

I had anticipated that because they were all counsellors or psychologists, they would feel confident undertaking the therapy themselves. Clearly this was not the case for all participants.

### **Course outcomes**

There are two themes that related to course outcomes. The first of these is “new skills”, and the second is “keen to try”. There were five comments about the acquisition of new skills. Two of these comments indicated that RE:SOLVE was something they would add to their range of interventions. For example,

*“very good skills to add to my list of possible interventions”*

and

*“more tools for repertoire”.*

Two people commented on the problem solving aspect in particular, with one noting

*“Has really helped clarify problem solving as a strategy intervention”*

and the other commenting

*“It’s given me additional skills to help clients with problem solving”.*

The fifth person similarly described RE:SOLVE as a *“new tool to use with clients”*..

There was enthusiasm about using the model, as captured in the theme of “keen to try”. Two people conveyed the impression they would use it in the near future. For example, one commented

*“I feel very motivated to try the model”*

while the other noted they were

*“eager to give it a go”.*

These comments imply a confidence in the learning and practice they have gained from the training workshop. The final comment for this theme reflected satisfaction with finding a fresh approach, with the person noting,

*“Feeling enthusiastic about a different/new intervention to use with/offer young people. Thank you”.*

### **RE:SOLVE structure**

The final theme was the structured nature of the RE:SOLVE pathway itself. There were three comments relating to this theme. Two of the comments reflected that they perceived the structure of the intervention to be useful. For example, one person noted it was a

*“useful pathway to follow”*

and another commented it was

*“Useful to have a very structured approach”.*

The third person echoed this, in their comment that it

*“provided clear focus for problem solving strategy structure”.*

This person was also able to envisage broad application of the RE:SOLVE pathway beyond the client group under consideration, suggesting

*“Be really applicable with lots of different presentations – steps will be useful to teach”.*

### ***Statement of principal findings***

In this study I sought to test the acceptability and feasibility of training practitioners in RE:SOLVE problem solving therapy via a one day training workshop. Practitioners were recruited via school guidance counsellor networks, and through approaching a primary healthcare organisation and a child and adolescent mental health service. This resulted in seventeen people taking part in three training workshops. None of the other studies from the literature review provided a detailed description of the training provided to the practitioners.

#### ***Acceptability***

The training workshops were found to be acceptable by the practitioners who took part in them. This is reflected in the themes of teaching and learning, paired practice, course outcomes and the RE:SOLVE structure. In addition, the content of the workshop received high ratings. Participants found the structure of the intervention helpful and felt motivated

about trying it out. The paired practice was useful, and participants considered it valuable to work on their own problem in a co-counselling framework. Finally the quality of the teaching was high. Indeed participants viewed the teaching as excellent, noting that the content was explained clearly and there was a good balance between talking and practice. The participants found the day worthwhile and useful.

Some participants found the day rushed and pressured with a lot of content for a single day. They also would have liked either live or video modelling of the intervention to better support their learning. However these concerns were expressed in the context of wanting to improve the workshop and learn more about the intervention. They provide useful feedback about improving the feasibility and acceptability of the training.

In addition, some noted they had acquired new skills, specifically with assisting young people with their problem solving but these results were inconsistent. The reasons for this variation are unclear. One possibility is that there was not enough time to practice and develop new skills; alternatively the participants felt they already had the necessary skills to deliver the intervention and the perceived gains related to new learning of content rather than skills.

The ratings on the risk assessment section also varied. This most likely reflects events within the workshop context. I had intended to offer teaching around risk assessment however it was something most participants were familiar with already. Because time was limited, I therefore covered this area quite briefly.

Overall, the results showed that participants found the learning environment supportive with a high quality of teaching and presentation. The learning objectives were clearly stated and were met over the day. The resources were helpful and the training has resulted in increased knowledge that participants perceive as relevant to their practice and that they are eager to try. It would be fair to conclude that in the context of their feedback, the workshop participants found the training to be highly acceptable with the exceptions mentioned above.

### *Feasibility*

A total of 17 participants took part in the training workshops. I cannot give detailed information on how many practitioners were approached for two reasons. The first presentation I gave to a cluster meeting of counsellors was to share information and enable them to approach me voluntarily. The email I sent to a second cluster of school counsellors was sent to a list that was confidential to me but my email enabled people to contact me.

There was no difficulty in gaining participants to take part in the training as interest was high among the school counsellor networks.

Out of the 17 workshop participants, 14 went on to enrol in the open trial indicating they initially perceived RE:SOLVE problem solving therapy as feasible to use in their workplace. It was disappointing that only four of them went on to see clients in the context of the open trial, although this is not uncommon in studies of this kind. This is discussed further in study 7 (chapter 9).

The questionnaire results suggest that participants perceive RE:SOLVE problem solving therapy as feasible to use within their workplace and they appear eager to give it a try. However the feasibility of a one day workshop has not been established. There needs to be further exploration on the feasibility of providing a longer workshop with the inclusion of live or video modelling of the intervention.

### *Strengths*

A key strength of this study was that it provided a tangible gain for practitioners in the form of a free training workshop in an intervention with an established evidence base for depression. The study was participatory and provided the opportunity for participants to contribute to the development of future training workshops both through the qualitative feedback and the quantitative ratings they provided. Participation was voluntary which meant that those who attended had a high level of engagement and enthusiasm. The training was open to a wide range of practitioners and thus the acceptability and feasibility of the intervention appears to be relevant to several settings and diverse professional groupings. This study will add to what is known about effective training for practitioners in a new psychological intervention. None of the other studies in the literature review reported on the training process. A high number of training participants went on to enrol in the open trial, which was voluntary, reflecting their satisfaction. No one dropped out of the training.

### *Limitations*

The data analysis was largely qualitative so it is potentially subject to interpretation and bias. I designed and carried out the workshop, as well as recruited participants, and collected and interpreted the questionnaires. Participants were aware of this and it could have impacted on their willingness to provide critical feedback, although some improvements were suggested. It was a small sample of practitioners, the majority of whom were New Zealand European, and all were located in Auckland. Therefore the acceptability and feasibility of the training cannot be assumed beyond this group.



## ***Conclusion***

In this study, I ran three workshops with the aim of testing the acceptability and feasibility of training youth practitioners in RE:SOLVE problem solving therapy. A total of 17 practitioners took part in the workshops. This included: 3 psychologists, 1 mental health nurse, 1 youth worker, and 12 school guidance counsellors. The ratings of the quality of teaching, paired practice, skills learned, and the structured nature of the intervention were all high, indicating that the participants found the workshop to be acceptable. In addition, most participants felt their knowledge had improved, and perceived the intervention as relevant to their practice. There were improvements recommended, in particular, more time and live or video modelling of the intervention. A total of 14 of the training participants enrolled in the open trial, indicating they perceived the intervention as feasible to use. Overall the findings in this study support the acceptability and feasibility of learning RE:SOLVE problem solving therapy via a training workshop, with adaptations to the length of the workshop and the inclusion of live or video modelling of the intervention.

## ***Chapter 8: The open trial (study 6)***

### ***Overview***

Having developed RE:SOLVE problem solving therapy and carried out preliminary testing of the resources and the training workshop, I went on to carry out an open trial, the culmination of this project. In this open mixed methods trial, practitioners who enrolled in the open trial identified clients who were eligible for the study. If they were successfully recruited, the practitioners carried out RE:SOLVE problem solving therapy with clients in their respective settings .

### ***Aims***

The aims of this study are to:

1. Test the acceptability and feasibility of the RE:SOLVE problem solving therapy intervention for practitioners in a clinical setting
2. Test the overall acceptability and feasibility of RE:SOLVE problem solving therapy for the clients who took part.
3. Gather efficacy data using quantitative measures of mood, problem solving, hopelessness, suicidal thinking, and overall functioning with a view to inform the design of a future larger scale randomised control trial.

### ***Method***

#### ***Participants***

In the open trial there were two groups of participants. The first group is the practitioners who carried out the therapy and the second group is the young people who took part in the RE:SOLVE problem solving therapy intervention as clients. The clients were young people aged 13 – 18 who were at risk of self-harm (see Figure 4 for inclusion criteria). I aimed to recruit approximately 20 young people. They were recruited from participating secondary schools, a participating Primary Healthcare Organisation, and a participating Child and Adolescent Mental Health Service. Participants were engaged in RE:SOLVE problem solving therapy as soon as possible after recruitment.

#### ***Procedure***

At the end of the training workshop, practitioners had the opportunity to enrol in the open trial. When practitioners enrolled in the open trial, they agreed to try and recruit and

work with up to three eligible young people in their work place. They were provided with a detailed explanation and written information on the inclusion and exclusion criteria (figure 7). They were asked to identify potential client participants when they presented in their clinical context. The practitioners were to explain the study briefly and gain permission from the young person for me to contact them and invite them into the study. I gave a brief demonstration of some suggested wording and a brief written paragraph was included in the written information. If permission was granted by the client, the practitioner passed the young person's contact details to me and I invited them into the study. The practitioners also had copies of Participant Information Sheets they could pass to potential recruits. If the young person was under the age of 16, parental consent was required.

Once I contacted a young person about the study on the phone, I ensured they fully understood the participant information sheet and I gained informed consent from each participant. I also informed them they would receive a \$20 voucher for each completed set of questionnaires, in appreciation of their time and effort. At this point, the young person completed the first set of standardised questionnaires. These were administered either by myself, as often as possible, or by the practitioner who was to conduct the sessions with them. Once the first set of questionnaires was completed, the sessions got underway with the relevant practitioner. The RE:SOLVE therapy involved 4 – 10 sessions of RE:SOLVE problem solving therapy. A brief risk assessment was conducted at the end of each therapy session by the practitioner.

When the sessions had been completed, the client participant completed the second set of questionnaires and received another \$20 voucher. Then one month after that, they completed their third set of questionnaires and took part in a semi structured face to face interview with me.

Figure 8: Inclusion and exclusion criteria for open trial

### *Inclusion criteria*

The inclusion criteria differ slightly according to where the participants are being recruited from.

#### CAMHS and PHO

- Between the ages of 13 and 18 years inclusive
- Cognitively able to cope with therapy
- Fluency in English
- Along with one of the following criteria:
  - Referral to the service occurs following a first episode of self-harm OR
  - Referral to the service occurs amid concerns about self-harm with a history of at least one previous episode of self-harm OR
  - Currently involved with the service and self-harms during study period

#### Secondary Schools

- Client presents at mild to moderate risk of self-harm
- Client is not accepted by CAMHS following a referral about self-harm
- Between the ages of 13 and 18 years inclusive
- Cognitively able to cope with therapy
- Fluency in English

### *Exclusion criteria*

- Current psychosis
- Currently involved or participating in another study

*\*It was a requirement of the Ethics committee to include fluency in English as an inclusion criteria as we were unable to provide an interpreter.*

### *Quantitative measures*

The clients all filled out the following quantitative measures at baseline, at the end of therapy and one month later:

#### Primary outcome measure

- Mood measured by Reynolds Adolescent Depression Scale (RADS-2)

#### Secondary outcome measures

- Problem solving skills measured by Social Problem Solving Inventory for Adolescents (SPSI-A).
- Suicidal orientation and ideation as measured by the Inventory of Suicide Orientation (ISO).
- Hopelessness measured by the Kazdin Hopelessness Scale for children (Kazdin HPLS).
- Function measured by the Paediatric Quality of Life Enjoyment and Satisfaction Questionnaire (PQ-LES-Q).
- The Working Alliance Inventory (WAI) will be filled out at the end of problem solving therapy sessions by both therapist and client. (See chapter 5 for a brief outline of these measures)

### *Qualitative measures*

The young people who took part in the trial also took part in a one to one semi-structured interview with me, the principal investigator, at the end of the therapy. The interviews addressed: the client's experience of RE:SOLVE, any life/personal changes that had occurred through taking part in RE:SOLVE, likes/dislikes about RE:SOLVE, feedback about the client workbook (reported in chapter 6), difficulties/challenges that arose, and any recommended changes.

### *Treatment fidelity*

In order to monitor treatment fidelity, I provided practitioners with digital recorders to record the sessions and also asked them to photocopy samples of work from the work books.

In addition, throughout the time that practitioners were seeing clients as part of the study, I offered the practitioners free supervision specific to learning and implementing the RE:SOLVE intervention. This supervision was to support them with any barriers or challenges they faced. They were expected to maintain their normal clinical supervision as well.

### *Statistical analysis plan*

#### **Quantitative results**

Rating scale results are summarised at each time point using means and standard deviations. The changes from pre to post intervention and from post to one month follow-up were statistically tested using paired t-tests, with mean differences summarised with 95%

confidence intervals and effect sizes. Changes were calculated so that positive values for the change represent improvements in the rating scales except in the cases of the SPSI-A and the PQ-LES-Q in which case the reverse is true.

### **Qualitative results**

Thematic analysis was used to analyse the comments sections of the qualitative data (Braun & Clarke, 2006).

#### *Ethics approval*

Ethics approval for this study was gained from the Upper South A Regional Ethics Committee (Ethics ref: URA/10/08/057) (Appendix 18).

### **Results**

#### *Practitioner participants*

Fourteen out of the seventeen practitioners who took part in the training enrolled in the open trial. Nine were school guidance counsellors, from schools with decile ratings from 1 through to 10.<sup>1</sup> The remaining practitioners were psychologists, a mental health nurse, and a youth worker based in one of the schools as a mentor for a small number of students (Table 19). I also delivered the therapy and I am a counsellor.

*Table 19: Practitioner participants in open trial*

Profession	Sex	Workplace	Decile
Clinical Psychologist	F	PHO	n/a
Child and Adolescent Psychologist	F	PHO	n/a
Clinical Psychologist	M	CAMHS	n/a
Mental health nurse	M	CAMHS	n/a
Youth worker	M	NGO	3 (based in school)
School Guidance Counsellor	F	School	4
School Guidance Counsellor	F	School	3
School Guidance Counsellor	F	School	3
School Guidance Counsellor	F	School	3
School Guidance Counsellor	F	School	10
School Guidance Counsellor (trainee)	F	School	10
School Guidance Counsellor	F	School	1
School Guidance Counsellor	F	School	10
School Guidance Counsellor	M	School	10

<sup>1</sup> A school's decile rating indicates the extent to which it draws its students from low socio-economic communities. Decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic communities, whereas decile 10 schools are the 10% of schools with the lowest proportion of these students.

### *Client participants*

Over the period of the open trial, twenty referrals of young people were made to me for potential recruitment. A total of nine practitioners made these referrals. All but one of these referrals were made by school counsellors. Fifteen (75%) of these referrals resulted in young people being both eligible and consenting to take part in the study (see figure 9).

Table 20 outlines the characteristics of the young people who agreed to take part in the study and indicates how many sessions they completed. Sessions were considered to be completed if the client had attended four or more sessions, provided the entire RE:SOLVE problem solving therapy process had been taught in that time. The dropout rate was calculated on the basis of not having completed a minimum of 4 sessions along with the first two questionnaires.

Eleven females and four males were recruited to the study, all of them from secondary schools. Their ages ranged from 13 – 16 years old, (mean 14.3 years). Three participants had a family history of suicide, and of those three, one also had a personal history of self-harm. The other two with a family history experienced suicidal thoughts, with one having made a previous plan about how to kill themselves. Six out of the total fifteen participants had a personal history of self-harm.

Table 20: Client participants in the open trial

Participant	Ethnicity	Decile	Sex	Age	Family Hx of self-harm	Personal Hx of self-harm	Risk of self-harm	Sessions completed	Took part in interview
1	NZ European	10	F	15	N	N	Suicidal thoughts	Completed sessions	Y
2	Pasifika	3	F	14	N	Y	Previous history	BPD. Therapist withdrew	N
3	NZ European	4	F	15	N	N	Depressive symptoms	completed sessions	Y
4	Pasifika	3	F	13	N	N	Suicidal thought	completed sessions	Y
5	Indian	10	F	15	N	N	Suicidal thoughts	completed sessions	Y
6	Indian	10	F	15	N	Y	Previous history	completed sessions	Y
7	Korean	3	M	14	N	N	Suicidal thoughts	completed sessions	Y
8	Maori	3	M	13	Cousin died by suicide	N	Suicidal thoughts. Previous plan made	Completed 4 sessions but only filled pre and post	N
9	Fijian Indian	3	F	16	N	N	Suicidal thoughts	completed sessions	Y
10	Filipino	3	F	13	N	Y	Previous history	3 sessions then sent overseas	N
11	Maori	4	F	15	Suicidal brother	Y	Previous History	Completed 4 sessions but only 1 <sup>st</sup> assessments	N
12	Fijian Indian	4	M	15	N	N	Depressive symptoms	Completed sessions	Y
13	Fijian Indian	4	M	15	N	Y	Previous history	Left school partway through sessions	N
14	Pasifika	3	F	13	N	Y	Previous history	2 sessions then withdrew	N
15	NZ European	10	F	13	Mother died by suicide	N	Suicidal thoughts	Completed sessions	Y

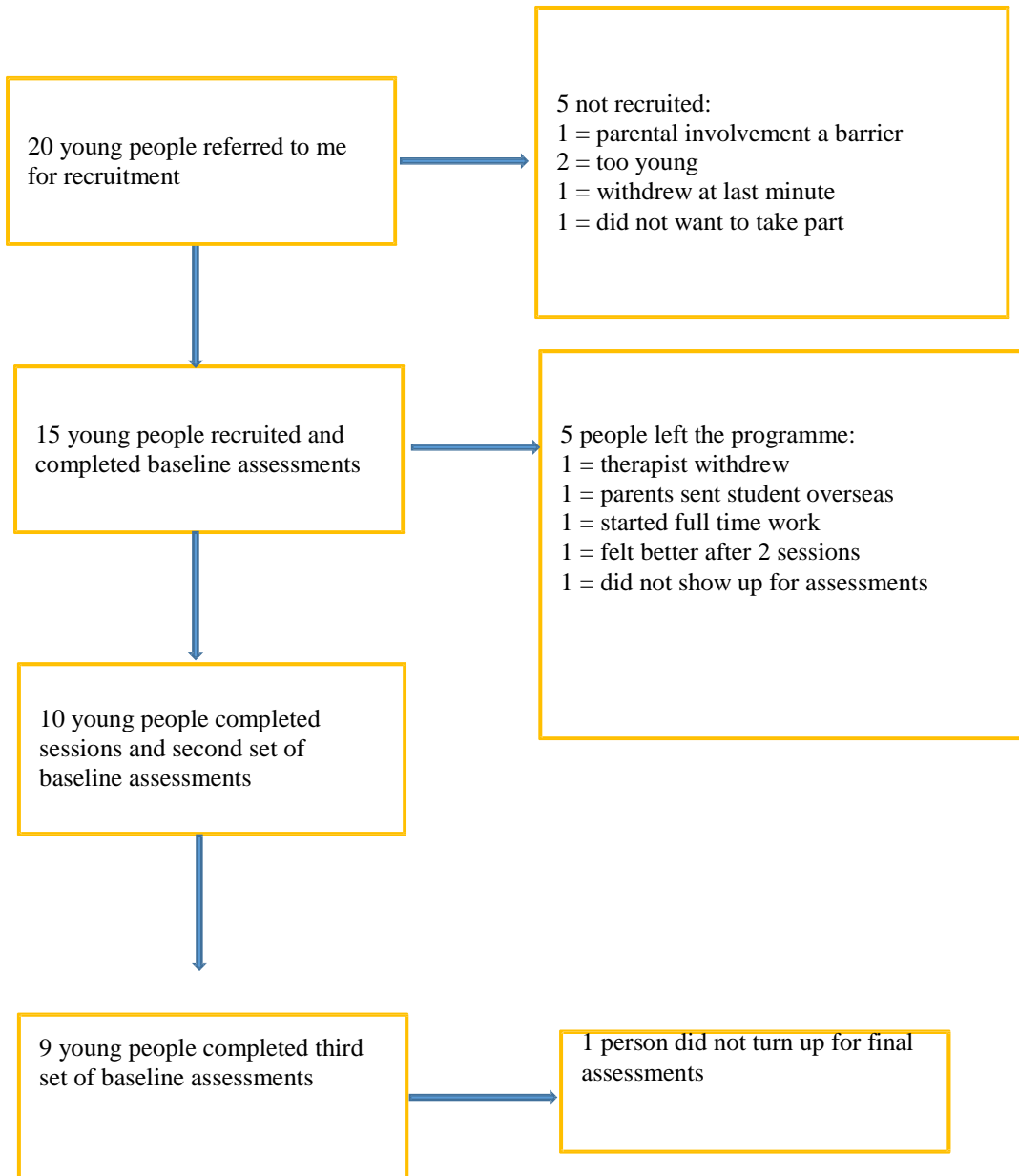


### *Recruitment, retention and completion*

Figure 8 is a flow chart outlining the recruitment and retention of participants, along with rates of completion and reasons for non-completion. All fifteen participants who were recruited completed the baseline assessments. Ten of the fifteen participants (67%) completed the therapy sessions with nine completing all three assessments, and one completing the first two assessments.

The reasons for non-completion by the other five participants are as follows. One participant was abruptly sent overseas to family in her home country after three sessions due to an escalation in home circumstances. Another participant turned out to have a diagnosis of borderline personality disorder and was under the care of child and adolescent mental health service. They had a management plan in place for the young person that involved a minimal response to any thoughts or expression of self-harm. The practitioner felt uncomfortable with the level of risk and what she felt was poor communication from the child and adolescent mental health service. She therefore withdrew from working with the client after extensive consultation with me and her private supervisor. I also consulted with my supervisor (SH) about this. One participant withdrew after two sessions because they reported they felt better and no longer had any problems. One person left school partway through the sessions and was not able to continue sessions due to this change in circumstance. The final person completed four sessions and then no longer attended despite making repeated appointments to come for further sessions. I was unable to get a second set of completed questionnaires.

Figure 9: Flow chart of retention and completion



Those who withdrew from the therapy, regardless of the reasons, had poorer mean baseline scores than those who completed. However none of these differences reached statistical difference except for the problem solving skills. In addition, there were participants with comparable scores who did complete the sessions and show improvements. The most notable difference was in the levels of hopelessness which were higher among those who did not complete.

Table 21: Baseline means for clients who completed and did not complete

Measures	Completed all assessments	Withdrew	p-values
RADS baseline means ( <i>SD</i> )	62 (9.3)	65.8 (4.5)	p = 0.399
ISO baseline means ( <i>SD</i> )	48.5 (13.7)	49.4 (12.2)	p = 0.920
SPSI-A baseline means ( <i>SD</i> )	*1.94 (0.4)	*1.3 (0.6)	p = 0.49
HPLS baseline means ( <i>SD</i> )	5.3 (4.5)	9.1 (3.4)	p = 0.124
PQ-LES-Q baseline means ( <i>SD</i> )	*44.1 (6.96)	*37.3 (8.4)	p = 0.137

\*Higher score desirable

Retention rates were higher for the school counsellors than they were for the principal investigator. For example, 4/8 (50%) participants completed sessions with the principal investigator, whereas 6/7 (86%) completed their sessions with the school counsellors.

### ***Quantitative results***

#### *Statistical analyses*

Rating scale results are summarised at each time point using means and standard deviations.

#### *Results summary*

Tables 22 and 23 provide summarise the results from the one primary and four secondary outcome measures. Table 22 demonstrates the mean scores of the scales at the three measurement points in the study. Table 23 demonstrates the mean difference in the scores from pre-test to post-test, and then from post-test to follow up, along with the p value and effect size for each.

Table 22: Mean outcome scores at pre, post and follow-up

	<i>M (SD)</i> Baseline	<i>M (SD)</i> Post test	<i>M (SD)</i> Follow up
	<i>n</i> = 15	<i>n</i> = 10	<i>n</i> = 9
Primary Outcome measure RADS	79.7 (12.5)	60.4 (10.3)	59.7 (15.3)
Secondary Outcome measure ISO	48.3 (13.8)	29.9 (20.8)	25.1 (13.9)
Secondary Outcome measure SPSI-A	*1.66 (.59)	*2.43 (.55)	*2.67 (.83)
Secondary Outcome measure HPLS	6.9 (4.7)	3.0 (2.8)	2.1 (1.8)
Secondary Outcome measure PQ-LES-Q	*41.4 (8.6)	*49.0 (8.4)	*51.4 (6.0)

\*Higher score indicates improvement

Table 23: Mean differences in change for pre, post and follow-up

	Mean difference in change baseline to post treatment (95% CI)	p value	Effect size	Mean difference in change post treatment to follow up (95% CI)	p value	Effect size
Primary Outcome measure RADS	16.2 (1.8 – 30.6)	0.031	0.81	-9 (-12.5 – 10.7)	0.864	0.06
Secondary Outcome measure ISO	21.3 (.9 – 41.6)	0.043	0.97	4.3 (-5.9 – 14.5)	0.346	0.39
Secondary Outcome measure SPSI-A	**-.4 (-1.02 – 0.1)	0.117	0.6	-.2 (-.8 - .4)	0.452	0.27
Secondary Outcome measure HPLS	2.4 (-1.6 – 6.3)	0.207	0.4	0.44 (-1.9 – 2.9)	0.681	0.1
Secondary Outcome measure PQ-LES-Q	**-.4.6 (11.6 – 2.4)	0.170	0.47	-1.56 (-9.1 – 6.04)	0.649	-0.16

\*\*Negative value indicates improvement

*Primary outcome measure*

**Depression Scores (RADS)**

The primary outcome measure in the study was depression as measured by the RADS. There were significant reductions in the total depression scores from pre to post test and these differences were largely maintained at follow up. In addition there were significant differences in two out of the four sub scales from pre to post test. These sub scales were negative self-evaluation and somatic complaints (see table 24).

Table 24: RADS subscales scores

RADS subscales	Pre-test (n=15)	Post-test (n=10)	Follow-up (n=9)
<b>Somatic Complaints</b>			
Means	20.0	16.4	17.6
Standard Deviation	3.2	2.5	4.8
Mean change	-	3.3	-1.4
Standard deviation	-	4.4	3.8
Confidence Interval	-	.12 – 6.5	-4.3 – 1.5
p-value	-	0.044	0.285
Effect size	-	0.7	0.37
<b>Negative self-evaluation</b>			
Means	22.1	14.1	16.3
Standard deviation	4.9	4.9	7.1
Mean change	-	6.2	-2.1
Standard deviation	-	7.1	8.2
Confidence Interval	-	1.1 – 11.3	2.7 - -8.4
p-value	-	0.022	0.462
Effect size	-	0.887	0.26
<b>Dysphoric Mood</b>			
Means	22.9	18.8	16.4
Standard Deviation	3.7	4.4	4.0
Mean change	-	3.2	1.8
Standard Deviation	-	6.6	4.7
Confidence Interval	-	-1.5 – 7.9	-1.8 – 5.4
p-value	-	0.159	0.290
Effect Size	-	0.5	0.4
<b>Anhedonia</b>			
Means	14.5	10.2	10.6
Standard Deviation	3.5	2.4	3.6
Mean Change	-	3.2	-0.56
Standard Deviation	-	4.8	2.8
Confidence Interval	-	- 0.22 – 6.6	-2.7 – 1.6
p-value	-	0.63	0.573
Effect size	-	0.67	-0.2

*Secondary outcome measure*

**Social Problem Solving Inventory – Adolescents**

All of the problem solving scores improved from pre-test to post test and all scores continued to show improvement from post-test to follow up (see figure 4). However the improvements did not reach significance except for two subscales, the emotional subscale, and the reorganisation subscale (see table 25).

*Figure 10: SPSSI-A scores at three time points*

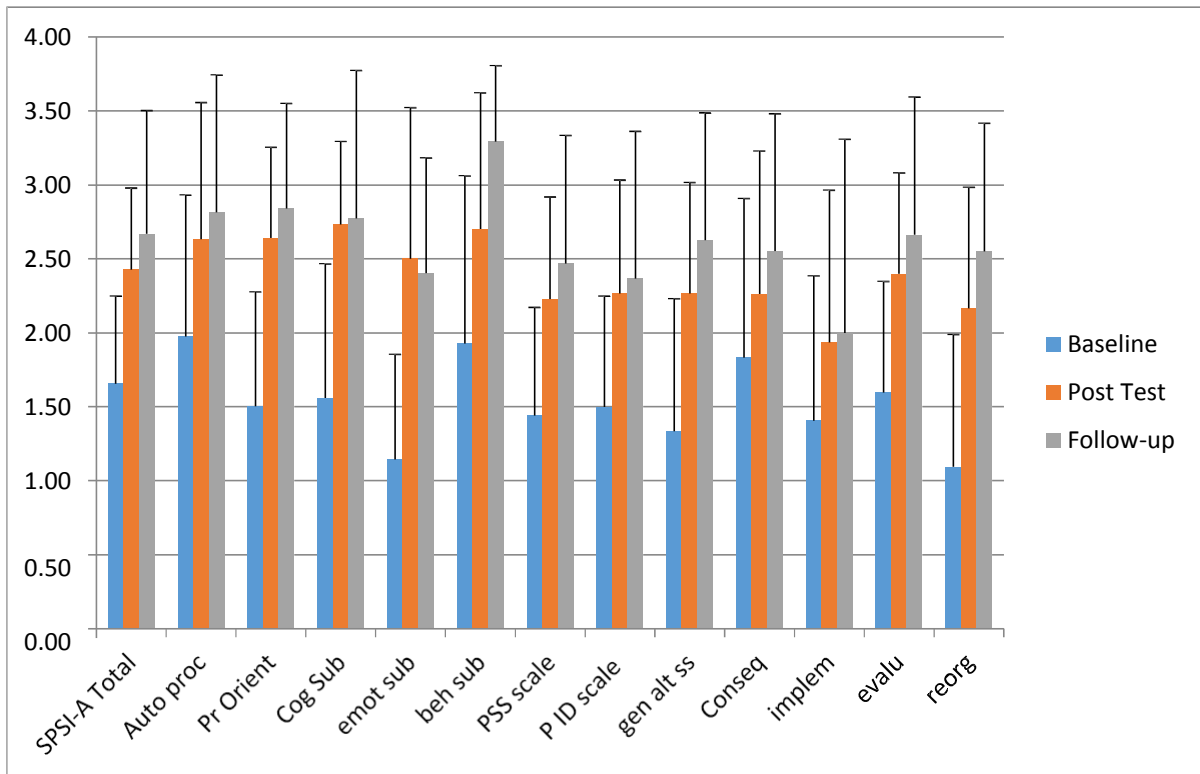


Table 25: SPSI-A scales and subscales

SPSI-A scales and subscales	Pre-test (n=15)	Post-test (n=10)	Follow-up (n=9)
<b>Automatic Processing Scale</b>			
Means	1.98	2.63	2.81
Standard Deviation	.96	.92	.93
Mean change	-	-.37	-.11
Standard deviation	-	.75	.67
Confidence Interval	-	-.95 - .21	-.62 - .4
p-value	-	0.178	0.633
Effect size	-	-.49	-.16
<b>Problem Orientation Scale</b>			
Means	1.5	2.64	2.84
Standard deviation	.77	.61	.71
Mean change	-	-.82	-.17
Standard deviation	-	1.1	1.03
Confidence Interval	-	-1.7 - .05	-.97 - .62
p-value	-	.062	.625
Effect size	-	-.75	-.17
<b>Cognition subscale</b>			
Means	1.56	2.73	2.77
Standard Deviation	.91	.56	1.00
Mean change	-	-.70	.004
Standard Deviation	-	1.1	1.03
Confidence Interval	-	-1.6 - .16	-.9 - .91
p-value	-	.097	.991
Effect Size	-	-.64	.003
<b>Emotional subscale</b>			
Means	1.14	2.5	2.4
Standard Deviation	.71	1.02	.78
Mean Change	-	-1.3	.11
Standard Deviation	-	1.5	1.4
Confidence Interval	-	-2.4 - -.13	-.96 - 1.2
p-value	-	.033	.813
Effect size	-	-.87	.1
<b>Behaviour subscale</b>			
Means	1.93	2.7	3.29
Standard Deviation	1.13	.92	.51
Mean change	-	-1.3	.11
Standard deviation	-	1.5	1.4
Confidence Interval	-	-1.3 - .62	-1.4 - .21
p-value	-	.441	.128
Effect size	-	-.87	.08
<b>Problem Solving Skills Scale</b>			
Means	1.44	2.23	2.47
Standard Deviation	.73	.69	.87
Mean change	-	-.44	-.2
Standard deviation	-	.96	.78
Confidence Interval	-	-1.18 - .3	-.8 - .66
p-value	-	.207	.476
Effect size	-	-.46	-.26

SPSI-A scales and subscales	Pre-test (n=15)	Post-test (n=10)	Follow-up (n=9)
<b>Problem Identification Subscale</b>			
Means	1.5	2.27	2.37
Standard Deviation	.75	.77	.99
Mean change	-	-.37	-.07
Standard deviation	-	.98	.96
Confidence Interval	-	-1.1 - .38	-.8 - .66
p-value	-	.290	.826
Effect size	-	-.38	-.07
<b>Generating Alternatives Subscale</b>			
Means	1.33	2.27	2.63
Standard Deviation	.90	.75	.86
Mean change	-	-.5	-.33
Standard deviation	-	1.25	.94
Confidence Interval	-	-1.44 - .48	-1.06 - .39
p-value	-	.283	.321
Effect size	-	-.4	-.35
<b>Consequences Subscale</b>			
Means	1.83	2.26	2.55
Standard Deviation	1.08	.97	.93
Mean change	-	.04	-.19
Standard deviation	-	1.09	.93
Confidence Interval	-	-.80 - .88	-.90 - .53
p-value	-	.913	.562
Effect size	-	.04	-.2
<b>Implementation Subscale</b>			
Means	1.41	1.94	2.00
Standard Deviation	.98	1.03	1.31
Mean change	-	-.03	-.48
Standard deviation	-	1.01	1.3
Confidence Interval	-	-1.1 - .44	-1.02 - .96
p-value	-	.391	.940
Effect size	-	-.03	-.37
<b>Evaluation Subscale</b>			
Means	1.6	2.4	2.66
Standard Deviation	.75	.68	.93
Mean change	-	-.48	-.22
Standard deviation	-	1.16	.81
Confidence Interval	-	-1.37 - .40	-.85 - .40
p-value	-	.247	.442
Effect size	-	-.41	-.27
<b>Reorganisation Subscale</b>			
Means	1.10	2.17	2.55
Standard Deviation	.89	.82	.87
Mean change	-	-.78	-.37
Standard deviation	-	.94	.91
Confidence Interval	-	-1.50 - .05	-1.06 - .33
p-value	-	.039	.258
Effect size	-	-.83	-.41



### **Inventory of suicide orientation**

There were significant reductions in all of the results on the ISO from pre to post test (see table 22 and 23). At baseline 81% of participants scored as being at high risk of self-harm. At follow up this was reduced to 10%. Non parametric tests (Wilcoxon signed rank tests) were run on both the critical items and the final critical items (which measure suicide ideation) and significant differences were found between pre and post-test, and these were maintained at follow-up (Table 26).

*Table 26: Critical item scores*

	Pre-test (n=11)	Post-test (n=8)	One month f/u (n=9)
Critical item mean score	3.7	1.1	1.1
Standard Deviation	1.8	1.7	1.9

### **Kazdin Hopelessness scores**

The hopelessness scores showed reductions from pre-test to post-test and these differences were maintained at follow-up (see tables 22 and 23). However they did not reach significant levels.

### **Pediatric Quality of Life Enjoyment and Satisfaction Questionnaire**

The PQ-LES-Q showed improvement from pre-test to post-test scores. These improvements continued through the follow-up period (see table 22 and 23). However they did not reach significant levels.

### **Working Alliance Inventory**

The WAI measures the degree of match between the client and the therapist in their assessment of the therapeutic alliance. Therefore the results have been included only for those in which both practitioners and clients filled out the WAI. Seven complete sets of paired results were obtained. Four of the pairs had an extremely close match between the client and therapist measures of their alliance, which indicates a strong alliance. In the remaining three pairs, there was less of a match between the total scores of the therapist and the client. In these three pairs, the client rated all dimensions of the alliance more highly than the therapist. Across all seven pairs, the mean rating of the alliance by clients was 76.9/84 (91%) and the mean rating of the alliance by therapists is 69.7/84 (83%). These ratings indicate a high degree of satisfaction with the therapeutic relationship. In the four pairs who had a close match. The therapists were counsellors in the school environment. In the three pairs where the therapist rated the alliance lower than the client, the therapist was the principal investigator.

Table 27: Working Alliance Inventory Scores

	Task	Bond	Goal	Total
Client	28	27	26	81/84
Therapist	26	28	25	81/84
Client	27	28	28	83/84
Therapist	28	28	24	80/84
Client	23	23	23	69/84
Therapist	25	27	18	70/84
Client	27	24	19	70/84
Therapist	23	24	23	70/84
Client	23	26	24	73/83
Therapist	21	24	20	65/84
Client	28	28	23	79/84
Therapist	18	21	21	60/84
Client	28	28	27	83/84
Therapist	20	23	19	62/84

### ***Qualitative results***

#### *Evaluation of RE:SOLVE Problem Solving Therapy by clients*

I carried out one to one interviews with nine client participants. The clients were all aware that I had developed RE:SOLVE and I had also carried out the intervention with some of them myself (n=4). I was aware this knowledge could influence how they responded and incline them towards wanting to be helpful, rather than critical. Therefore, I addressed this directly in my introduction, emphasising that I was really interested in all they had to say about the programme. I explained that their feedback would help me improve it for other young people in the future. I also specifically asked about their dislikes or whether they had any suggestions for improvements. However these results should be interpreted in light of the possible impact of my doing the interviews.

The themes in their feedback have been influenced by the questions asked. Although the opportunity to comment openly on the workbooks was provided, few participants volunteered comments beyond the questions asked, and there was no critical feedback. However there were some suggestions for developments. The responses were generally supportive of the acceptability and feasibility of taking part in RE:SOLVE for young people.

## **Overall experience of RE:SOLVE**

I began by asking participants about their experience of RE:SOLVE. All of the client participants reported their experience of taking part in RE:SOLVE as constructive and positive. For example, one person commented:

*It's been a really positive one [experience]. It's really helped to tackle my problems and things. It's not hard either. It's really easy to follow.*

This was echoed in other comments about liking the book and liking the programme. One 13 year old participant said, in a surprised tone:

*There's nothing I didn't like. I actually liked it!*

### **What they liked best**

#### Lydia and Michael

The client participants were asked about what they liked the best about the programme. As with the responses to the client workbook (chapter 6), the characters and stories of Lydia and Michael were a strong theme for five students. For example, two respondents noted that it was useful to have Lydia and Michael as role models, while another mentioned she had taken ideas from Lydia's brainstorm and used them in her own, reinforcing this notion of role modelling.

*I thought it was good because they [Lydia and Michael] had problems and stuff and then they'd go step by step and finally reach the point where they could fix it.*

and

*Probably liked having those people Michael and Lydia they were quite neat because they've gone through similar things and they are doing the same things I am*

Three of the participants also commented on liking the stories, with two suggesting that more stories should be included in the workbook. One suggested these should be complete stories, as with Lydia and Michael, and the other suggested brief vignettes to further exemplify a specific signpost.

There were four other signposts mentioned as part of this theme of likes/dislikes. The first was using a brainstorm to generate ideas:

*And I quite liked the big brain storm of how to solve ideas, I think. To write different solutions was good.*

The second was going through the potential pros and cons of a potential solution.

*I liked the advantages and the disadvantages because you could see different points of view for that one problem and then think about it*

Both of these steps are commonly missed out among people with an impulsive problem solving style.

Another participant particularly liked the action plan, which involves putting the chosen solution into concrete action. This person commented:

*I liked the action plan. I got worried at first, if it wouldn't work out or something, but then you never know until you tried.*

The final signpost of the programme that was mentioned was writing a problem list. This comment reflected the purpose of the signpost which is to reduce a sense of overwhelm generated from having multiple problems in one's head. The participant commented:

*I think it was quite good to outline all the different problems and concentrate on separate ones so you could work through them.*

### **Changes in problem solving**

When asked, the participants all indicated that they had experienced changes in their problem solving, which is borne out by the improvements seen in the SPSI-A scores. Three people commented in more depth about this. Their comments reflected an improved confidence and belief in their abilities:

*Definitely [my problem solving has changed], because my problems aren't so big, and I know how to tackle them, it's made me a lot happier and things are a lot easier.*

The comments also reflected a knowledge of what had got in the way of effective problem solving and the steps to take to resolve this:

*Definitely [my problem solving has changed]. Because I kind of let them bunch up and they would all become too much for me but I know now to have a problem, make it clear and decide what I am going to do about it and then move on to the next one without them all getting to me*

Finally, there was a recognition that following the steps can lead to feeling better in oneself:

*Umm I guess making a plan, trying to do that a bit more and so I can concentrate on what I want to do and then tick that off and then I'll feel more satisfied that I've done something*

### **How are you feeling at present?**

Participants reported feeling better in themselves than they had before taking part in RE:SOLVE:

*Feeling good. Feeling happy.*

and

*I guess I do feel a lot better than I was. I just made small improvements each day I guess. But compared back to then, a lot. Quite a big difference.*

and

*Long gone [thoughts about self-harm]. I'm pretty happy. It's just the decision I made that put me back into that place. Like I caused a problem and my parents got angry and then I get angry with them and it makes a problem. So it's up to my decisions. I have goals this year [went on to list them].*

### **Further suggestions**

Other than the suggestions about more stories, no critiques of the workbook or programme were offered despite my emphasizing that I really wanted to hear anything they thought could be improved for other young people.

### ***Statement of principal findings***

In this study, I conducted an open trial of RE:SOLVE problem solving therapy in which the aim was to have practitioners who had been trained in the intervention carry out 4 – 10 therapy sessions with 20 young people who were eligible and who had agreed to take part in the study. The following section details the principal findings of the study, followed by discussion of the strengths and limitations of the study.

#### ***Recruitment***

Given the enthusiasm and commitment indicated by practitioner participants in the training workshops, along with their assertions of the prevalence of the problem of self-harm in their schools, I had expected the desired number of study participants would be gained relatively easily. However this did not prove to be so and there were several reasons for this. For the practitioners from child and adolescent mental health service, I had not yet completed the process of ethical approval for them to work with clients (this was a process specific to the district health board). This approval process became an unexpectedly drawn out process and so these participants did not end up being a source of clients. For the practitioners in the primary healthcare organisation, some of their clients were required to pay so the practitioners felt there was a tension in asking clients to take part in an experimental approach. There was one client who was referred, and who agreed to take part, but who withdrew at the last minute. Finally, for the practitioners in the schools I had to obtain individual locality assessments for each site. This was relatively quick but still meant a small delay. I had not done this prior to the training workshop as I did not know for which schools assessments would be needed. Anecdotally, counsellors did report that the requirement for parental consent among those under 16 was a barrier for some students.

It is impossible for me to know how many students may have been eligible across the varied sites because I was dependent on the practitioners' judgment and disclosure. Over the course of the study, I contacted practitioners at regular intervals to keep the study and recruitment in the forefront of their minds. I emailed them each term, I sent letters reporting progress, and I made phone calls to offer support and encouragement. As time went by, and given the lack of referrals, I offered to conduct RE:SOLVE with the first client practitioners recruited to the study while they observed; and then to sit in with them while they conducted RE:SOLVE with the next client they recruited. I offered this because I thought that their confidence may be waning with increasing time and distance from the training workshop.

This option was taken up by three practitioners. One sat in on sessions with one client and then went on to see another client by herself. The second sat in on sessions and then declined to see someone herself in the study due to workload issues. However, she did provide me with one further recruit, to whom I offered RE:SOLVE. The third sat in on sessions but the client finished at 4 sessions and the practitioner did not go on to see another client. This was due to the lack of an appropriate client. Finally I offered to see eligible students myself, if they were keen to take part in the study. This was taken up by four practitioners and I conducted RE:SOLVE with a total of eight of the fifteen client study participants.

The low rates of recruitment in the study were disappointing. In the training workshops, the practitioners all talked about self-harm being an extensive problem in their schools so the reasons for these low rates of recruitment are not clear. It may be that the practitioners did not feel confident or well enough supported in introducing the study to young people and this requires further attention in a future study. The barriers to recruitment are further explored in chapter nine.

### *Therapist uptake*

Seven of the fourteen practitioners who enrolled in the open trial referred at least one young person to the study. However these referrals did not translate into recruited participants for three of these practitioners. The remaining practitioners all conducted RE:SOLVE sessions with at least one client as part of the study, with one of them ending the sessions with her client for reasons discussed earlier. This low uptake by practitioners is of concern and has potential implications for the feasibility of the intervention. This issue is discussed in greater depth in chapter 9, which is an evaluation of an exit questionnaire filled out by practitioners.

### *Retention rates*

Engagement and retention in treatment is a challenge with adolescents at risk of self-harm. They are known to have higher and earlier dropout rates than adolescents who are in treatment for other psychological problems (in Donaldson et al, 2010). The dropout rates for this study were high with one third of baseline participants not completing the sessions and all three assessments and with the mean scores of those who dropped out being poorer than those who completed.

However, two of the young people did not make the choice to drop out of the study. Rather, adults in their lives made decisions that meant they were no longer able to attend. For a further person, they were also keen to stay engaged in the study but once they left school this was no longer possible for logistical reasons. The fourth person who withdrew did so because they felt better and the final person stopped coming after four sessions for an unknown reason. These young people were not contacted for the follow-up interviews so it is not possible to say whether they would have continued their sessions had they been able to do so, and what the outcomes might have been had they done so.

The retention rates were higher with the school counsellors than for the principal investigator. The reasons for this are unclear. It could be that the school counsellors were better known to the students, with some already having an established relationship with their school counsellor. In addition, school counsellors are able to call students from class if they don't turn up for an appointment and thus have flexibility and the capacity for assertive outreach. Alternatively it could be that clients perceived as more complicated were referred to the principal investigator.

### *Treatment outcomes*

I have shown that for the students who completed at least four sessions of RE:SOLVE problem solving therapy, there were significant reductions in total depression scores, along with significant reductions in their negative self-evaluation and somatic complaints scores. The problem solving scores demonstrated improvement from baseline to post test and these improvements were maintained at follow-up. The problem solving measure also showed significant improvements on the emotion subscale of the problem orientation, indicating a reduction in emotional distress when faced with a problem; and on the reorganization subscale of the problem solving skills scale, indicating improved evaluation of implemented solutions. In addition, there were significant reductions in all suicide orientation scores from baseline to post test and these were maintained at follow-up. The hopelessness scores showed improvements but these did not reach significance. Similarly, the quality of life measures

showed improvements but these did not reach significance. The results of the working alliance inventory indicated a good to excellent working alliance between therapists and clients.

These findings reflect tentative early indicators of the potential effectiveness of RE:SOLVE problem solving therapy along with the feasibility and suitability of these outcome measures in demonstrating improvements for participants. A properly controlled trial would be needed to confirm these findings.

*Treatment Fidelity*

I received almost no notes or work samples however I was able to measure adherence to therapy through the recordings of three of the practitioners. The fourth practitioner did not provide any recordings. The problem orientation scale was scored out of eight, while the remaining two were scored out of five. The greater number of items in the problem orientation scale reflects the greater complexity of this particular signpost (as compared to Generating Ideas and Action Plan) and the actions required by the therapist to effectively communicate and share it with a client. All six sessions of problem orientation were measured and received a mean score of 7.17 (1.6) reflecting a high degree of adherence. This high level of adherence was also reflected in the sessions focussed on generating ideas and on creating an action plan although there were fewer sessions available to rate. These results need to be viewed in the context of the low uptake by practitioners overall and limited number of sessions and practitioners who contributed data.

	Mean	(SD)	Client sessions
Problem Orientation	7.17	(1.6)	6
Generating Ideas	4.0	(0.71)	5
Action Plan	4.0	(1.0)	3

*Semi-structured interviews*

The one to one interviews with clients reflected a high degree of acceptability of RE:SOLVE problem solving therapy to those who had completed all the sessions and assessments. This was evident in their comments about what they liked, how they were feeling in themselves, and their expression of improved problem solving and problem solving confidence.

However, their feedback needs to be viewed with caution for several reasons. First,



those who did not complete all three assessments were not interviewed and it is not known whether their views would have been different from the ones that were expressed. Second, the young people were aware that I had developed the resource, and I had conducted the therapy with some of them. Third, I did the thematic analysis myself. These factors are all likely to have introduced bias into these results.

### *Comparisons to other research*

#### **Recruitment**

Recruitment and retention of young people at risk of suicide is difficult and this is reflected in the sample sizes of treatment studies. However, the small sample size of the current study is not out of step with other similar treatment studies. For example, Lerner and Clum (1990) had a total of 18 young people across two treatment conditions, and Salkovskis et al. (1990) had 20 participants across two treatment conditions. The remaining comparable studies all had around 40 participants across two treatment conditions (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008; McLeavey et al., 1994). The retention rates in the current study were lower than in the studies in the review which all had excellent retention rates.

#### **Depressive symptoms**

The primary outcome measure of depression, as measured by the self-report measure RADS, showed statistically significant reductions from pre to post test and these differences

were maintained at follow up. This is comparable to results in other problem solving therapy studies with young people. For example, Donaldson et al. (2005) showed significant decreases in depression from post treatment and follow up and Lerner and Clum (1990) showed significant decreases from pre to post treatment, while Biggam and Power (2002) showed reductions in depression at 3 months follow up and Eskin et al. (2008) showed greater rates of recovery for depression than the WLC group which were maintained at follow up. In the current study, there was no comparison group and this would be needed to confirm that this intervention is effective.

In addition, there were significant changes in the negative self-evaluation sub scale, and the somatic complaints subscale from pre to post test. The negative self-evaluation scale is of particular interest because self-evaluation relates to problem orientation, an important dimension of effective problem solving. Those who did not complete the sessions had higher mean baseline scores for depression and this study did not use an intent to treat analysis, which would have made a difference to these results. Nevertheless, the reductions in depression provide some cautious encouragement.

### **Suicidal orientation**

The secondary outcome measure of suicide orientation showed significant reductions in the total suicide orientation score from pre to post test. The suicide orientation subscale and the critical items (suicide ideation) each showed significant reductions which is important because they measure different dimensions of a person's inclination towards suicidal behaviour. In addition there were no episodes of initial or repeat self-harm during the study. However, the small study size and the short duration of the study and the follow up period need to be taken into account when interpreting these results.

The current study used a different measure from the studies presented in the literature review so they cannot be directly compared. However, Donaldson et al. (2005) showed significant decreases in suicidal ideation from 3 to 6 months, and Eskin et al. (2007) showed that suicidal risk was significantly reduced in the treatment group from pre to post treatment. Lerner and Clum (1990) also showed reductions in suicidal ideation (across both groups) and Salkovskis et al. (1990) showed short term reductions in repetition of suicidal behaviour.

### **Problem solving skills**

As with the suicide measure, the SPSI-A measure is unique to the current study. I chose this measure because it is adapted from the SPSI-R (D'Zurilla, ) and is therefore aligned with the problem solving intervention that is being measured. There were improvements on all scores from pre to post test and further slight improvements on all scores

(except the emotion subscale) at follow up. There were two significant outcomes in the problem solving measures. The emotion subscale showed significant reductions from pre to post test. This is a sub scale of problem orientation and is important because it measures the feelings a person experiences when faced with a problem. A reduction in this score indicates less distress when faced with a problem. There was also a significant improvement in the reorganisation subscale. This is important because it measures the degree to which the person evaluates the effectiveness of the solution they have implemented, prior to working out their next step.

This study was not set up to draw conclusions about whether the changes in the depression scores and suicide orientation were mediated by the improvements in problem solving or whether the improvements in problem solving were mediated by the reductions in depression. However it is interesting to note the subscale on the problem solving measure that reached significance was the emotion subscale which is a measure of distress when faced with solving a problem. This subscale is part of problem orientation. Without wanting to overstate a single small finding, lack of emotional regulation and poor problem orientation are both implicated in increases in depression and suicide orientation. Therefore the relationship between problem solving and low mood warrant closer investigation in a future study.

It is difficult to meaningfully compare the problem solving results with other studies due to the differing measures. However, all of the studies from the literature review showed improvements in problem solving to some degree. Eskin et al. (2008) showed significant improvements in problem solving from baseline to follow up for the treatment group. Lerner and Clum (1990) showed significant improvements in problem solving self-efficacy at post treatment, while Biggam and Power (2002) showed significant improvements in negative problem orientation, avoidance style and rational problem solving. Salkovskis et al. (1990) showed improvements in problem solving with some generalisation to problems not worked on in therapy. Finally, McLeavey et al. (1994) showed significant improvements in problem solving including the perceived ability to solve problems.

### **Hopelessness scores and PQ-LES-Q scores**

The remaining measures of Hopelessness and PQ-LES-Q both showed changes in a positive direction. The hopelessness scores are comparable to Lerner and Clum (1990) and McLeavey et al. (1994) in which the treatment groups were less hopeless at follow up. However, the hopelessness scores at baseline in the current study were not high. Biggam and Power (2002) showed significant reductions in hopelessness for a large number of the

treatment group. None of the other studies used a measure of enjoyment of life that could be compared with the PQ-LES-Q.

### **Working Alliance Inventory**

The final measure was the working alliance between the therapist and client. The results showed a high level of satisfaction with the working alliance for both practitioners and clients. Two comparable studies measured the therapeutic relationship. In one of the studies, participants perceived the therapeutic relationship as highly satisfactory (Eskin et al., 2008) and in the other study the problem solving therapy group rated the therapist and treatment more highly overall than the control group did (Lerner & Clum, 1990). Consideration of the therapeutic alliance is important. In an independent study which explored measures of therapeutic alliance using data from the Donaldson et al. (2005) study, Karver et al., (2008) found a strong relationship between the therapeutic alliance and client involvement during the early stages of therapy. Indeed, they found that the alliance accounted for significant variance in subsequent treatment with the young people across both treatment conditions. While the study used a small sample size of adolescents who had attempted suicide, these findings suggest there is a predictive relationship between early alliance and client involvement in therapeutic tasks (Karver et al., 2008).

### *Strengths of the current study*

This study is the first open trial of RE:SOLVE problem solving therapy with young people at risk of self-harm in New Zealand. It is unique among problem solving therapy studies in training the existing guidance counsellor workforce to carry out the trial intervention. School Guidance Counsellors are a highly skilled workforce, who are perceived by students as accessible and available. In addition, the study was conducted in the school environment which makes it easy for students to attend and which more easily enables practitioners to use assertive outreach with clients. The client participants came from ethnically and culturally diverse backgrounds. Similarly, they came from schools situated in a range of neighbourhoods across Auckland.

Primary and secondary outcome measures were clearly stated. The study showed significant improvements in the primary outcome of depression, along with significant reductions in suicide orientation and moderate improvements across all other measures. There were improvements across all measures which have possible clinical relevance.

The ISO and SPSI-A have not been used in previous problem solving therapy studies with young people and these were useful measures to use due to their specificity in measuring the problem solving skills taught, and in measuring varied dimensions of an orientation

towards suicide. The Inventory of Suicide Orientation was also useful because it included a general orientation measure as well as a suicidal ideation score. Therefore it has the potential to reflect heightened risk before this shows up in the critical items score.

There were significant changes in measures that appeared related to problem orientation across three different scales. For example, improvements in the negative self-evaluation on the RADS, the general orientation on the ISO, and the emotion subscale on the problem orientation scale of the SPSI-A all reflect improvements related to mindset and emotional distress. This is consistent with studies that have demonstrated associations between problem orientation and depression (Becker-Weidman et al., 2010); problem solving confidence and depression and hopelessness (Yang & Clum, 1994); and problem orientation and wellbeing (Ciarrochi et al., 2009).

The positive results gained in this small study provide some support for the acceptability of the measures used. The measures were all self-report which privileges the client's experience of change over any ostensibly objective measure. Given that effective problem solving depends on an optimistic orientation towards life problems, in other words it depends on self-perception, this seemed appropriate for this study.

All of the participants who completed the intervention also took part in an interview. Information from the participants' lived experience of taking part in RE:SOLVE adds depth to the quantitative data, incorporating a more human dimension. It also provides direction for future development of the RE:SOLVE programme. None of the other problem solving therapy studies reviewed for this thesis reported on the participants' experience of the therapy other than on measures of satisfaction with the therapeutic relationship.

#### *Limitations of the current study*

The limitations of this study are similar to those of previous problem solving therapy studies cited in varied reviews (see chapter 4). This was a pilot study, the sample size was small, there was no randomisation, no control group, and there was only a short follow-up period, which hinders the ability to see whether differences are maintained for any length of time. In addition, all of the measures were self-report measures. The problem solving and suicidal risk measures used in this study are different from other studies of this kind, and this limits comparisons between them. However this is balanced by the purpose of this study which is to establish the suitability of these measures for a larger scale study that does include those features.

The participants who did not complete the programme were more likely to have a history of self-harm, and in some cases, more challenging current circumstances. This is unfortunate because it limits our knowledge of the acceptability and feasibility of RE:SOLVE to these students. It may indicate that this approach is not ideal for them. However, given that three of the five who dropped out did not make the choice themselves, and that students with comparable scores did complete the sessions, this would benefit from further study. It also provides valuable information that will be useful in a further definitive study.

Because it was a PhD project, with limited resources, most of the study functions were carried out by me. I carried out the recruitment, administered most of the assessments, and conducted the therapy with some clients. Since there was no comparison group, there was no blinding but this was a pilot acceptability and feasibility study so this design is within acceptable parameters.

There was low uptake by the practitioners in using RE:SOLVE in the study context. This was disappointing and raises some concerns about the feasibility of using this approach in a larger study. The reasons for this low uptake are unclear. It may be that the delays with getting started due to administrative requirements lead to a loss of momentum. Further, more immediate support with recruitment from me might have been helpful. Alternatively, it may have been helpful to role model the recruitment process during the training workshop rather than simply describe it or to include a “training case” in the training programme. This is addressed further in chapter 9.

A limitation of the qualitative feedback is that the interviews were all conducted by me. Since the participants all knew I had developed the RE:SOLVE programme, this could have influenced their comfort with offering feedback perceived as critical. In addition, I transcribed the interviews, and coded them myself. This can limit the reliability of the analysis so that these findings must be considered very tentative. These combined limitations mean that the results need to be interpreted with caution.

### *Acceptability*

The young people who took part in the interviews indicated a high level of acceptability of RE:SOLVE problem solving therapy in their interviews. They reported liking the programme, and had no criticisms to suggest, other than increasing the elements they liked the most in the workbook i.e. other young people’s stories. They reported feeling better after the therapy and also reported that their problem solving had improved. However, those who dropped out from the therapy did not take part in an interview therefore this feedback is likely to contain some bias.

Some were able to specify particular aspects that had been most useful, indicating a strong understanding of the RE:SOLVE pathway and an intention to continue using it. Their comments implied a more positive problem orientation, an increased self-efficacy, and a belief that their actions can and do have an impact on their circumstances. Some also appeared to feel their difficulties had been normalised by the stories in the workbook.

The clients who took part in the study came from schools with varied decile ratings, and had varied cultural and ethnic backgrounds. The positive feedback spanned these settings. In addition, there were two participants who were 13 (one in decile 10, one in decile 4) and they did not struggle with the literacy level of the workbook.

This feedback is consistent with the results from the quantitative results and together they reflect a high level of acceptability of RE:SOLVE problem solving therapy to the client participants who completed the programme. These findings cannot be applied to those who did not complete the programme.

### *Feasibility*

The results gained in this study indicate that RE:SOLVE problem solving therapy shows promise as a feasible intervention for the sub-group of young people at risk of self-harm who took part in the entire programme. Those that took part experienced significant reductions in depressive symptoms and suicide orientation, along with reductions in hopelessness, while also experiencing improvements in problem solving and enjoyment of life. In addition the ratings of the therapeutic alliance reflect a high level of satisfaction by clients with the match between them and their therapist on measures of bond, task and goal as well as overall alliance.

As already indicated, retention rates were not high. Ten out of fifteen young people completed the sessions, and nine completed all three assessments. Given that three out of the five who dropped out did not make the decision themselves, it remains unknown whether this would have proven a feasible intervention for them. However, at present these findings cannot be extended to them.

Further, only half of the practitioners who enrolled in the open trial referred anyone to the study, and of these only half again went on to see clients in the context of the study. This is an issue as the feasibility of any intervention relies upon a delivery mechanism, in this case the therapeutic relationship. The barriers for practitioners need to be better understood as it is clearly not feasible for a sole researcher to carry out all the therapy in future programmes.

### *Future research*

Recommendations for future research relate firstly to study design. A definitive randomised control trial would compare RE:SOLVE with a control group such as treatment as usual to assess whether there is a between groups difference in changes in the psychometric measures, using an intent to treat design. This study would require a larger sample size, a longer follow-up period, and randomisation.

The data collection and analysis procedures would be reviewed to reduce bias. For example, interviews and questionnaires would be carried by an independent person and the transcription and coding would be done by more than one person.

The delivery of the intervention by practitioners appears to be a barrier for some at present. It would be useful to work collaboratively with practitioners before and during a future study to identify and overcome the challenges with integrating the intervention into their practice.

There are populations who might particularly stand to gain from this approach, for example, those students who are currently attending alternative education. Further, while Pacific, Asian and New Zealand European students did take part in the open trial and complete sessions, there were few Maori participants identified and recruited. This is an important focus for future research given that young Maori people are over represented in self-harm and suicide statistics in New Zealand. Finally, using more assertive outreach with young people who don't attend sessions is an important consideration.

### *Conclusion*

In this study, fifteen young people were recruited to take part in RE:SOLVE problem solving therapy. This was administered by four school counsellors and myself. There were significant reductions in depressive symptoms and suicide orientation, along with reductions in hopelessness and improvements in problem solving and life enjoyment for the ten participants who completed all of the sessions and took part in an interview. The therapeutic alliance ratings by the clients were very high and the ratings by therapists were very good to high. These results indicated satisfaction with the therapy for those who took part. In addition there was a consensus from the client interviews that taking part in RE:SOLVE problem solving therapy had been a productive and helpful experience which had lead to them feeling better about themselves and having improved problem solving and problem solving confidence. The study provides some support for this intervention. Unresolved difficulties include the high dropout rate, and having the intervention implemented by trained



practitioners. Any future studies would have to tackle these problems. There is evidence that the chosen measures are acceptable and feasible to use and sensitive to change. The combined results reflect that while there were a number of study issues, and difficulties in implementation, RE:SOLVE problem solving therapy has promise as an acceptable and feasible intervention to the clients and practitioners that took part in the open trial.

## ***Chapter 9: Evaluation of RE:SOLVE Problem Solving Therapy by practitioners***

### ***Overview***

Following the open trial and at the end of the study period, all of the practitioners who attended the training workshops were asked to fill out an exit questionnaire (appendix 10). The purpose of the questionnaire was to evaluate practitioners' experience, confidence and knowledge of RE:SOLVE since taking part in the training workshop. I hoped it would also provide insight into some of the study challenges that had arisen, such as the low participation of practitioners in enrolling clients in the open trial.

### ***Method***

#### ***Aims***

The aims of this study were to:

- Evaluate the acceptability and feasibility of RE:SOLVE problem solving therapy for the practitioners who took part in the training
- Identify the extent to which practitioners used RE:SOLVE problem solving therapy after the training workshop
- Identify any barriers to using RE:SOLVE problem solving therapy that exist for practitioners
- Identify any recommendations for improvements to the implementation of the RE:SOLVE problem solving therapy

#### ***Procedure***

Once recruitment was closed, and therapy had been completed with client participants in the open trial, I posted an exit questionnaire to all practitioners who had taken part in one of the training workshops. Practitioners were asked to fill out the questionnaire and return it in the reply paid envelope that was provided. The questionnaire included questions about practitioners' use of RE:SOLVE problem solving therapy; their current knowledge and perceptions of RE:SOLVE problem solving therapy; the training materials (reported in chapter 6); supervision (reported in chapter 8) and open ended questions asking about recommendations for the future.

I sent out questionnaires to the eighteen practitioners who had taken part in the training. All practitioners were asked to complete the questionnaire regardless of whether they

had seen young people enrolled in the study. The questionnaire included sections that everyone completed, and sections that were specific to either those who had conducted the therapy in the context of the study or those who had not (see appendix 10).

### *Data analysis*

The results were analysed using a combination of descriptive statistics and thematic analysis (see chapter 5 for further detail).

## **Results**

### *Participants*

Eleven out of eighteen participants who took part in the original training returned their questionnaires. All of these eleven respondents had enrolled in the open trial. This included people who had not used RE:SOLVE in the open trial which provides a range of viewpoints. Table one outlines the characteristics of the eleven practitioners who returned their questionnaires. There were three male and eight female respondents. All of the practitioners who saw clients in the open trial returned their questionnaire. Similarly, the practitioners who sat in on sessions also returned their questionnaires. Three practitioners who made no referrals and saw no clients in the open trial returned their questionnaires and two practitioners who referred young people that did not result in study recruits returned their questionnaires.

Table 28: Practitioners who returned the exit questionnaire

Profession	Sex	Workplace	Decile	Used RE:SOLVE in open trial
Child and Adolescent Psychologist	F	PHO	n/a	Referred but client withdrew.
Clinical Psychologist	M	CAMHS	n/a	No
Youth worker	M	NGO	n/a	Sat in on sessions
School Guidance Counsellor	F	School	3	Yes. Sat in on sessions then saw a client
School Guidance Counsellor	F	School	3	Yes but withdrew from working with client (see chapter 8 for details)
School Guidance Counsellor	F	School	3	Sat in on sessions
School Guidance Counsellor	F	School	10	Yes. Saw 4 clients.
School Guidance Counsellor	F	School	4	Yes
School Guidance Counsellor	F	School	2	No
School Guidance Counsellor (trainee)	F	School	10	No
School Guidance Counsellor	M	School	10	No. Referred but no recruits.

### *Use of RE:SOLVE*

Respondents were asked how many young people they had engaged in the RE:SOLVE programme. I also asked them to specify whether or not the people they used RE:SOLVE with had been part of the study. The nine practitioners who replied to this question had used RE:SOLVE with over forty students, most of whom were not enrolled in the study. It was not specified whether these clients had issues around self-harm or suicidal thinking. However, it would appear that the barriers to using RE:SOLVE within the study context do not necessarily reflect barriers to using RE:SOLVE in “real life”. This contrast would be worth exploring further.

Table 29: Number of students who took part in RE:SOLVE

1 only
3 out of the study
Really only the one I think. Another two I showed the model to as part of suggesting it to them as a resource.
4
10–12
4 in study, 6 or 7 others, 1 counsellor-in-training
About 8 students
As a whole programme, just 1. Parts of the programme – 5
1 recruited, 2 informal

### *Current knowledge*

Training participants’ were asked about their perceptions of their current knowledge and understanding of the RE:SOLVE pathway, and the usefulness of the programme at the conclusion of the study period. The practitioners were asked to indicate how much they agreed with the following statements, with 1 = strongly disagree, and 5 = strongly agree.

Table 30: Current knowledge and perceptions of RE:SOLVE

1 = strongly disagree    5 = strongly agree	<i>M</i> scores	<i>SD</i>
I believe that having an understanding of RE:SOLVE will be a useful addition to my current clinical practice	4.4	0.98
I am confident that it will be feasible to use RE:SOLVE with my clients within my current working environment	4.3	0.75
I believe that using RE:SOLVE could be effective when working with clients who have a history of self harm	4.6	0.5
I felt supported by using a manualised approach	4.4	0.8

The mean scores for all of these questions reflected a moderately strong level of agreement that the respondents viewed RE:SOLVE as making a constructive addition and being feasible to deliver within their current working environment. The scores all reflected respondents’ agreement that RE:SOLVE could be effective with young people at risk of self-harm and that they felt supported using a manualised approach.

### **Barriers to using RE:SOLVE**

Three of the eleven practitioners indicated they had not used RE:SOLVE at all. They were asked to specify their reasons in two ways. There was a checklist of options they could tick and they could also write their own explanations in the space provided. There was no limit to the number of items they could tick on the checklist. Table 3 presents their reasons for

not using RE:SOLVE. The reasons related to suitable clients, workload, organisational barriers, and the severity and complexity of client issues.

*Table 31: Reasons for not using RE:SOLVE*

Reason	<i>n</i>
No one suitable presented	1
I got too busy	2
I tried but the client said no	2
I lost interest when they got back to work	1
Workload issues	2
Barriers in the organisation	2
Severity/complexity of mental health issues	1
Parents refused consent	1

Two participants also commented on the challenge of time and scheduling for them in implementing the programme:

*“Sometimes in the school context it was difficult to have the continuity of the programme”*

and

*“I love RE:SOLVE. The main barrier to using it with my clients is lack of time – I cannot guarantee regular weekly sessions with my students and I think it is very important to be able to do this for the success of the programme. I will definitely use it again at some stage”.*

### **Thematic analysis of comments**

#### The strengths of RE:SOLVE

There was a theme about the strengths of RE:SOLVE, with several sub themes. The first of these sub themes was the clarity of the programme. The comments were about the clarity of the guidelines, the focus of the problem solving tasks, and the ease of communicating the programme to clients. For example, four participants commented on the structure and detail of the programme being a strength:

*“Clear guidelines”.*

*“Easy to follow framework”.*

*“Very focused tasks for step by step in resolving the issue”*

*“The completeness of the programme. Also the client stories that are interwoven through it as examples. Students related to these”.*

Two participants reflected on the clarity of presentation as well as the ease of teaching RE:SOLVE to clients:

*“Clearly presented and easy to convey to adolescents”*

*“All clear and useful – easy to relate to students”*

*“Clarity ... Gives students hope and control”*

This sub theme could be summed up by this final comment:

*“Simple, clear, client has a lot of control, fun, very doable for both counsellor and client”*

The second subtheme was about the RE:SOLVE programme being client focused and inviting the clients to be actively involved with their change process:

*“Client centred”*

*“Puts the client in charge of their own process”*

*“Client participation in their problem solving process”*

Further, it provides clients with specific tools on how to be actively involved, by engaging with their thoughts, feelings and behaviours:

*“Engages young person in becoming more self-aware and reflecting on their thoughts and feelings impacting on behaviour”.*

*“Broadens their perspective, opening up possibilities”*

*“It provides a strategy to identify problems and develop a problem solving pathway”*

The final subtheme for this section is flexibility. Practitioners commented that they felt able to work with RE:SOLVE in a flexible manner to suit their own modality or/and to suit their client’s needs:

*“I felt I could myself add or deduct depending on the client’s needs and issues”*

*“A cognitive framework that has the potential to include psychodynamic pathways”*

*“The changes come with implementation e.g. pace a student can cope with moving through sections, and adapting the language to individual students”*

### **Need for support**

The second theme is the need or wish for greater support, either with getting underway, getting more assistance with recruitment or receiving greater support in working alongside other agencies. For example, one person commented:

*“As it was my first client running the whole programme with, I found it somewhat stilted but can see that with experience I could become more comfortable using it”*

This comment highlights the possible need for an extended training opportunity, perhaps a training “case”. In this way, the practitioner already has experience in the therapy and their confidence may well be improved prior to using it in the open trial.

The second comment highlights a need for more support with the recruitment process, perhaps the opportunity to observe and then take part in role modelling it during the initial training:

*“I wish I’d actually used it [RE:SOLVE] at length with at least one student. I wonder if I suggested it to them too quickly – maybe some rapport needs to be built first before suggesting RE:SOLVE training”*

The third comment reflects a desire to explore how to work more effectively alongside an outside agency:

*“With several of the students I work with in this category there are outside agencies e.g. Whirinaki involved in their care. It would be useful to know how to liaise/work with these agencies when working with this programme alongside what they do – and if their work parallels this RE:SOLVE pathway”*

### **Satisfaction**

The third theme of satisfaction arose out of an open ended question asking practitioners to comment on their experience of taking part in the study. Four participants responded to this question and were very warm in their feedback. The comments point to a high level of satisfaction with the training, the supervision, and the resources among these participants.

*“Awesome programme and fantastic supervision. I’m glad I was able to take part in RE:SOLVE “*

*“Training was excellent”*

*“The programme is superb; it is experience using it that is necessary for me. It would be good to market it as Skylight has done with the Traveller’s programme. Having the manual available for purchase would be great”*

*“I am very grateful for the opportunity to participate in the training and have access to the resources”*

### **Discussion**

#### *Statement of principal findings*

The results have shown that the respondents to the questionnaires used RE:SOLVE more widely than suggested by the number of referrals to the open trial. Given the challenges with recruiting adequate numbers to the study, these results were surprising and the reasons



for this discrepancy are unclear. Some had only used parts of the programme with students outside the study and this unstructured way of using RE:SOLVE may have felt more manageable.

The results also identified a number of barriers to providing RE:SOLVE to young people among the three practitioners who did not use RE:SOLVE at all. While no single dominant reason emerged, the barriers that were cited included workload issues, organisational barriers, and the severity and complexity of client issues. There were three comments about areas that would benefit from more support: more practice before using RE:SOLVE with clients, more support with recruitment, and assistance with liaising with outside agencies. These barriers and suggestions for more support require attention in any future study.

The majority of respondents gave high ratings of their knowledge of RE:SOLVE and reported RE:SOLVE being useful in their current practice. They indicated high levels of confidence in the feasibility of using RE:SOLVE in their workplace. It is interesting to note that those who actually used the intervention had confidence in the programme's feasibility. They also viewed RE:SOLVE as likely to be effective with young people at risk of self-harm, and most participants found it supportive to use a manualised approach.

The thematic analysis supports these findings, with the two main themes emerging of the strengths of RE:SOLVE, and the satisfaction with the resource among some practitioners. These two themes included reflections on the clear guidelines and ease of presentation to clients. RE:SOLVE was viewed as being client-centred and as encouraging young people to become engaged and involved in improving their own wellbeing. Some practitioners also liked the flexibility within the RE:SOLVE intervention, feeling they could adapt it to particular clients' needs. They commented positively on their levels of satisfaction with the RE:SOLVE.

### *Strengths*

As far as I am aware, none of the other studies reviewed for this programme of work invited the practitioners to offer their feedback on the intervention. This qualitative evaluation adds depth to the findings of the open trial and contributes ideas for future development of the training, and any future randomised control trial. The questionnaire design allowed for open ended feedback as well as using Likert scales for particular questions. The questionnaire elicited information about barriers to using the intervention and suggested improvements as well as information about what had worked well.

### *Limitations*

Only eleven of the original eighteen trainees returned their questionnaires. The reasons for the other participants not returning their questionnaires is unknown. The practitioners all knew me as I had conducted the training and all the other study functions. This could have influenced their feedback and made them reluctant to offer critical feedback.

### ***Acceptability and feasibility***

#### *Acceptability*

Practitioners reported using RE:SOLVE problem solving therapy with at least forty students over the study period, most of whom were not enrolled in the open trial. The barriers to using RE:SOLVE problem solving therapy were not specific to the intervention but rather to the work context (this is also relevant to feasibility). The feedback practitioners offered about RE:SOLVE problem solving therapy was largely positive. They noted several strengths of RE:SOLVE problem solving therapy including that it was client-centred, flexible and clear and easy to convey. They also reflected high levels of satisfaction in their comments about the programme overall. The suggestions for improvement were very few and reflected a wish to engage more with RE:SOLVE problem solving therapy. These factors all suggest a high level of acceptability of RE:SOLVE problem solving therapy to the practitioners who took part in the training and the open trial.

#### *Feasibility*

Eleven practitioners returned their questionnaires. These participants come from schools with varied decile ratings as well as from a primary healthcare organisation, an child and adolescent mental health service, and a child and adolescent mental health service. Nine out of eleven of those practitioners have indicated strong levels of agreement about their belief that knowledge of RE:SOLVE will be useful in their practice, their confidence in the feasibility of using it, the effectiveness of RE:SOLVE with young people at risk of self-harm, and the supportiveness of using a manualised approach. These responses suggest that the RE:SOLVE problem solving therapy intervention is viewed as highly feasible to use with young people at risk of self-harm. This feasibility is supported by the numbers of students involved in RE:SOLVE problem solving therapy outside of the open trial.

This needs to be balanced by recognition of potential barriers that require addressing. These include workload issues in the school environment in particular, organisational barriers, and the severity and complexity of client issues. In addition, it would be beneficial to provide more practice before using RE:SOLVE problem solving therapy with clients, more support

with recruitment in a study context, and assistance for school practitioners in liaising with outside agencies.

### ***Conclusion***

In this qualitative study eleven practitioners filled out an exit questionnaire providing feedback on RE:SOLVE problem solving therapy. The results from these questionnaires showed that most practitioners have high levels of belief that their knowledge of RE:SOLVE problem solving therapy is clinically useful. They perceived RE:SOLVE problem solving therapy as being feasible to use in their workplace and view it as an effective intervention to use with young people at risk of self-harm. However, some also noted challenges of not having adequate time to carry out the intervention effectively, and a lack of organisational support which require addressing. Most of them also feel supported by using a manualised approach. In addition the open ended comments reflected on the strengths of RE:SOLVE problem solving therapy and on practitioners' satisfaction with the intervention. These results support the finding that RE:SOLVE problem solving therapy is an acceptable and largely feasible intervention for the practitioners in this study who returned their final questionnaires.

## ***Chapter 10: Conclusion***

### ***Overview of findings***

Self-harm among young people is an important problem that needs to be addressed. Research shows that there have been very few treatment studies conducted with young people at risk of self-harm and therefore there is no established and evidence based treatment available. This is a significant gap both internationally and in New Zealand. Problem solving therapy is an approach that shows some promise among adult populations however there are few studies that have been conducted with young people. I have addressed this gap by using an iterative approach with feedback from the practitioners and young people who were involved in the studies. I carried out a body of work that included adapting and developing problem solving therapy for young people, training practitioners to deliver the intervention, and conducting an open trial with young people at risk of self-harm. In this work, my main aim was to explore whether RE:SOLVE problem solving therapy was an acceptable and feasible intervention for young people at risk of self-harm and the practitioners who deliver it.

I began by conducting a literature review to find out whether there were any studies that had been completed testing the use of problem solving therapy with young people at risk of self-harm. I discovered there were few treatment studies of any kind addressing the problem of self-harm among young people. Indeed, several comprehensive reviews attested to their inability to recommend any single evidence based treatment to clinicians for young people at risk of self-harm because so few treatment trials exist. However, problem solving therapy was one approach that showed promise throughout the reviews. On further investigation, I found six studies and one study protocol that were trials of problem solving therapy with young people who were at risk of self-harm (one study included adults as well). The results of these studies were promising despite study limitations such as small sample sizes. The content of the interventions was briefly outlined but no detail was provided as to whether the therapy had been adapted to cater to the younger client population. The results of the studies showed reductions in depression, hopelessness, and suicidal ideation along with improvements in problem solving. There were also short term reductions in self-harm behaviour in at least one study. In some cases these changes were significant, either statistically or clinically. However, all the studies were small and exploratory and none had progressed to larger scale studies of the problem solving therapy intervention. Further, none of the studies included feedback from either young people or therapists on their perceptions and experiences of taking part. Nor did they appear to involve participants in the development of the manuals or the training. In addition, no such study had been carried out in New

Zealand. I therefore designed and carried out the programme of work described and discussed throughout this thesis to respond to this gap.

The programme of work was a mixed methods, iterative process including three sections, with 7 small studies as outlined below.

#### Section 1: Resource Development

The first two studies were conducted before the open trial.

- Study one: Evaluation of client workbooks by youth reviewers
- Study two: Evaluation of the manuals in the training workshops

The last two studies were conducted after the open trial.

- Study three: Evaluation of the client workbook by clients who took part in therapy
- Study four: Evaluation of the manuals in the clinical setting

#### Section 2: The Training

- Study 5: Evaluation of the training workshop

#### Section 3: The Open Trial

- Study 6: Open trial pilot study
- Study 7: Evaluation of the exit questionnaire by practitioners.

#### *Study one: Evaluation of client workbooks by youth reviewers*

In studies one through to four, I focussed on resource development. In study one I conducted a questionnaire survey of the views of youth about the client workbook. Six young people between the ages of 13 and 18 were recruited to act as reviewers. They were each provided with a copy of the client manual and a qualitative questionnaire, designed for the study, to complete. The questionnaire began with a description of the setting in which the manual would be used. The reviewers were asked to read the workbook, holding that setting in mind, and then complete the questionnaire. The participants liked the workbooks, and found them acceptable. They particularly liked the characters and case studies that were included in the book. They also liked the look of the book, the content of the book, and they found it easy and accessible to use. There were mixed views on the illustrations with two people finding them “too young” and there were some minor changes made to the problem list

on the basis of the reviews. All of the participants completed and returned their feedback. The results of the study indicated the reviewers found it acceptable. Further, the reviewers all read and reviewed the workbook independently, without adult assistance.

The limitations of this study include the small number of reviewers and the predominantly New Zealand European background of the reviewers. In addition, they had not been involved in the initial design process and there was limited time and resource to respond to change suggested in the illustrations.

#### *Study two: Evaluation of the manuals in the training workshops*

In study two, I conducted a questionnaire survey with the practitioners who attended a RE:SOLVE problem solving therapy training workshop. I asked about their initial views on the acceptability and feasibility of the client workbook and the training manual at the end of the training workshop. The majority of practitioners rated the client manual as clearly written, with appropriate language for young people. They considered it well presented, viewed the case studies as useful, liked the illustrations and twelve out of thirteen said they would feel comfortable offering the workbook to young people.

Similarly, most of the practitioners rated the practitioner training manual as well presented and clearly written. They agreed that the case studies were helpful and the problem solving pathway was outlined clearly with useful instructions of how to implement the therapy. They found the risk management and relapse prevention sections useful and agreed it was helpful to include the content of the client workbook in the training manual. One participant expressed minor concerns about the wordiness of the training manual. The strong ratings of the client manual and the practitioner training manual reflected a high level of acceptability of both manuals to the practitioners. The positive ratings also supported the feasibility of use by the practitioners.

The main limitation of this study was the limited time available for the practitioners to read both of the workbooks during the training day. This could have impacted on their ability to provide useful feedback.

#### *Study three: Evaluation of the client workbook by clients who took part in therapy*

In study three, I conducted a qualitative study of youth who had taken part in the open trial about their perceptions of the client workbook. The participants each took part in a one to one interview with me. The interviews were transcribed and analysed using thematic analysis. The participants did not give a large amount of feedback about the manuals in response to

open questions. However, when they were asked more directly, they indicated they liked the client workbook and found it useful. For example, they could relate to the characters in the case studies. In addition they found the problem solving process helpful, and the language in the workbook was well understood. One participant commented they liked having their own workbook. The ratings of the young people who participated in RE:SOLVE problem solving therapy indicate that they found the workbook acceptable and feasible to use, with some minor suggestions for improvements and developments, such as fewer words and more stories.

The limitations of this study were the small sample, and that the participants were all aware that I had developed the workbook and the study, and I had conducted the therapy with a small number of them. This means there is a potential risk of bias in the responses and the respondents may have been reluctant to offer critical feedback.

#### *Study four: Evaluation of the manuals in the clinical setting*

In study four I conducted a mixed methods questionnaire with practitioners about their views of the manuals once they had had the opportunity to use them in a clinical setting outside of the training environment. The practitioners indicated they continued to find the client workbook acceptable. For example, they agreed it was clearly presented and written, with the signposts outlined clearly. The language was rated as accessible for the students with the illustrations being viewed as effective and the case studies being viewed as useful for clients.

The ratings of the practitioner manual echo these findings. Although there was a lack of alignment between the two manuals, most participants considered the illustrations to be effective, and the manual to be clearly written. In addition, they considered it was well presented and the pathway was clearly outlined with useful instructions for implementing RE:SOLVE with clients. Finally they found the risk management and relapse prevention sections useful and they thought the case studies were helpful. These combined results mirror their perceptions at the end of the training workshop and confirm that the practitioners continued to find the client workbook and the practitioner training manual to be both acceptable and feasible to use in a clinical context.

There were two respondents who did not use the resource either within the study context or in their broader work environment. They cited barriers of workload issues, lack of organisational support and no one suitable presenting.

The limitations of this study are that only a small number of the practitioners used the workbooks in the study environment. While others also used the workbooks with clients and responded to this questionnaire, we have no data about their clients.

### ***The training***

#### *Study five*

In study five I tested whether it was acceptable and feasible to train practitioners in how to implement RE:SOLVE problem solving therapy with young people at risk of self-harm via a one day training workshop. A total of seventeen practitioners attended three separate training workshops. Two of these workshops took place in one day, while the third took place over three sessions of 2 ½ hours with two participants who shared the same workplace. Participants were asked to fill out a questionnaire at the end of their training. The results showed that the participants rated the quality of teaching highly. They agreed that the paired practice was helpful, and liked the structured nature of the intervention. They experienced improved knowledge and perceived the intervention as relevant to their practice. Some participants commented that the training felt rushed at times, suggesting it might be useful to make the workshop longer. Participants also suggested that live or video modelling of the intervention be provided to assist learning. The feedback from participants suggests that overall, they found the training to be acceptable in terms of content and learning. However, the feasibility of learning it all in one day was not established and feedback suggests the training would be improved by extending the duration of the workshop. A potential barrier to this is the need to take two days off work for professional training.

The limitations of this study were that I designed and carried out the workshop, recruited participants, and collected and interpreted the questionnaires. Participants were aware of this and it could have impacted on their willingness to provide critical feedback. The participants were self-selected and the majority of them were New Zealand European. Therefore the acceptability and feasibility of the intervention cannot be assumed beyond this small group of practitioners.

### ***The open trial***

#### *Study six*

Study six is the culmination of the previous five studies. It was a mixed methods open pilot trial in which practitioners carried out RE:SOLVE problem solving therapy with young people at risk of self-harm who were recruited from their respective work environments (schools, child and adolescent mental health service, or primary healthcare organisation).



Fifteen young people were recruited into the study and nine completed all sessions and all assessments. Eleven of the practitioners from the training workshops enrolled to take part in the open trial. Of these, seven referred at least one young person to the study for possible recruitment. This resulted in successful recruitments for four of the practitioners. The therapy was carried out by four practitioners and myself. The clients completed self-report standardised questionnaires for the quantitative data and took part in interviews for the qualitative data. The four practitioners provided feedback on the supervision they received as part of this trial. The small number of practitioners who conducted the therapy with young people in the study was disappointing and this was explored further in study 7. It has implications for the feasibility of delivering the intervention. This is a limitation that needs to be addressed for any future randomised control trial.

The quantitative results showed some pleasing results. The primary outcome measure of depression as measured by the RADS showed significant reductions from baseline to post intervention, and these differences were maintained at follow up. The secondary outcome measure of suicide orientation as measured by the ISO also showed significant reductions from baseline to post intervention which were also maintained at follow up. There were reductions in hopelessness as measured by Kazdin HPLS from baseline to post intervention and from post intervention to follow up but these did not reach significance although given the size of the study, it may have been underpowered to show a difference. Similarly there were improvements in the social problem solving scores as measured by the SPSI-A and the enjoyment of life scores as measured by the PQ-LES-Q. Both of these scales showed improvements from baseline to post intervention and from post intervention to follow-up.

The limitations of this part of the study were the small sample size, the lack of control group, and a short follow-up period. In addition, the study did not use an intent to treat analysis. However these features are consistent with the nature of the study which is to establish acceptability and feasibility of the intervention and the study measures. The high attrition rate was of concern. One third of participants did not complete all of the sessions and assessments and those who dropped out had the lowest baseline problem solving scores and all showed as being at high risk if self-harm. On the other hand, three of these young people did not withdraw of their own volition so it is unknown whether they would have completed and whether the intervention would have been helpful. It would be important to consider this in detail for a larger, definitive trial. The final limitation was that all study functions were carried out by me and this is likely to have introduced bias into the study.

The qualitative data came from thematic analysis of interviews I conducted with the young people who took part in the RE:SOLVE therapy sessions. The results showed that the participants experienced RE:SOLVE as a positive intervention. As with the reviewers, they particularly liked the case studies in terms of the characters and their stories. Participants also commented on the usefulness of other signposts i.e. evaluating pros and cons, brain storming, action plans, and writing a problem list. Participants reported feeling better and believing their problem solving had improved. A key limitation was that I carried out the interviews and the young people knew of my involvement with developing the resource. This could have impacted on their comfort with offering critical feedback.

The overall findings from the open trial provide tentative promise of the effectiveness of RE:SOLVE problem solving therapy in a school counselling environment. The young people and practitioners who took part in the open trial found the intervention acceptable and feasible and the working alliances between them were strong. In addition, the quantitative measures appeared acceptable and feasible for measuring changes that occurred for participants. The young people reported feeling better in themselves, and saw their problem solving as having improved along with their problem solving confidence. However the study was limited by the high dropout rate and the small number of practitioners who saw clients in the study. It was also limited by study design issues outlined earlier. Further, the current study did not explore the moderating and mediating effects of the intervention nor did it examine mechanisms of change.

### ***The exit questionnaire***

#### *Study seven*

In study seven I conducted one final questionnaire survey of all the practitioners who had taken part in the training, regardless of whether or not they had seen students in the context of the study. A total of eleven practitioners returned their questionnaires. Of these, seven had referred young people to the study but not all of the referrals had translated to successful recruitment. Nine of the practitioners reported using RE:SOLVE with over forty students which suggests the intervention has greater feasibility than the open trial suggested.

Indeed, most practitioners considered RE:SOLVE to be useful in their current practice and felt confident that it was a feasible intervention. They also agreed RE:SOLVE could be effective with clients who are at risk of self-harm and most of them felt supported by the manualised approach. Practitioners identified particular strengths such as the clarity of the intervention and the completeness of the programme. They considered it client-centred and easy to convey to young people. One participant identified a desire for more support when

first using RE:SOLVE and another identified a need for more support with introducing the study to young people. These suggestions could help improve the feasibility of the intervention for practitioners. Finally, the practitioners expressed high levels of satisfaction with the RE:SOLVE intervention. The results from these questionnaires reflect that the practitioners who responded found the intervention to be acceptable and feasible to use in a clinical context, while also identifying some areas of improvement.

Limitations in this study were that the questionnaire was designed and analysed by me. The participants knew me and my involvement with the study and this may have limited their critical feedback.

### ***Comparisons with international literature***

The results of this programme of work have been shown to be comparable to other similar studies. For example, the primary outcome measure of depression, as measured by the self-report measure RADS, showed statistically significant reductions from pre to post test and these differences were maintained at follow up. This is comparable to the studies found in the literature review which measured depression. These studies also showed improvements in depressive symptoms (Biggam & Power, 2002; Eskin et al., 2008) and these differences showed statistical significance in two of the studies (Donaldson et al., 2005; Lerner & Clum, 1990).

The secondary outcome measure of suicide orientation showed significant reductions in the total suicide orientation score from pre to post-test as well as in the suicide orientation subscale and the critical items. In addition there were no episodes of initial or repeat self-harm during the study. Again, this is comparable to similar studies. For example, Donaldson et al. (2005) and Eskin et al. (2007) showed decreases in suicidal ideation and risk. Lerner and Clum (1990) showed reductions in suicidal ideation across both groups, and Salkovskis et al. (1990) showed short term reductions in repetition of suicidal behaviour.

There were improvements on all SPSI-A scores from pre to post test and further slight improvements on all scores (except the emotion subscale) at follow up. In addition, the emotion subscale (part of problem orientation) showed significant improvements from pre to post test, as did the reorganisation subscale. The emotional subscale relates to the degree of distress that is experienced when faced with a problem. This change may be important given research suggesting that problem orientation is the most important barrier to effective problem solving. All of the studies from the literature review showed improvements in problem solving to some degree (Biggam & Power, 2002; Donaldson et al., 2005; Eskin et al., 2008;

Lerner & Clum, 1990; McLeavey et al., 1994). For example, Eskin et al. (2008) showed statistically significant improvements in self-reported problem solving from baseline to follow-up. Lerner and Clum (1990) showed significantly higher problem solving efficacy among problem solving therapy participants, and Biggam and Power (2002) also showed significant differences on some subscales of problem solving, in particular negative problem orientation, avoidance and rational problem solving. Salkovskis et al. (1990) used an individualised problem solving measure and the problem solving skills appeared to be generalised to problems beyond the study context. McLeavey et al. (1994) showed significantly greater gains for the treatment group on means-end problem solving, optional thinking and awareness of consequences. The results in the current study did not reach the levels of significance in some of these studies. This may be because some of the practitioners were not as experienced in delivering problem solving therapy, it may be due to using a different problem solving measure, or the improvements in problem solving may have been related to time.

Finally, the Hopelessness and PQ-LES-Q scores both showed changes in a positive direction that did not reach significance. These scores are comparable to Lerner and Clum (1990), McLeavey et al. (1994), and Biggam and Power (2002) which all showed reductions in hopelessness. The levels of change only reached significance in Biggam and Power (2002) study. In the current study, the baseline levels for hopelessness were not high, with a score of over 6 being a high level of hopelessness and less than half scoring over that level at baseline. Therefore, although there were changes, it was difficult to show significance due to a possible floor effect. None of the other studies used a comparable measure of enjoyment of life so it is not possible to compare the PQ-LES-Q.

The final results measured the working alliance between the therapist and client. The results showed a congruent match of perceptions of the therapeutic alliance client and therapist in 4/7 of the paired sets. In addition the mean scores of both clients and practitioners indicated a very good level of satisfaction with the therapy. Two studies from the literature review measured the therapeutic relationship. Both studies showed high levels of satisfaction with the therapy among participants in the problem solving therapy groups (Eskin et al., 2008; Lerner & Clum, 1990).

#### *Updating the literature*

Since the time of my original literature review, I have found no new studies of problem solving therapy with adolescents and three new studies of problem solving therapy with adults. These three studies have continued to show effectiveness with this population,

albeit still with small samples. For example, in a study of group-based problem solving therapy with 18 adult females with a history of deliberate self-poisoning, the problem solving therapy intervention was effective in reducing depression, suicidal ideation and hopelessness from baseline to follow-up and it was also effective in developing problem solving skills from baseline to follow-up (Bannan, 2010). In South Africa a problem solving therapy study was conducted with 103 participants for common mental disorders among deprived communities. The study showed that brief problem solving therapy in a booklet or workshop format may be an effective, feasible and acceptable treatment (van't Hof, Stein, Marks, Tomlinson, & Cuijpers, 2011). Finally, a study of 32 people across 3 treatment conditions was conducted comparing problem solving therapy, CBT and treatment as usual for people who had attempted suicide. Both CBT and problem solving therapy showed significant differences in hopelessness, problem solving skills, treatment satisfaction and suicidal ideation as compared to treatment as usual (Stewart, Quinn, Plever, & Emmerson, 2009).

### ***Answering the research questions***

*Is RE:SOLVE Problem Solving Therapy an acceptable and feasible treatment option for young people at risk of self-harm and for the practitioners who deliver it?*

In this programme of work, I have created a problem solving therapy resource specifically for young people and I have received ongoing input from both young people and practitioners on the design and the ease of use of the resources. This is the first study of problem solving therapy for young people at risk of self-harm in New Zealand. Consistent with previous international studies, this study has also shown improvements in depression, hopelessness, suicide ideation, problem solving and quality of life for the young people who completed treatment.

Throughout the series of studies, I have invited feedback from participants to inform future development of the programme. Along with suggestions for future development, at each stage of this project the results have indicated that RE:SOLVE problem solving therapy is an acceptable and feasible intervention for the young people and the practitioners who took part in this study. This has proven true across a range of schools with varied community contexts indicating RE:SOLVE problem solving therapy's suitability for a broad group of clients.

*Are the quantitative measures of mood, problem solving, hopelessness, suicidal thinking, and overall functioning suitable for demonstrating early signs of treatment effectiveness?*

The measures I selected for these studies were designed specifically for adolescents to ensure understanding and ease of use. I chose self-report measures to privilege the young person's experience and perception of their own wellbeing. The measures were suitable for demonstrating change in areas of interest in the study and they were straightforward to administer and straightforward for the young people to complete. They would be suitable for a future definitive trial.

*Did the practitioners find the RE:SOLVE Problem Solving Therapy training acceptable and feasible?*

The training workshop worked well and was consistently rated highly by participants, demonstrating high levels of acceptability. Alongside these high ratings, several participants recommended live or video modelling during the training and some found that the workshop was rushed. The feasibility of a one day workshop has not been clearly established. Future changes for a definitive study might include a longer workshop, which incorporates these modifications.

*Did the practitioners find the follow up supervision helpful?*

Supervision appeared to be helpful for the few practitioners who made use of it. Unfortunately only four practitioners saw clients within the context of the study but all of them made use of the supervision. They rated the quality of the supervision they received as either very good or excellent. In addition they rated it as a quite or very important part of the RE:SOLVE Problem Solving Therapy programme. Such a small number of practitioner responses makes it difficult to comment definitively on the value of the supervision. However, findings suggest it was worthwhile to include the supervision and this should be included in future studies to further explore its value.

*Did the practitioners find the resources acceptable and consider it feasible to use them within their clinical practice?*

The client manual and the practitioner training manual received consistently positive feedback. The combined results from the two questionnaires about the manuals indicated that the practitioners perceived the resources as both acceptable and feasible to use in a clinical context.

*Did the client participants find the resource and overall intervention acceptable and feasible to take part in?*

Participants who took part in the open trial reported they had a positive experience of taking part in RE:SOLVE problem solving therapy. They reported feeling better, and perceived their problem solving as improved. They liked the workbook including the case studies, and found the workbooks accessible and easy to read. In addition, participants rated the therapeutic alliance as highly satisfactory. These findings indicate that the young people who took part in RE:SOLVE problem solving therapy found it acceptable. However this needs to be interpreted in light of the high dropout rate, while bearing in mind that three of those who withdrew did not make the decision themselves.

It would seem fair to conclude that the young people who took part in the open trial and completed all assessments, found the intervention to be acceptable and feasible to take part in, and that there remain important gaps in our knowledge about the experiences of those who did not complete the intervention and this needs to be taken into account in planning a definitive trial .

***Recommendations for future research and programme roll out***

The most recent data from the youth 2000 series shows us that self-harm behaviour among young people in NZ secondary schools remains a serious and under addressed problem. In the Youth '12 survey, 29% of female students and 18% of male students had harmed themselves in the previous 12 months. In addition to this, 21% of female and 10% of male students had thought seriously about suicide with 6% of females and 2% making an actual suicide attempt over the same time period (T. C. Clark et al., 2013).

This context makes the current programme of work important and the results of the open trial are promising enough to warrant progression to a randomised control trial. Such a study would need to take the form of an randomised control trial with much more robust study design, including a larger sample size, a control group, randomisation and blinding. The control group is likely to be treatment as usual which is well described. This would develop our knowledge about what is currently offered to this population and also measure problem solving therapy against what is currently done rather than against another treatment which does not have an established evidence base with young people at risk of self-harm. The study design would emphasise participatory research methods that engage practitioners to overcome the barriers to feasibility that they identified. This method of research aims to improve the uptake of research findings in clinical settings (Lau, Ogrodniczuk, Joyce, & Sochting, 2010). Finally, it would use an intent to treat analysis and address associations between variables

along with exploring moderating and mediating variables. The results from the current study could be used to do a power calculation for how many people would need to be recruited, allowing for possible drop outs.

There is development work needed on the resources, the training and the delivery of RE:SOLVE. For example, I would like to conduct focus groups as well as use further individual feedback to make decisions about desirable changes to the client workbook. It may be that more than one client workbook is desirable for different age groups, different cultural backgrounds, and for low literacy levels. In particular, a separate manual may be useful for young Maori people. While the current workbook was not problematic for Maori, it could be developed into a more targeted intervention that was more appealing and specific to these students' needs, given their over representation in self-harm statistics. This may also be a useful approach for Pacific students.

The training programme needs to be extended to a two day format and include a stronger approach to risk assessment and relapse prevention and also include live or video modelling of the RE:SOLVE intervention in action. It could be worth exploring the use of RE:SOLVE in a group format, as well as individual, since this is a delivery method practitioners have asked about and informally tried themselves. This could assist with the difficulties of scheduling an adequate number of sessions.

In the current programme of work, school guidance counsellors were the only practitioners to use RE:SOLVE with clients at risk of self-harm. Schools would continue to be the focus in a future RCT. For example, we know that young people view guidance counsellors as accessible. Further, school guidance counsellors are in a position to offer assertive outreach to young people, which can assist with treatment engagement and attendance. In addition school guidance counsellors are able to develop a relationship over the duration of a young person's school career, which can contribute to a student feeling safe in school which in turn can support the development of resilience (T. M. Fleming et al., 2007).

School guidance counsellors are able to offer a high degree of confidentiality to students and students can make appointments and attend on their own. This is important as the Youth '12 data shows that only 37% of the young people who sought healthcare got to speak to the healthcare professional alone and only 46% were given any assurances of confidentiality. These two factors are very important for young people to feel safe discussing important health issues so interventions which can reduce these barriers and respond to issues of emotional health and wellbeing are needed (T. C. Clark et al., 2013).



### ***Strengths of this programme of work***

The key strength of this programme of work is the iterative mixed methods approach which added greater breadth and depth to the study (Wisdom, Cavaleri, Onwuegbuzie, & Green, 2012). This design allowed for a participatory study with attention paid to the varied components that lead up to the open trial. This included gaining feedback about the client workbook and practitioner training manual throughout the entire period of the study; trialling a training workshop; and conducting an open trial of the RE:SOLVE problem solving therapy intervention.

### ***Limitations of this programme of work***

There are a number of limitations in this programme of work, most of which have been discussed elsewhere. In summary, the main limitations are the small sample sizes, lack of randomisation and control group, and the short follow-up period. Further, I carried out the recruitment, administered most of the assessments, and conducted the therapy with some clients so there was a risk of bias throughout.

### ***Conclusion***

This is the first problem solving therapy treatment trial with young people at risk of self-harm in New Zealand. Prior treatment trials with young people have been in overseas populations and have also been with small samples. In addition, while there is a large body of literature on the risk factors and protective factors for self-harm, on the associations between self-harm and other psychological characteristics, and on prevention of self-harm among other subjects, there are few treatment studies conducted with this high risk population.

This study is the only problem solving therapy trial I have found that trained the existing guidance counsellor workforce to carry out the trial intervention. This is a strength in relation to future dissemination of the programme as guidance counsellors are highly accessible for young people. They are also well positioned to take part in participatory research as most have a degree of autonomy in their daily clinical practice. Developing this work force is also consistent with the greater emphasis in New Zealand health needs being met by primary health care practitioners.

The findings were both qualitative and quantitative which strengthens the results as they mutually reinforce each other. Although there were suggestions for minor improvements, all of the results support the acceptability and feasibility of the resources, the training and the intervention to young people at risk of self-harm and to the practitioners who deliver the

intervention. This programme of work has produced a practical resource to support development of an evidence based intervention.

It is my hope that these findings can be replicated in a properly powered randomised control trial. If the early promise is supported by more definitive evidence this might become a valuable resource for practitioners who work with young people at risk of self-harm. As part of this, I would anticipate the collaborative development of resources specific to Maori students to better meet the needs of these young people who are often at increased risk of self-harm.

# Appendices

## Appendix 1: Participant information sheet

Department of Psychological Medicine



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.101, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

27 March 2010

### **PARTICIPANT INFORMATION SHEET: CLIENT**

#### **RE:SOLVE – A Problem Solving Pathway for Young People**

My name is Joanne Blackett. I am a PhD student at the University of Auckland in the Department of Psychological Medicine. I am conducting a therapeutic study into Problem Solving Therapy (PST) for young people at risk of self harm. This study is supervised by Dr Simon Hatcher, an Associate Professor in Psychiatry in the School of Medicine here at the University of Auckland.

#### **What the project is about**

In NZ, quite a number of young people harm themselves every year. Some people think that one reason young people self harm is because they have problems in their lives they don't know how, or don't feel able, to solve. RE:SOLVE is a problem solving therapy programme that might help with this, and this study aims to make a start on finding out.

You are being invited to take part in the study because of your recent referral to "relevant service". If you agree to take part in the study, you will take part in the RE:SOLVE programme, **as well as** Treatment as Usual (TAU) – that is the help you would normally receive. There will be 20 young people taking part in the study.

#### **What if I take part RE:SOLVE programme?**

If you take part in the RE:SOLVE programme, you will be offered 8-10 sessions of PST in addition to your normal appointments. The PST sessions will probably happen at the same visit as your normal appointments and will take about 45 minutes to an hour. The sessions are to be completed within three months. The sessions are all about working with you to help you find ways to solve problems in your life.

#### **Are there any benefits in taking part?**

There have been a number of studies teaching PST to people who have been at risk of self harm and many of them find that their mood improves so they don't feel as low or as anxious. They feel more hopeful about the future. They feel more confident about their ability to solve problems and they learn more skills to solve their problems effectively. It is possible these benefits could happen for you.

#### **Are there any risks?**

Some people can feel a bit uncomfortable when they first start talking therapy of any kind. They can feel a bit shy and embarrassed. If you feel this way, you can tell your therapist and together you can work out ways to ease your discomfort.

At each session you have together, your therapist will check in with you about whether you have any further thoughts of self harm. This is to help ensure your safety and to help you work out other options if these thoughts arise.

### **What else do I have to do?**

As well as the therapy sessions, you will be asked to fill out five questionnaires at three separate times. This will take between half an hour and 45 minutes each time. The first time will be as soon as you agree to take part, the second time is as soon as you finish the RE:SOLVE programme, and the last time is another one month after that. Each time these questionnaires are completed, you will receive a small gift to say thank you for your time.

You will be also asked to take part in an interview with me when the PST sessions are finished. The interview will be to get your opinion of the RE:SOLVE programme, and any improvements you can suggest. It will take up to an hour but may well be shorter.

This means that the period of time you would be involved in the study is for 4 months. Within the 4 months it would take about 20 hours (PST group) of your time altogether.

### **Information that gets collected**

Your therapist will take notes about each session and make a photocopy for the study to keep. This helps me to see how the sessions are going for you both and to see what help you receive. These notes will be stored in a locked filing cabinet and kept for six years along with your questionnaires and interview notes. They will be shredded after six years.

Sound recordings will also be made of the sessions. This is so that I can listen to how your therapist goes with teaching you the RE:SOLVE process. These will be downloaded onto an external hard drive which will be stored in a locked filing cabinet and kept for six years before being wiped. You can tick the box on the consent form if you want copies of these recordings.

Some of these sound recordings will be transcribed by someone specially employed to do this. This person will have to sign a confidentiality agreement and they will not know the name of the person they are listening to. Any transcribed notes will be kept for six years and destroyed at that time.

### **Confidentiality and anonymity**

If you agree to take part in the study, all information collected about you will be confidential to the project. All questionnaires and information collected about you will use a number code rather than your name so that anonymity can be preserved. No material that could personally identify you will be used in any reports on this study.

### **Do I have to take part?**

Your participation is entirely voluntary (your choice). You do not have to take part in this study and if you choose not to take part you will receive the standard help available. You may find it helpful to have a friend, family or whanau support to help you understand what taking part in the study will mean for you.

### **Right to withdraw**

Even if you agree to take part in the study, you are entitled to change your mind and withdraw from participation at any time. You don't have to give a reason and this will not affect your future health care.

### **What happens at the end of the study?**

At the end of the study, you will continue with Treatment as Usual within the service if necessary or be discharged from the service if you no longer have need of them.

### **Can I find out the study results?**

If you wish to receive results of this research, you will be able to provide a contact so that a summary of the results can be sent to you. If you would prefer to talk about the results in person, this can be arranged. Please be aware that there will be a delay between your involvement with the study ending and receiving the results.

### **Will my GP be told I am in the study?**

Yes, your GP will be informed you are taking part in the study.

### **Where can I get more information about the study?**

For more information about the study please contact the researcher or supervisor at the numbers or email addresses provided.

### **Compensation**

In the unlikely event of a physical injury as a result of your participation in this study, you may be covered by ACC under the Injury Prevention, Rehabilitation, and Compensation Act 2001. ACC cover is not automatic, and your case will need to be assessed by ACC according to the provisions of the Injury Prevention, Rehabilitation, and Compensation Act 2001. If your claim is accepted by ACC, you still might not get any compensation. This depends on a number of factors, such as whether you are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenses, and there may be no lump sum compensation payable. There is no cover for mental injury unless it is a result of physical injury. If you have ACC cover, generally this will affect your right to sue the investigators.

If you have any questions about ACC, contact your nearest ACC office or the investigator.

You are also advised to check whether participation in this study would affect any indemnity cover you have or are considering, such as medical insurance, life insurance and superannuation.

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If you have any queries or concerns regarding your rights as a participant in this study, you may wish to contact an independent health and disability advocate:

Free phone: 0800 555 050

Free fax: 0800 2 SUPPORT (0800 2787 7678)

Email: [advocacy@hdc.org.nz](mailto:advocacy@hdc.org.nz)

### **Statement of Approval**

This study has received ethical approval from the Northern Regional Ethics Committee, ethics reference number .....

### **Contact details:**

#### **Principal Investigator:**

Joanne Blackett  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland

[j.blackett@auckland.ac.nz](mailto:j.blackett@auckland.ac.nz)

3737599 ext 81640

#### **Supervisor:**

Dr Simon Hatcher  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland New Zealand  
New Zealand

[s.hatcher@auckland.ac.nz](mailto:s.hatcher@auckland.ac.nz)

3737599 ext 86750

## Appendix 2: Participant consent form

Department of Psychological Medicine



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.101, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

09 December 2014

### **CONSENT FORM: CLIENT**

#### **RE:SOLVE – A Problem Solving Pathway for Young People**

I have read and I understand the Participant Information Sheet dated ..... for volunteers taking part in the study about Problem Solving Therapy with young people. I have had the opportunity to discuss the study. I am satisfied with the answers I have been given.

I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study. I have had time to consider whether to take part in the study.

I understand that taking part in the study is voluntary (my choice) and that I may withdraw from the study at any time, and this will in no way affect my future health care.

I understand that my participation in this study is confidential and that no material that could identify me will be used in any reports on this study.

I know who to contact if I have any questions about the study in general. I

consent to my therapy sessions being audio taped. YES/NO

I wish to receive a copy of the audio recordings. YES/NO

I wish to receive a copy of the results of the study. YES/NO

I understand that a third party who has signed a confidentiality agreement may transcribe some of the recorded sessions.

I agree to my GP being informed of my participation in this study. YES/NO

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I hereby consent to take part in this study.

Name:.....

Signature:.....

Date:.....

Project explained by:.....

Project role:.....

Signature:.....

Date:.....

If you wish to receive a summary of the study findings, please provide an email or postal address that is likely to still be current for the next two years.

.....

If you wish to receive copies of your audio recordings, please provide a postal address that is likely to be current for the next twelve months.

.....

**Contact details:**

**Principal Investigator**

Joanne Blackett  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland

[j.blackett@auckland.ac.nz](mailto:j.blackett@auckland.ac.nz)  
09 3737599 ext 81640

**Supervisor**

Dr Simon Hatcher  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland New Zealand  
New Zealand

[s.hatcher@auckland.ac.nz](mailto:s.hatcher@auckland.ac.nz)  
09 373 7599 ext 86750

## Appendix 3: Parent information sheet

Department of Psychological Medicine



09 December 2014

### **PARENT INFORMATION SHEET**

#### **RE:SOLVE – A Problem Solving Pathway for Young People**



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

#### SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.10, Level 12, Auckland hospital support  
building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

My name is Joanne Blackett. I am a PhD student at the University of Auckland in the Department of Psychological Medicine. I am conducting a therapeutic study into Problem Solving Therapy (PST) for young people at risk of self harm. This study is supervised by Dr Simon Hatcher, an Associate Professor in Psychiatry in the School of Medicine here at the University of Auckland.

#### **What the project is about**

In NZ, quite a number of young people harm themselves every year. Some people think that one reason young people self harm is because they have problems in their lives they don't know how, or don't feel able, to solve. RE:SOLVE is a problem solving therapy programme that might help with this, and this study aims to make a start on finding out.

Your son/daughter is being invited to take part in the study because of their recent referral to "selected service". If your son/daughter takes part in the study, they will take part in the RE:SOLVE programme, **as well as** Treatment as Usual (TAU) – that is the help they would normally receive. There will be 20 young people taking part in the study.

#### **What does taking part in the RE:SOLVE programme involve?**

If a participant takes part in the RE:SOLVE PST group, they will be offered 6-10 sessions of PST in addition to their normal appointments. The PST sessions will probably happen at the same visit as their normal appointments and will take about 45 minutes to an hour. The sessions are to be completed within three months. The sessions are all about working with each young person to help them find ways to solve problems in their life.

#### **Are there any benefits in taking part?**

There have been a number of studies teaching PST to people who are at risk of self harm and many of the participants find that their mood improves so they don't feel as low or as anxious. They feel more hopeful about the future. They feel more confident about their ability to solve problems and they learn more skills to solve their problems effectively. It is possible these benefits could happen for your son/daughter.

#### **Are there any risks?**

Some people can feel a bit uncomfortable when they first start talking therapy of any kind. They can feel a bit shy and embarrassed. If participants feel this way, they can tell their therapist and together they can work out ways to ease any discomfort.

Because your son/daughter is at risk of self harm, the therapist will check in about any further thoughts of self harm at each session they have together. This is to help ensure participants' safety and to help them work out other options if these thoughts arise.

#### **What else do participants have to do?**

Participants will be asked to fill out five questionnaires at three separate times. The first time will be as soon as they agree to take part, the second time is as soon as they finish the RE:SOLVE programme, and the last time is one month after that. It will take between half an hour and 45 minutes on each occasion. Each time these questionnaires are completed, they will receive a small gift to say thank you for their time.



They will be also asked to take part in an interview with me when the PST sessions are finished. The interview will be to get their opinion of the RE:SOLVE programme, and any improvements they can suggest. This will take about an hour but may be shorter than that.

This means that the period of time they would be involved in the study is for 4 months. Within the 4 months it would take about 20 hours of their time altogether.

### **Information that gets collected**

The therapist will take notes about each session and make a photocopy for the study to keep. This helps me to see how the sessions are going and to see what help everyone receives. These notes will be stored in a locked filing cabinet and kept for ten years along with the questionnaires and interview notes. They will be shredded after ten years.

Sound recordings will also be made of the sessions. This is so that I can listen to how each therapist goes with teaching the RE:SOLVE process. These will be downloaded onto an external, encrypted hard drive which will be stored in a locked filing cabinet and kept for ten years before being wiped. Participants can tick the box on the consent form if they want copies of these recordings.

Some of these sound recordings will be transcribed by someone specially employed to do this. This person will have to sign a confidentiality agreement and they will not know the name of the person they are listening to. Any transcribed notes will be kept in a locked filing cabinet for ten years and destroyed at that time.

### **Confidentiality and anonymity**

For those who agree to take part in the study, all information collected will be confidential to the project. All questionnaires and information will use a number code rather than a name so that anonymity can be preserved. No material that could personally identify an individual will be used in any reports on this study.

### **Does my son/daughter have to take part?**

Participation in the study is entirely voluntary. Your son/daughter does not have to take part in this study and if they choose not to take part they will receive the standard treatment available. If your son/daughter is under the age of 16 you are required to provide your consent about whether or not you are happy for them to be approached to take part in the study. If you say yes, your son/daughter will then be approached about taking part in the study. Your daughter/son has the right to consent to participate in research when they are capable of understanding what the study involves and the risks. If they are able to fully understand, their assent must be obtained unless your son/daughter is unable to communicate.

Your daughter's/son's refusal to participate must be respected unless they will receive therapy for which there is no medically acceptable alternative, where the risk is justified by the anticipated benefit or where the anticipated benefit to the risk is likely to be at least as favourable as any available alternative.

If your son/daughter is 16 or older, they are entitled to make their own decision about whether they take part in the study. In either case, your son/daughter may find it helpful to have a friend, family or whanau support to help them understand what taking part in the study will mean for them.

### **Right to withdraw**

Even if they agree to take part in the study, your son/daughter is entitled to change their mind and withdraw from participation at any time. They don't have to give a reason and this will not affect their future health care.

### **What happens at the end of the study?**

At the end of the study, they will continue with Treatment as Usual within the service if necessary or be discharged from the service if they no longer have need of them.

### **Can my son/daughter find out the study results?**

If they wish to receive results of this research, they will be able to provide a contact so that a summary of the results can be posted. If they would prefer to discuss the results in person, this can be arranged. Please be aware that there will be a delay between their involvement with the study ending and receiving the results.

### **Will their GP be told I am in the study?**

Yes, their GP will be informed they are taking part in the study.

**Where can I get more information about the study?**

For more information about the study please contact the researcher or supervisor at the numbers or email addresses provided.

**Compensation**

In the unlikely event of a physical injury as a result of participation in this study, your son/daughter may be covered by ACC under the Injury Prevention, Rehabilitation, and Compensation Act 2001. ACC cover is not automatic, and their case will need to be assessed by ACC according to the provisions of the Injury Prevention, Rehabilitation, and Compensation Act 2001. If their claim is accepted by ACC, they still might not get any compensation. This depends on a number of factors, such as whether they are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenses, and there may be no lump sum compensation payable. There is no cover for mental injury unless it is a result of physical injury. If they have ACC cover, generally this will affect their right to sue the investigators.

If you have any questions about ACC, contact your nearest ACC office or the investigator.

You are also advised to check whether participation in this study would affect any indemnity cover you have or are considering, such as medical insurance, life insurance and superannuation.

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If you have any queries or concerns regarding the rights of your son/daughter as a participant in this study, you may wish to contact an independent health and disability advocate:

Free phone: 0800 555 050

Free fax: 0800 2 SUPPORT (0800 2787 7678)

Email: [advocacy@hdc.org.nz](mailto:advocacy@hdc.org.nz)

**Statement of Approval**

This study has received ethical approval from the Northern Regional Ethics Committee, ethics reference number .....

**Contact details:**

**Principal Investigator:**

Joanne Blackett  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland  
New Zealand [j.blackett@auckland.ac.nz](mailto:j.blackett@auckland.ac.nz)  
09 3737599 ext 81640

**Supervisor:**

Dr Simon Hatcher  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland New Zealand  
[s.hatcher@auckland.ac.nz](mailto:s.hatcher@auckland.ac.nz)  
09 3737599 ext 86750

## Appendix 4: Parent consent form

Department of Psychological Medicine



09 December 2014

### **CONSENT FORM: PARENT**

#### **RE:SOLVE – A Problem Solving Pathway for Young People**



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

#### SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.10, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

I have read and I understand the Parent Information Sheet dated ..... for parents of volunteers invited to take part in the study about Problem Solving Therapy for young people. I have had the opportunity to discuss the study. I am satisfied with the answers I have been given.

I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study. I have had time to consider whether I am happy for my (under 16 year old) son/daughter to take part in the study.

I understand that providing consent for my daughter/son to take part in the study is voluntary (my choice) and this choice will in no way affect their future health care. I understand my son/daughter must assent (agree) to take part on their own behalf and that I must respect their wish to decline to take part if that is what they wish.

I understand that my son's/daughter's participation in this study is confidential and that no material that could identify them will be used in any reports on this study.

I know who to contact if I have any questions about the study in general.

---

I hereby provide/do not provide consent for my daughter/son to take part in this study.

Name of young person:.....

Name of parent:.....

Signature:.....

Date:.....

Project explained by:.....

Project role:.....

Signature:.....

Date:.....

**Contact details:**

**Principal Investigator**

Joanne Blackett  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland

[j.blackett@auckland.ac.nz](mailto:j.blackett@auckland.ac.nz)

021 646 112

**Supervisor**

Dr Simon Hatcher  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland New Zealand  
New Zealand

[s.hatcher@auckland.ac.nz](mailto:s.hatcher@auckland.ac.nz)

09 373 7599 ext 86750

## Appendix 5: Practitioner information sheet

Department of Psychological Medicine



09 December 2014

### **Participant Information Sheet: Practitioner**

#### **RE:SOLVE – A problem solving pathway for young people**



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.101, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

My name is Joanne Blackett. I am a PhD student at the University of Auckland in the Department of Psychological Medicine. I am conducting a study into Problem Solving Therapy (PST) for young people who are at risk of self harm. This study is supervised by Dr Simon Hatcher, an Associate Professor in the School of Medicine here at the university.

#### **What the project is about**

As you will be well aware, every year in NZ, quite a number of young people harm themselves every year. Some researchers suggest that one reason young people self harm is because they have problems in their lives they don't know how, or feel able, to solve. RE:SOLVE is a problem solving therapy programme that might help with this, and this study aims to make a start on finding out.

#### **What taking part in the study means for you**

If you agree to take part in the study, you will take part in the RE:SOLVE PST training which includes 8 - 12 hours of training time. Then, when eligible study participants agree to take part, and are randomised to the PST group, you will deliver the intervention alongside Treatment as Usual. You will be asked to offer the intervention to 3 clients. You will be asked to take notes and to photocopy the client workbook.

All therapy sessions will be recorded onto a digital recorder. These recordings will be downloaded onto an external hard drive, which will be stored in a locked filing cabinet on university premises. It will be wiped after six years. A sample of the recordings will be listened to, so I can get a sense of how the sessions are going.

You will be asked to fill out one questionnaire for each client you see. The duration of the study will be between six and nine months. During the time you offer the intervention to clients, you will be asked to engage in supervision with me in relation to these clients (and in addition to your normal clinical supervision).

#### **Information that gets collected**

All research therapists will be asked to fill out a questionnaire at the end of the training. You will also be asked to fill out one questionnaire per client relating to the therapeutic alliance. These will use a study code rather than your name. These will be stored in a locked filing cabinet on university premises and kept for six years before being shredded.

You will be asked to take part in a one to one interview at the completion of the study to offer feedback on the intervention and your thoughts about it, along with any suggestions for change.

All client sessions will be recorded on a digital sound recorder. Some of these recordings will be transcribed by someone especially employed to do this. This person will have to sign a confidentiality agreement and they will not know the name of the person they are listening to. Any transcribed notes will be kept for six years and destroyed at that time.

### **Confidentiality and anonymity**

If you agree to take part in the study, all information collected about you will be confidential to the project. All questionnaires and information collected about you will use a number code rather than your name so that anonymity can be preserved as much as possible. Given that the study is small and the pool of potential participants in this aspect of the study will be known to each other, your anonymity can not be absolutely guaranteed. However, when the study is written up, all data is reported in a grouped manner so no one person can be singled out or identified.

### **Right to withdraw**

Even if you agree to take part in the study, you are entitled to change your mind and withdraw from participation at any time. You also have the right to withdraw your data from the study up to the time you finished with your most recent PST client.

### **Where can I get more information about the study?**

For more information about the study please contact the researcher or supervisor at the numbers or email addresses provided.

### **Compensation**

In the unlikely event of a physical injury as a result of participation in this study, your son/daughter may be covered by ACC under the Injury Prevention, Rehabilitation, and Compensation Act 2001. ACC cover is not automatic, and their case will need to be assessed by ACC according to the provisions of the Injury Prevention, Rehabilitation, and Compensation Act 2001. If their claim is accepted by ACC, they still might not get any compensation. This depends on a number of factors, such as whether they are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenses, and there may be no lump sum compensation payable. There is no cover for mental injury unless it is a result of physical injury. If they have ACC cover, generally this will affect their right to sue the investigators.

If you have any questions about ACC, contact your nearest ACC office or the investigator. You are also advised to check whether participation in this study would affect any indemnity cover you have or are considering, such as medical insurance, life insurance and superannuation.

---

If you have any queries or concerns regarding the rights of your son/daughter as a participant in this study, you may wish to contact an independent health and disability advocate:

Free phone: 0800 555 050

Free fax: 0800 2 SUPPORT (0800 2787 7678)

Email: [advocacy@hdc.org.nz](mailto:advocacy@hdc.org.nz)

### **Statement of Approval**

This study has received ethical approval from the Northern Regional Ethics Committee, ethics reference number .....

### **Contact details:**

#### **Principal Investigator:**

Joanne Blackett  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland

[j.blackett@auckland.ac.nz](mailto:j.blackett@auckland.ac.nz)

09 3737599 ext 81640

#### **Supervisor:**

Dr Simon Hatcher  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland New Zealand  
New Zealand

[s.hatcher@auckland.ac.nz](mailto:s.hatcher@auckland.ac.nz)

09 3737599 ext 86750

## Appendix 6: Practitioner consent form

Department of Psychological Medicine



09 December 2014

### **CONSENT FORM: PRACTITIONER**

#### **RE:SOLVE – A Problem Solving Pathway for young people**



**THE UNIVERSITY OF AUCKLAND**  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

**SCHOOL OF MEDICINE**

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.101, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

I have read and I understand the Participant Information Sheet dated ..... for practitioners taking part in the study about Problem Solving Therapy with young people. I have had the opportunity to discuss the study. I am satisfied with the answers I have been given.

I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study. I have had time to consider whether to take part in the study.

I understand that taking part in the study is voluntary and that I may withdraw at any time, and this will in no way affect my future employment.

I understand that my participation is confidential to the project and that no material that could identify me will be used in any reports on this study.

I know who to contact if I have any questions about the study in general. YES/NO I

consent to therapy sessions with PST clients being audio taped YES/NO I

wish to receive a copy of the results of the study YES/NO

I understand that a third party who has signed a confidentiality agreement may transcribe some of the recorded sessions YES/NO

---

I hereby consent to take part in this study

Name:.....

Signature:.....

Date:.....

Project explained by:.....

Project role:.....

Signature:.....

Date:.....

If you wish to receive a summary of the study findings, please provide an email or postal address that is likely to still be current for the next two years.

.....  
.....

**Contact details:**

**Principal Investigator**

Joanne Blackett  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland

[j.blackett@auckland.ac.nz](mailto:j.blackett@auckland.ac.nz)

09 3737599 ext 81640

**Supervisor**

Dr Simon Hatcher  
Department of Psychological Medicine  
Faculty of Medical and Health Science  
University of Auckland  
Private Bag 92019  
Auckland New Zealand  
New Zealand

[s.hatcher@auckland.ac.nz](mailto:s.hatcher@auckland.ac.nz)

09 373 7599 ext 86750



## Appendix 7: Questionnaire for the youth reviewers



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.101, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

26 March 2011

Hi! My name is Joanne Blackett. I am a PhD student at the University of Auckland. My study is about trying out a particular kind of counselling with

young people. This type of counselling is about solving problems in your life.

Thanks for agreeing to have a look at the RE:SOLVE book for me! Your feedback is really valuable. When I receive your feedback form, I will send you a \$20 Westfield voucher to say thank you for your time. Your feedback is anonymous, so I won't know who says what about the book. It is ok to be critical (not to like it). That helps us improve it.

Before you look at the book and give your feedback, I want to explain who would be using this book and why. This book is to be used by young people (13 – 18) who are working with a counsellor. They will be working with the counsellor to learn how to solve their problems better. For the people using this book, they will be at the counsellor because they have harmed themselves or have thought about harming themselves. So they definitely need some support.

They won't be expected to sit down and read the whole book all the way through by themselves. So it doesn't have to be as gripping and exciting as, say, an online self help computer game or a self help book. Instead they will have six separate sessions with their counsellor and work through the book in small bits over this time.

So when you think about your feedback, please try and imagine yourself as someone who might need a counsellor to help you out with your problems. And look at the book from that point of view.

Some questions use a rating scale of 1 – 5. You can just circle the number that best fits your opinion. The number 1 equals "I really like it/them" and the number 5 equals "I really don't like it/them". Other questions ask for a yes or a no and others ask for comments or improvements or opinions.

**First: The look of the book.**

What do you think of the cover?

1                    2                    3                    4                    5

What do you think of the pictures that go with each signpost?

1                    2                    3                    4                    5

What do you think of the picture of Michael?

1                    2                    3                    4                    5

What do you think of the picture of Lydia?

1                    2                    3                    4                    5

What do you think of the overall look and layout of the book?

1                    2                    3                    4                    5

Comments/suggestions for improvements:

**Second: The problem list**

Please look at the problem list on page .

Are there any problems you would remove from this list?

Yes                    No

If yes, which ones:

Are there any problems you would add to this list?

Yes                      No

If yes, please name them:

<b>Third: Lydia and Michael's stories</b>
---

What do you think of Michael's story?

1                      2                      3                      4                      5

Does it sound realistic to you?

Yes                      No

What do you think of Lydia's story?

1                      2                      3                      4                      5

Does it sound realistic to you?

Yes                      No

Comments/suggestions for improvements:

--

**Fourth: The Content**

[Please read through the book before answering this section]

What do you think of the name of the programme (RE:SOLVE – a problem solving pathway)?

1                      2                      3                      4                      5

What do you think of the quotes that go with each signpost heading?

1                      2                      3                      4                      5

What do you think of the style of writing, the type of language used through the book?

1                      2                      3                      4                      5

What do you think of the overall content of the book? In other words, what do you think of the whole RE:SOLVE pathway?

1                      2                      3                      4                      5

Comments/suggestions for improvements:

### **Demographic Information**

The following section is optional. We are asking you to fill it out so we can see whether a good range of young people have looked at, and commented on, this book.

How old are you?

Are you male or female?

What is your ethnicity?

## Appendix 8: Post training questionnaire

Department of Psychological Medicine



09 December 2014

### RE:SOLVE – a problem solving pathway for young people



THE UNIVERSITY OF AUCKLAND  
FACULTY OF MEDICAL AND  
HEALTH SCIENCES

SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.101, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn 86531  
Facsimile: 64 9 373 7013  
Email: r.ram@auckland.ac.nz

#### POST TRAINING QUESTIONNAIRE

Thank you for taking part in the training workshop for RE:SOLVE – a problem solving pathway for young people. We would appreciate it if you would complete this questionnaire. Your feedback will give us important information about the training workshop, and how we might improve it.

Most questions ask you to consider “*To what extent do you agree with the following statements...*” The scale is from 1 to 9, with 1 indicating “I strongly disagree with this statement” and 9 indicating “I strongly agree with this statement”. The middle number 5 indicates “I neither agree nor disagree with this statement”. Please circle the number that best represents your view. Please also feel free to add comments if you wish.

<i>Course Content: To what extent do you agree with the following statements?</i>								
Learning objectives were clearly stated.								
1	2	3	4	5	6	7	8	9
The RE:SOLVE problem solving pathway was clearly explained by the trainer								
1	2	3	4	5	6	7	8	9
Implementing the RE:SOLVE problem solving pathway with clients was clearly explained								
1	2	3	4	5	6	7	8	9
The powerpoint presentation and handouts were helpful								
1	2	3	4	5	6	7	8	9
The practice activities assisted learning and understanding the RE:SOLVE pathway								
1	2	3	4	5	6	7	8	9
The course had a good balance of teaching and practice								
1	2	3	4	5	6	7	8	9
Comments:								

<b>Quality of teaching: To what extent do you agree with the following statements?</b>								
A supportive learning environment was established								
1	2	3	4	5	6	7	8	9
The course was well-paced								
1	2	3	4	5	6	7	8	9
The presenter allowed adequate time for learning and discussion								
1	2	3	4	5	6	7	8	9
The presenter was knowledgeable about the RE:SOLVE problem solving pathway								
1	2	3	4	5	6	7	8	9
The presenter responded well to questions								
1	2	3	4	5	6	7	8	9

Comments:

<b>Course Outcomes: To what extent do you agree with the following statements?</b>								
My knowledge has increased as a result of attending this workshop								
1	2	3	4	5	6	7	8	9
My skills have increased as a result of attending this workshop.								
1	2	3	4	5	6	7	8	9
The material presented was relevant to my clinical practice								
1	2	3	4	5	6	7	8	9
On completion of this workshop, I would like to use RE:SOLVE with some clients								
1	2	3	4	5	6	7	8	9
My confidence in conducting a risk assessment with a client at risk of self harm has improved as a result of attending this workshop.								
1	2	3	4	5	6	7	8	9

Comments:

<b>The practitioner training manual: To what extent do you agree with the following statements?</b>								
The manual was well presented								
1	2	3	4	5	6	7	8	9
The manual was clearly written								
1	2	3	4	5	6	7	8	9
The manual clearly outlined the RE:SOLVE problem solving pathway								
1	2	3	4	5	6	7	8	9

The case studies included in the manual were helpful								
1	2	3	4	5	6	7	8	9
The instructions of how to implement RE:SOLVE with clients were helpful								
1	2	3	4	5	6	7	8	9
The information on risk management was useful								
1	2	3	4	5	6	7	8	9
The information on relapse prevention was useful								
1	2	3	4	5	6	7	8	9
Including the content of the client book in the practitioner manual was helpful								
1	2	3	4	5	6	7	8	9

Contents:

<b><i>The client book: To what extent do you agree with the following statements?</i></b>								
The client book was well presented								
1	2	3	4	5	6	7	8	9
The client book was clearly written								
1	2	3	4	5	6	7	8	9
The client book used appropriate language for a youth audience								
1	2	3	4	5	6	7	8	9
The illustrations for each signpost were effective								
1	2	3	4	5	6	7	8	9
The case studies of Lydia and Michael were helpful in understanding the RES:OLVE pathway								
1	2	3	4	5	6	7	8	9
The quotes that went with each signpost were interesting								
1	2	3	4	5	6	7	8	9
I would feel comfortable offering the client book to young clients								
1	2	3	4	5	6	7	8	9

Comments:

## Final Comments

Please comment on any aspects of the workshop that you think worked well.

Please comment on how you think this workshop could be improved.

Please comment on how this workshop has affected you.

## Demographic Information

Filling out this section is optional, however we would appreciate it if you would let us have the following information.

What is your current role?

---

How long have you been in this role?

---

What is your ethnicity?

---

What is your gender?

---



Which age range do you fit into?

20 – 29	
30 – 39	
40-49	
50+	

THANK YOU FOR YOUR TIME AND PARTICIPATION



## *Appendix 9: Semi structured interview guidelines for young people*

### Interview Guidelines for Pilot Qualitative Study

At the end of their sessions, each PST client will be asked to take part in a semi structured interview to discuss their views on the client workbook and any changes they would recommend.

The client interviews will address:

- the client's experience of PST
- any life/personal changes that have occurred through taking part in PST
- any perceived changes in problem solving
- liked/disliked about PST
- perceptions of the client workbook
- difficulties/challenges that arose while taking part
- recommended changes

Additionally, the opportunity will be provided for interviewees to comment on any other areas they wish to mention.

## Appendix 10: Exit questionnaire for practitioners

Department of Psychological Medicine



Exit Questionnaire

Thank you for your participation in the training programme for RE:SOLVE – a Problem Solving Pathway for young people at risk of self harm. The training programme is now over and recruitment for the study is closed. We would appreciate it if

you could complete the following questionnaire. The training programme consisted of two parts: the one-day workshop and the follow-up work with clients within your own organisation. This practice was supported with free supervision. Your answers will give us valuable information about the programme, how acceptable and feasible you found it, and how we might improve it.



SCHOOL OF MEDICINE

The University of Auckland  
Private Bag 92019  
Auckland  
New Zealand,

Room 12.101, Level 12, Auckland hospital  
support building, Grafton Auckland

Telephone: 64 9 373 7599 extn  
Facsimile: 64 9 373 7013  
Email: j.blackett@auckland.ac.nz

Name (Optional)	
Gender	
Organisation (School/PHO/DHB)	
Length of time in this position	
Please outline your professional training and experience	
What was your background prior to your current position?	
Does your employer have any oversight or input into the type of counselling you provide for clients?	

### Section A: General Information about use of RE:SOLVE

1. Did you use RE:SOLVE with a client in your school/service, in any way?

Yes	
No	

If you answered NO to question 1, please answer questions 2,3 and 4 before skipping to 7. If you answered YES, please skip to question 5.

2. What were your reasons for not using RE:SOLVE or what were the barriers to being able to use it? (tick all that apply)

No one suitable presented	
I got too busy	
I tried but the client said no	
It felt too hard	
I lost interest once I got back into my work routine	
I didn't want to	
I found RE:SOLVE boring to use	
Workload issues	
Barriers in the organisation	
Other: please specify	

3. Is there anything that would have made you more likely to use the resource with a client?

Yes	
No	

4. If yes, please explain what might have helped.

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If you answered YES to question 1, please answer the following questions.

5. Was the student you used RE:SOLVE with recruited to the study?

Yes	
No	

6. If yes, which parts of RE:SOLVE did you find the easiest to work with?

---

---

---

6a. Which parts did you find the most difficult?

---

---

---

6b. Can you make any suggestions as to how these could be improved?

---

---

---

7. Please also describe and comment on any “informal” use of RE:SOLVE. For example, did you use RE:SOLVE with students who were not enrolled in the study? Did you use RE:SOVLE with family of friends? Did you use it with single students? Groups? Did you use the whole programme or selected parts? How did it go?

---

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---

---

---

---

---

---

8. How many students did you use RE:SOLVE with in total? (Please specify whether recruited to the study or not.)

---

---

---

SECTION B:

9. Following the training programme, how would you rate your knowledge and understanding of the RE:SOLVE problem solving pathway? (Please select one)

Poor	Fair	Good	Very Good	Excellent
1	2	3	4	5

10. How useful would you rate RE:SOLVE as an intervention for use with young people at risk of self harm? (Please select one)

Not useful	Of limited use	Somewhat useful	Quite useful	Very useful
1	2	3	4	5

11. For the following questions please circle the number that best describes your satisfaction with each statement

<p>1 = Strongly Disagree                  2 = Somewhat Disagree                  3 = Neither agree nor disagree                  4 = Somewhat agree                  5 = Strongly Agree</p>
---

Current knowledge and perceptions about RE:SOLVE					
I believe that having an understanding of RE:SOLVE will be a useful addition to my current clinical practice	1	2	3	4	5
I am confident that it will be feasible to use RE:SOLVE with my clients within my current working environment	1	2	3	4	5
I believe that using RE:SOLVE could be effective when working with clients who have a history of self harm	1	2	3	4	5
I felt supported by using a manualised approach	1	2	3	4	5

12. Apart from young people at risk of self harm, who else do you think might benefit from RE:SOLVE PST?

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13. What would you describe as the strengths of RE:SOLVE?

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14. What would you describe as areas needing change or improvement in RE:SOLVE?

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15. Please add any further comments you have about your experiences as a participant in the training programme for the RE:SOLVE problem solving pathway for young people at risk of self harm.

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Section C: Course Materials  
The Practitioner Training Manual

1 = Strongly Disagree  
2 = Somewhat Disagree  
3 = Neither agree nor disagree  
4 = Somewhat agree  
5 = Strongly Agree

16. Please circle the number that most closely reflects your opinions about the practitioner training manual

The manual was clearly written	1	2	3	4	5
The manual was well presented	1	2	3	4	5
The manual clearly outlined the signposts of the RE:SOLVE Pathway	1	2	3	4	5
The case studies of Lydia and Michael given in the manual were helpful	1	2	3	4	5
The instructions of how to work through the signposts of the RE:SOLVE Pathway with clients were useful	1	2	3	4	5
The information on risk management was useful	1	2	3	4	5
The information on relapse prevention was useful	1	2	3	4	5
Overall, I found the manual a useful resource in learning and implementing RE:SOLVE	1	2	3	4	5
The illustrations were an effective addition to the manual	1	2	3	4	5
I found it straightforward to use the manual when working with a client	1	2	3	4	5

17. Please comment on any ideas you have that might improve the quality and/or content of the training manual

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The Client Workbook

18. Please use the following scale to rate the overall quality and usefulness of the workbook. (Please select one)

<p>1 = Strongly Disagree                  2 = Somewhat Disagree                  3 = Neither agree nor disagree                  4 = Somewhat agree                  5 = Strongly Agree</p>
---

The client workbook was clearly written	1	2	3	4	5
The illustrations were an effective part of the client workbook	1	2	3	4	5
I found the client workbook helpful when working with clients	1	2	3	4	5
The client manual clearly outlined the signposts of the RE:SOLVE Pathway	1	2	3	4	5
The case studies given in the client manual seemed helpful for clients	1	2	3	4	5
The instructions of how to follow the RE:SOLVE Pathway seemed accessible for clients	1	2	3	4	5
The level of the language in the workbook was appropriate for the young people I worked with	1	2	3	4	5
I used a copy of the client book rather than the therapist manual when working with clients	1	2	3	4	5
Overall I found the workbook a useful resource in implementing RE:SOLVE with a client	1	2	3	4	5

19. Please comment on any ideas you have that might improve the quality and/or content of the client workbook

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Section C: Supervision (Please only answer this section if you worked with a young person who was recruited to the study).

20. Did you receive any supervision in relation to implementing RE:SOLVE in the course of your participation in the study?

Yes	
No	

21. How many face to face sessions of supervision did you attend?

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22. How many telephone contacts did you have with your supervisor?

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23. Please rate the overall quality of supervision you received.

Poor	Fair	Good	Very Good	Excellent
1	2	3	4	5

24. Did you make use of the provision whereby the Investigator offered to come and see a client with you sitting in on sessions to get you started with using RE:SOLVE?

Yes	
No	

25. How useful was this for you?

Not useful	Of limited use	Somewhat useful	Quite useful	Very useful
1	2	3	4	5

26. How important do you believe it was that supervision was provided as a part of this training programme? (Please select one)

Not at all important	Of little importance	Of some importance	Quite important	Very important
1	2	3	4	5

27. What, if anything, could have improved the supervision you received?

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Please add any further comments you have about your experiences as a participant in the RE:SOLVE problem solving pathway pilot study.

**THANK YOU FOR YOUR TIME AND YOUR  
INVOLVEMENT WITH THE STUDY**

**Appendix 11: Reynolds Adolescent Depression Scale (RADS-2 Open trial)**

ID#: - Initials:  Date:  /  /   
DD MM YYYY

DIRECTIONS: Listed below are some sentences about how you feel. Read each sentence and decide how often you've felt this way over the last two weeks. Decide if you feel this way "almost never", "hardly ever", "sometimes", or "most of the time" and circle the answer that best describes how you really feel. Remember, there are no right or wrong answers.

1. I feel happy	Almost never	Hardly ever	Sometimes	Most of the time
2. I worry about school	Almost never	Hardly ever	Sometimes	Most of the time
3. I feel lonely	Almost never	Hardly ever	Sometimes	Most of the time
4. I feel my parents don't like me	Almost never	Hardly ever	Sometimes	Most of the time
5. I feel important	Almost never	Hardly ever	Sometimes	Most of the time
6. I feel like hiding from people	Almost never	Hardly ever	Sometimes	Most of the time
7. I feel sad	Almost never	Hardly ever	Sometimes	Most of the time
8. I feel like crying	Almost never	Hardly ever	Sometimes	Most of the time
9. I feel that no one cares about me	Almost never	Hardly ever	Sometimes	Most of the time
10. I feel like having fun with other students	Almost never	Hardly ever	Sometimes	Most of the time
11. I feel sick	Almost never	Hardly ever	Sometimes	Most of the time
12. I feel loved	Almost never	Hardly ever	Sometimes	Most of the time
13. I feel like running away	Almost never	Hardly ever	Sometimes	Most of the time
14. I feel like hurting myself	Almost never	Hardly ever	Sometimes	Most of the time
15. I feel that other students don't like me	Almost never	Hardly ever	Sometimes	Most of the time

16. I feel upset	Almost never	Hardly ever	Sometimes	Most of the time
17. I feel life is unfair	Almost never	Hardly ever	Sometimes	Most of the time
18. I feel tired	Almost never	Hardly ever	Sometimes	Most of the time
19. I feel I am bad	Almost never	Hardly ever	Sometimes	Most of the time
20. I feel I am no good	Almost never	Hardly ever	Sometimes	Most of the time
21. I feel sorry for myself	Almost never	Hardly ever	Sometimes	Most of the time
22. I feel mad about things	Almost never	Hardly ever	Sometimes	Most of the time
23. I feel like talking to other students	Almost never	Hardly ever	Sometimes	Most of the time
24. I have trouble sleeping	Almost never	Hardly ever	Sometimes	Most of the time
25. I feel like having fun	Almost never	Hardly ever	Sometimes	Most of the time
26. I feel worried	Almost never	Hardly ever	Sometimes	Most of the time
27. I get stomachaches	Almost never	Hardly ever	Sometimes	Most of the time
28. I feel bored	Almost never	Hardly ever	Sometimes	Most of the time
29. I like eating meals	Almost never	Hardly ever	Sometimes	Most of the time
30. I feel like nothing I do helps any more	Almost never	Hardly ever	Sometimes	Most of the time

7

**Social  
Problem-  
Solving  
Inventory  
for Adolescents  
(SPSI-A):**

**Short Version**

*Marianne Frauenthecht and David R. Black*

## Social Problem-Solving Inventory for Adolescents (SPSI-A): Short Version

Identifier: \_\_\_\_\_

**Directions:**

Below are statements that reflect how you respond to problems and how you think and feel about yourself afterward. You should think of **serious problems** that are related to your family, health, friends, school, and sports. You should also try to think about a serious problem that you had to solve recently as you reply to these statements.

**Read each statement carefully.** Think about how you usually think, feel, and behave when you face these types of problems. Circle the number that best describes how true the statement is of you.

	Not at All True of Me	Slightly True of Me	Moderately True of Me	Very True of Me	Extremely True of Me
1. When I have a problem, I think of the ways that I have handled the same kind of problem before.	A	B	C	D	E
2. To solve a problem, I do what has worked for me in the past.	A	B	C	D	E
3. When I solve a problem, I use the skills I have developed that have worked for me in the past.	A	B	C	D	E
4. When I can't solve a problem quickly and easily, I think that I am stupid.	A	B	C	D	E
5. I often doubt that there is a good way to solve problems that I have.	A	B	C	D	E
6. When faced with a hard problem, I believe that, if I try, I will be able to solve it on my own.	A	B	C	D	E
7. I feel afraid when I have an important problem to solve.	A	B	C	D	E
8. Complex problems make me Very angry or upset.	A	B	C	D	E

**SPSI-A** (continued). Circle the number that best describes how true the statement is of you.

	Not at All True of Me	Slightly True of Me	Moderately True of Me	Very True of Me	Extremely True of Me
9. I often become sad and do not feel like doing anything when I have a problem to solve.	A	B	C	D	E
10. I put off solving a problem for as long as I can.	A	B	C	D	E
11. I avoid dealing with problems in my life.	A	B	C	D	E
12. I put off solving problems until it is too late to do anything about them.	A	B	C	D	E
13. When I have a problem, I find out if it is part of a bigger problem that I should deal with.	A	B	C	D	E
14. I try to solve a complex problem by breaking it into smaller pieces that I can solve one at a time.	A	B	C	D	E
15. Before I solve a problem, I gather as many facts about the problem as I can.	A	B	C	D	E
16. When I solve a problem, I think of a number of options and combine them to make a better solution.	A	B	C	D	E
17. I try to think of as many ways to approach a problem as I can.	A	B	C	D	E
18. When I solve a problem, I think of as many options as I can until I can't think of any more.	A	B	C	D	E
19. When I decide which option is best, I predict what the outcome will be.	A	B	C	D	E
20. I weigh the outcomes for each of the options I can think of.	A	B	C	D	E
21. I think of the short-term and long-term outcomes of each option.	A	B	C	D	E

**SPSI-A** (continued). Circle the number that best describes how true the statement is of you.

	Not at All True of Me	Slightly True of Me	Moderately True of Me	Very True of Me	Extremely True of Me
22. Before I try to solve a problem, I set a goal so I know what I want to achieve.	A	B	C	D	E
23. Before solving a problem, I practice my solution to increase my chances of success.	A	B	C	D	E
24. I write a specific objective down so I know how to solve my problem.	A	B	C	D	E
25. After solving a problem, I decide if the situation is better.	A	B	C	D	E
26. After I solve a problem, I decide if I feel better about the situation.	A	B	C	D	E
27. I often solve my problems and achieve my goals.	A	B	C	D	E
28. If the solution to a problem fails, I go back to the beginning and try again.	A	B	C	D	E
29. When a solution does not work, I try to determine what part of the process went wrong.	A	B	C	D	E
30. I go through the problem-solving process again when my first option fails.	A	B	C	D	E



## Appendix 13: Inventory Suicide Orientation

1 = I Am Sure I Disagree 2 = I Mostly Disagree 3 = I Mostly Agree 4 = I Am Sure I Agree

	I Am Sure I Disagree	I Mostly Disagree	I Mostly Agree	I Am Sure I Agree
1. I must be a dreamer: since I'm always hoping for things that don't work out for me	1	2	3	4
2. There are still many chances for me to be happy in the future	1	2	3	4
3. I can usually keep the idea in mind that even the worst feelings will go away in time	1	2	3	4
4. When I fail, I trust that those concerned won't give up on me	1	2	3	4
5. Those people who depend on me don't really need me at all	1	2	3	4
6. While growing up, I was led to believe that life could be fair. I feel I was lied to, since it's not fair at all	1	2	3	4
7. My life has mostly gone in the directions I aimed for	1	2	3	4
8. I should be able to make good times last, but I can't	1	2	3	4
9. I seem to cause trouble for people when I'm around them	1	2	3	4
10. I don't think I'll be able to find enough courage to face life	1	2	3	4
11. I still have the personal qualities I need to lead a happy life	1	2	3	4
12. When something bad happens to me, it reminds me that my hopes for something better are not real. I'm just fooling myself	1	2	3	4
13. Even when I get really upset about something, I can usually force myself to think clearly if I need to	1	2	3	4
14. I usually feel that the people who are important to me understand my feelings quite well	1	2	3	4
15. Killing myself would mean I finally stopped things from getting worse	1	2	3	4
16. I often think about my appearance and how I get along with people. When I see someone who's got what I don't have, I feel that it's not fair	2	3	4	
17. Even when I feel hopeless, I know that things will get better eventually	2	3	4	
18. When my life is not going smoothly, I am at the mercy of my feelings. It's like I can't get off a roller coaster of feelings	2	3	4	
19. I don't feel like I belong anywhere	2	3	4	
20. I think of dying as a way to solve all my problems	2	3	4	
21. I used to think I could be somebody, but now I see it's not true	2	3	4	
22. I feel that I still have control of my life	2	3	4	
23. I have never felt that I was about to go to pieces	1	2	3	4
24. People's good feelings about me are a mistake. It's only a matter of time before I'll disappoint them	1	2	3	4
25. I see myself as waiting until things get too bad and then I would kill myself	1	2	3	4
26. No one would really love me, if they really knew me	1	2	3	4
27. It is still possible to become the kind of person I want to be	1	2	3	4
28. I have never felt that I was about to go to pieces	1	2	3	4
29. People's good feelings about me are a mistake. It's only a matter of time before I'll disappoint them	1	2	3	4
30. I see myself as waiting until things get too bad and then I would kill myself	1	2	3	4

### *Appendix 14: Kazdin Hopelessness Scale (Open trial)*

ID#:   -    Initials:    Date:  /  /   
DD / MM / YYYY

INSTRUCTIONS: These sentences are about how some young people feel about their lives. Your answers let us know about how young people feel about things. There are no right or wrong answers.

Please circle the response (True/False) that most closely fits your opinion of whether the sentence is like or not like you for the last two weeks.

1. I want to grow up because I think things will be better	True	False
2. I might as well give up because I can't make things better for myself	True	False
3. When things are going badly, I know that they won't be bad all of the time	True	False
4. I can imagine what my life will be like when I'm grown up	True	False
5. I have enough time to finish the things I really want to do	True	False
6. Someday, I will be good at doing the things that I really care about	True	False
7. I will get more of the good things in life than most other young people	True	False
8. I don't have good luck and there's no reason to think I will when I grow up	True	False
9. All I can see ahead of me are bad things, not good things	True	False
10. I don't think I will get what I really want	True	False
11. When I grow up, I think I will be happier than I am now	True	False
12. Things just won't work out the way I want them to	True	False
13. I never get what I want, so it's dumb to want anything	True	False
14. I don't think I will have any real fun when I grow up	True	False
15. Tomorrow seems unclear and confusing to me	True	False
16. I will have more good times than bad times	True	False
17. There's no use in really trying to get something I want because I probably won't get it	True	False

## Appendix 15: PQ-LES-Q (Open trial)

ID#:   -    Initials:    Date:  /  /   
DD MM YYYY

**INSTRUCTIONS:** This survey asks for your views about your general health, well-being, and feelings about your life. Please answer EVERY question by circling the response that best fits with how things have been for you in the past two weeks. If you are not sure about how to answer a question, please give the best answer you can. Remember, there are no right or wrong answers.

Over the past two weeks, how have things been with...

1) ... your health?	Very poor	Poor	Fair	Good	Very good
2) ... your mood or feelings?	Very poor	Poor	Fair	Good	Very good
3) ... school or learning?	Very poor	Poor	Fair	Good	Very good
4) ... helping out at home?	Very poor	Poor	Fair	Good	Very good
5) ... getting along with friends?	Very poor	Poor	Fair	Good	Very good
6) ... getting along with your family?	Very poor	Poor	Fair	Good	Very good
7) ... play or free time?	Very poor	Poor	Fair	Good	Very good
8) ... getting things done?	Very poor	Poor	Fair	Good	Very good
9) ... your love or affection?	Very poor	Poor	Fair	Good	Very good
10) ... getting or buying things?	Very poor	Poor	Fair	Good	Very good
11) ... the place where you live?	Very poor	Poor	Fair	Good	Very good
12) ... paying attention?	Very poor	Poor	Fair	Good	Very good
13) ... your energy level?	Very poor	Poor	Fair	Good	Very good
14) ... feelings about yourself?	Very poor	Poor	Fair	Good	Very good
15)... Overall, how has your life been?	Very poor	Poor	Fair	Good	Very good

**Appendix 16: Working Alliance Inventory (Client)**

**Working Alliance Inventory**

Short Form (C)

**Instructions**

On the following pages there are sentences that describe some of the different ways a person might think or feel about his or her therapist (counsellor). As you read the sentences mentally insert the name of your therapist (counsellor) in place of \_\_\_\_\_ in the text.

Below each statement inside there is a seven point scale:

---

Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	7 Always
-------	-------------	-------------------	----------------	------------	-----------------	-------------

---

If the statement describes the way you always feel (or think) circle the number 7; if it never applies to you circle the number 1. Use the numbers in between to describe the variations between these extremes.

This questionnaire is CONFIDENTIAL; neither your therapist nor the agency will see your answers.

Work fast, your first impressions are the ones we would like to see. (PLEASE DON'T FORGET TO RESPOND TO EVERY ITEM.)

Thank you for your cooperation.

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WA!(S)

1.	_____ and I agree about the things I will need to do in therapy to help improve my situation.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
2.	What I am doing in therapy gives me new ways of looking at my problem.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
3.	I believe _____ likes me.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
4.	_____ does not understand what I am trying to accomplish in therapy.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
5.	I am confident in _____'s ability to help me.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
6.	_____ and I are working towards mutually agreed upon goals.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
7.	I feel that _____ appreciates me.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
8.	We agree on what is important for me to work on.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
9.	_____ and I trust one another.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
10.	_____ and I have different ideas on what my problems are.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
11.	We have established a good understanding of the kind of changes that would be good for me.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always
12.	I believe the way we are working with my problem is correct.						
	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Often	6 Very Often	Always

WA ! (S)

*Appendix 17: Working Alliance Inventory (Therapist)*

# Working Alliance Inventory

## Short Form T

### Instructions

On the following pages there are sentences that describe some of the different ways a person might think or feel about his or her client. As you read the sentences mentally insert the name of your client in place of \_\_\_\_\_ in the text.

Below each statement inside there is a seven point scale:

---

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

---

If the statement describes the way you *always* feel (or think) circle the number 7; if it *never* applies to you circle the number 1. Use the numbers in between to describe the variations between these extremes.

This questionnaire is **CONFIDENTIAL** neither your therapist nor the agency will see your answers.

Work fast, your first impressions are the ones we would like to see.  
(PLEASE DON'T FORGET TO RESPOND TO EVERY ITEM.)

Thank you for your cooperation.

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1.	_____ and I agree about the steps to be taken to improve his/her situation.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
2.	My client and I both feel confident about the usefulness of our current activity in therapy.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
3.	I believe _____ likes me.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
4.	I have doubts about what we are trying to accomplish in therapy.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
5.	I am confident in my ability to help _____	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
6.	We are working towards mutually agreed upon goals.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
7.	I appreciate _____ as a person.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
8.	We agree on what is important for _____ to work on.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
9.	_____ and I have a mutual trust.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
10.	_____ and I have different ideas on what his/her real problems are.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
11.	We have established a good understanding between us of the kind of changes that would be good for _____	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
12.	_____ believes the way we are working with her/his problem is correct.	1	2	3	4	5	6	7
		Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

## *Appendix 18: Ethics acceptance letter*



Upper South A Regional Ethics Committee  
c/- Ministry of Health  
Montgomery Watson Building  
6 Hazeldean Road  
Christchurch  
Phone: (03) 974 2304  
Email: [upoersoutha.ethicscommittee@moh.govt.nz](mailto:upoersoutha.ethicscommittee@moh.govt.nz)

20 June 2011

Ms Joanne Blackett  
Dept of Psychological Medicine  
Faculty of Medical & Health Science  
University of Auckland  
POBox92019  
Auckland 1142

Dear Joanne Blackett

**Ethics ref:** URA/101081057 {please quote in all correspondence}  
**Study title:** RE:SOLVE- a problem solving pathway. Protocol V. 1/5110  
**Investigators:** Ms Joanne Blackett  
**Locality:** ProCare Psychological Services

This study was given ethical approval by the Upper South A Regional Ethics Committee.  
A list of members of the Committee is attached.

#### Approved Documents

- Protocol dated 24 March 2011
- Information sheet-Client, dated 27 March 2010
- Consent form -Client, dated 20 June 2011
- Information sheet and consent form – Parent, dated 20 June 2011
- Information sheet and consent form – Practitioner, dated 20 June 2011
- Interview Guidelines for Pilot Qualitative Study
- Post Training Questionnaire dated 20 June 2011
- Youth Advisor Review Questions dated 26 March 2011
- Psychometric Scales as listed in application

This approval is valid until 31 December 2012, provided that Annual Progress Reports are submitted (see below).



#### Access to ACC

For the purposes of section 32 of the Accident Compensation Act 2001, the Committee is satisfied that this study is not being conducted principally for the benefit of the manufacturer or distributor of the medicine or item in respect of which the trial is being carried out. Participants injured as a result of treatment received in this trial will therefore be eligible to be considered for compensation in respect of those injuries under the ACC scheme.

#### Amendments and Protocol Deviations

All significant amendments to this proposal must receive prior approval from the Committee.

Significant amendments include (but are not limited to) changes to:

- the researcher responsible for the conduct of the study at a study site
- the addition of an extra study site
- the design or duration of the study
- the method of recruitment
- information sheets and informed consent procedures.

Significant deviations from the approved protocol must be reported to the Committee as soon as possible.

#### Annual Progress Reports and Final Reports

The first Annual Progress Report for this study is due to the Committee by 30 June 2012. The Annual Report Form that should be used is available at [www.ethicscommittees.health.govt.nz](http://www.ethicscommittees.health.govt.nz). Please note that if you do not provide a progress report by this date, ethical approval may be withdrawn.

A Final Report is also required at the conclusion of the study. The Final Report Form is also available at [www.ethicscommittees.health.govt.nz](http://www.ethicscommittees.health.govt.nz).

#### Requirements for the Reporting of Serious Adverse Events (SAEs)

SAEs occurring in this study must be individually reported to the Committee within 7-15 days only where they:

- are *unexpected* because they are not outlined in the investigator's brochure, and
- are not defined study end-points (e.g. death or hospitalisation), and
- occur in patients located in New Zealand, and
- if the study involves blinding, result in a decision to break the study code.

There is no requirement for the individual reporting to ethics committees of SAEs that do not meet all of these criteria. However, if your study is overseen by a data monitoring committee, copies of its letters of recommendation to the Principal Investigator should be forwarded to the Committee as soon as possible.

***Supplementary Material 1: RE:SOLVE Client Workbook (on CD)***

***Supplementary Material 2: RE:SOLVE Practitioner Training Manual  
(on CD)***

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