

BUILDING MENTAL HEALTH IN YOUNG AUSTRALIANS:
A POSITIVE PSYCHOLOGICAL APPROACH

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SUMMARY

In the last decade positive psychology has contributed significantly to the conceptualisation of mental health and shown that increases in positive virtues or strengths are associated with better physical, psychosocial, and psychological functioning, and fewer symptoms of mental illness (Seligman & Csikszentmihalyi, 2000; Seligman, Steen, Park, & Petersen, 2005; Seligman, 2005). It is suggested that if such a positive focus is adopted early in life it can then help develop a young person's psychological strengths, such as resilience, optimism, and hope, and lay the foundations of a sustained healthy life in adulthood (Licence, 2004). However, despite this knowledge, the focus of mental health in Australia appears to remain on the prevention or alleviation of mental illness. This thesis represents one of the first attempts to redirect the focus of mental health in Australia away from mental illness and towards building positive resources that will enable young Australians to flourish in life. The results of five independent but related studies are presented in three published and two submitted papers that contribute to the conceptualisation and promotion of mental health in young Australians.

Paper one (*study one*) reports the results of a meta-analysis and indicates that when compared to Cognitive Behavioural Therapy (CBT) that contains zero hopeful elements, CBT that contains multiple hopeful elements significantly reduces a young person's level of depression compared to a control, no treatment, or usual care group. Although evidence was limited by the number of studies available, the results suggest that the inclusion of a specific hope-focus may increase the effectiveness of CBT to prevent depression in young people. Paper two (*study two*) reports the results of a meta-synthesis and indicates that when promoting mental health in young people with chronic illness, young people

require a positive approach in order to bolster their sense of self, normalise the experience, help them accept the situation, and help them develop the cognitive and future-orientated strategies they need to facilitate a sense of hope at this time.

Papers three, four, and five report the results of three quantitative studies that used data obtained in the South Australian Youth Mental Health Survey (SAYMHS). The SAYMHS ($N = 3913$; 13-17 years) collected cross-sectional information from a large sample of young South Australians from both regional and metropolitan areas. The SAYMHS was undertaken specifically for this thesis. Paper three (*study three*) reports the prevalence of the four key states outlined by the Complete State Model (CSM) of mental health (Keyes & Lopez, 2002), along with the association of each of these states to health-risk and health-promoting behaviour. It was shown that less than 50 percent of young Australians were flourishing in life, that flourishing in life was associated with increased health-promoting behaviour and floundering was associated with more health-risk behaviour, and that the propensity to engage in health behaviour (positive or negative) varied by gender and region. Paper four (*study four*) reports the results of a Confirmatory Factor Analysis (CFA) and indicates that hope, used as an exemplar of a psychological strength, is a stronger predictor of mental health than is mental illness, and that differences existed in the individual predictive value of hope's components (Agency and Pathways scores). Paper five (*study five*) provides Australian normative scores for the Adult Hope Scale (AHS) (Snyder et al., 1991) and indicates that differences in total Hope scores exist across age and region, and in its component scores across age, region, and gender.

The current results have several implications for the development of strategies to promote mental health in Australian youth. First, an explicit focus on hopeful strategies may be a useful way to ensure that strategies employed to prevent the symptoms of mental illness are effective, as successful hopeful thinking then also builds the resources needed to reach and sustain a state of flourishing in life. Second, a positive focus on hopeful strategies may facilitate the development and maintenance of a young person's mental health when they are diagnosed with chronic illness. Third, the prevalence of mental health in young Australians has previously been overestimated, with this project demonstrating that the majority are not flourishing in life and, when compared to those who are flourishing, young Australians who are languishing, struggling, or floundering in life are more likely to engage in health-risk behaviour. Fourth, hope may be a better focus of efforts to promote mental health and build the resources needed to reach and sustain a state of flourishing in life than the prevention or alleviation of mental illness. Fifth, Australian clinical psychologists and other health practitioners now have a way to identify young Australians who differ from the developmental norm in terms of the hopeful thinking to then help guide strategies to promote mental health.

DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material that has been accepted for the award of any other degree or diploma of a university or other institute of higher learning, except where due acknowledgement is made in the body of the text. All work contained in the submission was initiated, undertaken, and prepared within the period of candidature. I give consent to this copy of my thesis when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968. The author acknowledges that copyright of published works contained within this thesis (as listed below) resides with the copyright holder(s) of those works.

Venning, A., Kettler, L., Elliott, J., & Wilson, A. (2009). The effectiveness of Cognitive Behavioural Therapy with hopeful elements to prevent the development of depression in young people: a systematic review. *International Journal of Evidence Based Healthcare*, 7, 15-33.

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DEDICATIONS

To my fiancée for her belief and support

To my parents and friends in all of their shapes and forms

KEY TO ABBREVIATIONS

ABS	Australian Bureau of Statistics
AHS	Adult Hope Scale
AIHW	Australian Institute of Health and Welfare
BDI	Beck Depression Inventory
CASQ	Children's Attributional Style Questionnaire
CBT	Cognitive Behavioural Therapy
CDI	Children's Depression Inventory
CES-D	Centre for Epidemiological Studies-Depression Scale
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CHS	Child Hope Scale
CI	Confidence Interval
CMH	Complete Mental Health
CPQ	Child's Perception Questionnaire
CSM	Complete State Model
DASS-21	Depression Anxiety Stress Scale 21
DECS	Department of Education and Children's Services
HMO	Health Maintenance Organisation
OLSP	Optimism and Life Skills Program
OR	Odds Ratios
PC	Preventative Curriculum
PEP	Penn Enhancement Program
PPP	Penn Prevention Program
PRP	Penn Resiliency Program
PSFL	Problem Solving for Life
PWBS	Psychological Well Being Scale
OARI	Qualitative Assessment and Review Instrument
RCAMS	Revised Children's Manifest Anxiety Scale
SAEL	Social Aspect in Everyday Life
SAYMHS	South Australian Youth Mental Health Survey
SRMR	Standardised Root Mean Square Residual
SLS	Satisfaction with Life Scale
SMD	Standardised Mean Difference
SWBS	Social Well Being Scale
WMD	Weighted Mean Difference

OVERVIEW

Outline of Thesis

The program of research that formed the basis of this thesis sought to provide information about the mental health of young Australians, from a positive perspective, that will then contribute to the content and targeting of future strategies to promote mental health. In this thesis, the term young person refers to an adolescent between the ages of 13 and 17 years. This age range was chosen to coincide with the traditional ages that a young person attends secondary school in Australia (years 8-12), and to make the results comparable to previous Australian research that has examined mental health in this population (Sawyer et al., 2000). Five independent but related studies were undertaken and the five papers produced are reported here as chapters in the manuscript. They are book-ended by chapters providing broader context and discussion relevant to the research program as a whole.

Chapter One provides an introduction to mental health, the promotion of mental health in Australia, positive psychology, the cognitive process of hope, and how a positive perspective may be applied to promote mental health. *Chapter Two* outlines the aims of this thesis and the practical issues faced. *Chapter Three* provides an exegesis for each of the five studies undertaken. The aim of this chapter is to provide the rationale for each study in the context of the broader research goals and provide information that was outside of the scope of the published papers. *Chapters Four to Eight* contain the five papers that were produced and the statements outlining each author's respective contributions. The Appendices relating to papers one and two are included in chapters four and five

to make it easier for the reader to refer to the information contained within them.

Chapter Nine provides a summary of results, a proposed model of the role of hope in mental health, the discussion on the practical application of the results, issues to be overcome, future directions, and a concluding statement.

Outline of Candidature

The current thesis was undertaken to fulfil the requirements of a combined Clinical Master of Psychology / Doctor of Philosophy undertaken at The University of Adelaide, South Australia. This program (*4 years fulltime*) combines a full Clinical Masters course load (*equivalent 2 years fulltime*) and a full research program for a Doctor of Philosophy (*equivalent 3 years fulltime*), and stipulates that the research undertaken has to adopt a clinical focus. The five papers that form the body of this work, along with nine master's subjects and three clinical 18 week placements, were completed within 3.5 years of fulltime study. A total of \$1250 in funding over and above the standard support provided to Doctor of Philosophy students was received from the School of Psychology to fund data collection and conference travel. All subject and practical requirements of the Masters component of the program were completed successfully. The following thesis is submitted to fulfil the requirements of a Doctor of Philosophy.

CHAPTER ONE: INTRODUCTION

Preamble

The present chapter provides an introduction to the area of mental health and the promotion of mental health within Australia. However, rather than supply an expanded version of the literature reviews provided at the beginning of each of the five papers, only a background to mental health promotion in Australia and the common theoretical elements that underlie the research program, and that were beyond the scope of the individual papers, will be discussed. Initially, key concepts relating to mental health are defined before the developmental period targeted and the focus of mental health promotion in Australia discussed. The areas of positive psychology and positive mental health promotion are then introduced before the proposed role of hope in mental health is discussed.

Key Concepts

Mental Health

Defined by the World Health Organisation (2005), mental health is a state of well-being in which an individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. An individual with good mental health is considered to be able to handle day-to-day events and obstacles, function effectively among his or her peers and society, and engage in health-promoting behaviour (Australian Bureau of Statistics [ABS], 1997).

Mental Illness

An individual with mental illness is considered to exhibit a clinically significant behavioural or psychological set of symptoms, or be at significantly higher risk of these, which are associated with present distress, pain, disability, or a loss of freedom that impacts on their ability to function effectively (American Psychiatric Association [APA], 2000).

Adolescence

Adolescence typically refers to the developmental period between the ages of 12 and 20 years, is a time of transitions and rapid development, and is the age of onset for most mental disorders (Graber, Brooks-Gunn, & Petersen, 1996; Kessler et al., 2005; Seifert, Hoffnung, & Hoffnung, 2000). Adolescence heralds the start of formal operation thought that allows an individual to think abstractly, emphasise the possible rather than the actual, reason systematically, and combine ideas skilfully (Inhelder & Piaget, 1958; Kosslyn & Rosenberg, 2004; Seifert et al., 2000). Adolescence is also characterised by changes in biological appearance, self-esteem, social networks, autonomy, and sexual maturation, and thus is a time that either provides an individual with opportunities for growth or is seen as overwhelming and stressful (Petersen & Leffert, 1995; Peterson, 2004).

Risk Factors / Health-Risk Behaviour

Risk factors to mental health are stressors or circumstances that act to increase the likeliness of negative outcomes and decrease the likeliness of positive outcomes (Braverman, 1999). Health-risk behaviour is generally defined

as any behaviour that has a negative effect on health or is associated with undesirable consequences, such as tobacco smoking or unprotected sex. The developmental period most commonly associated with risk factors and an increased vulnerability to mental illness and/or the adoption of health-risk behaviour is adolescence (Australian Institute of Health and Welfare [AIHW], 2006a; Larson & Ham, 1993; Rowling, 2006; Rutter & Smith, 1995; Sawyer et al., 2000). To some degree, risk-taking behaviour in adolescence is a normal part of development as a young person attempts to discover and consolidate their identity (Carr-Gregg, Enderby, & Grover, 2003). However, risk-taking becomes abnormal when the type or frequency of the behaviour engaged in has the potential for serious, long-term, and negative health consequences (Irwin, Igra, Eyre, & Millstein, 1997), or if the perceived positive rewards obtained from risky behaviour persist (e.g., a rebellious image). According to Moffitt (1993), two patterns of risk-taking behaviour exist: a continuous 'life-persistent' course and the temporary 'adolescent-limited' involvement. While Moffitt (1993) suggests the majority of risk-taking that stems from the perceived 'rewards' available from risky behaviour is 'adolescent-limited' and abandoned when pro-social behaviour becomes more rewarding, the combined or individual effect of risk factors and/or health-risk behaviour in adolescence can prevent the natural development of the protective processes that facilitate positive health behaviour.

Protective Factors / Health-Promoting Behaviour

Protective factors to mental health are those psychological strengths (e.g., self-esteem, resilience, or hope), contexts (e.g., stable family environment), or behaviours (e.g., exercise or healthy diet) that act to increase the likelihood of

desirable outcomes and buffer or moderate the negative influence of exposure to risk factors (Luthar, 1991; Rutter, 1987). Protective processes refer to the way that these protective factors act to promote and sustain mental health in the face of challenges and/or risk factors (Masten & Reed, 2005). According to Maggs, Schulenberg, and Hurrelmann (1997), the critical time for the development of these protective processes is adolescence, because adolescents are more likely to adopt and continue health-promoting behaviour that then has enduring consequences for physical and mental health. Health-promoting behaviour is defined as any behaviour that is performed to protect, promote, or maintain physical or mental health, regardless of whether or not the behaviour is ultimately effective at doing so (Harris & Guten, 1979).

Flourishing in Life

Flourishing in life, as conceptualised within the Complete State Model (CSM) of mental health (Keyes & Lopez, 2002), is the optimum state of functioning in which an individual feels positive emotions towards life, is fulfilling their potential, and purposely attaining their aspirations or goals (Grant & Cavanagh, 2007). Diagnostically, to be classified as flourishing in life an individual has to experience no symptoms of mental illness and high levels of subjective well-being (comprised of emotional, psychological, and social functioning).

Promotion of Mental Health in Australia

The promotion of mental and physical health has been and remains a priority of the Australian Government. Promoting and maintaining good health is one of Australia's national research priorities and five billion dollars has recently been

allocated to the National Action Plan on Mental Health 2006-2011 (Council of Australian Governments [COAG], 2006). When considering that in the 1950's 75 percent of Australian men smoked and now less than 20 percent do so (AIHW, 2008), and that deaths from cardiovascular disease and road trauma have fallen dramatically from peaks in the 1970's (AIHW, 2008), it can be rightfully said that attempts to improve some aspects of the health of Australians have been successful. However, the overall success of attempts to promote mental health and reduce health-risk behaviour in Australia is questionable. At present, mental health problems remain the largest non-fatal burden of disease in Australia with 26 percent of young Australians reporting a mental disorder in the previous 12 months (ABS, 2008; Begg et al., 2007). In relation to health-risk behaviour, 23 percent of young Australians are reported to smoke, 23 percent to be overweight or obese, 27 percent to drink alcohol, and 62 percent to be engaged in very little or no exercise (AIHW, 2005a, 2006b; Commonwealth Scientific Industrial Research Organisation, 2007; Ridolpho & Stevenson, 1998; Sawyer et al., 2000).

To address the situation outlined above numerous programs have been developed and employed to promote mental health in young Australians, all of which acknowledge the need for engaging, appropriate, and comprehensive strategies to respond to the specific needs of young people (McGorry, Parker, & Purcell, 2006). However, it seems that very few programs actually promote mental health. To qualify this, it appears that the vast majority of mental health strategies and initiatives in Australia focus on the prevention or alleviation of mental illness despite the theoretical and empirical evidence that indicates mental health is not automatically increased when mental illness is prevented or as mental illness decreases (e.g., Keyes, 2005b). For example, the four areas outlined in Australia's

current Action Plan on Mental Health (2006) to which funding is allocated are: (a) reduce the prevalence and severity of mental illness, (b) reduce risk factors that contribute to mental illness, (c) increase access to health care for people with mental illness, and (d) increase the opportunities for people with mental illness to participate in the community. The primary focus in this strategy is therefore on the prevention and alleviation of mental illness and it can be safely assumed that the underlying assumption is that the prevention and treatment of mental illness *will* indirectly promote mental health. A full discussion on why a 'default' approach to mental health is flawed follows, but first specific examples of programs / initiatives that have been employed to promote mental health in Australia are outlined.

Existing Programs Targeting Young People

The universal school-based Friends program was developed in Australia by Professor Paula Barrett to prevent the onset of anxiety and depression. This cognitive behavioural program teaches young people how to identify feelings, understand physiological responses, link thoughts to feelings, and develop the cognitive, physiological, and behaviour processes needed to prevent or cope with psychological distress. In 2007, it was reported that the Friends program was employed in over 500 schools or health services throughout Australia (Barrett, 2007). Lowry-Webster, Barrett, and Dadds undertook one of the first randomised trials of the Friends program in 2001. In this study 594 young people aged 10 to 13 years were recruited from Brisbane, participated in the program, and were asked to complete several measures that included the Spence Anxiety Scale (Spence, 1997), the Revised Children's Manifest Anxiety Scale (RCMAS) (Reynolds & Richmond, 1985), and the Children's Depression Inventory (CDI) (Kovacs, 1985).

Results of this research indicated that the Friends program was successful at reducing levels of self-reported anxiety and depression beyond that of a control group, but the long-term sustainability of these results was unclear as no follow-up existed. A subsequent study by Barrett, Farrell, Ollendick, and Dadds (2006) addressed this and indicated that young people who participated in the Friends program continued to report lower levels of anxiety compared to a control group at the 12 and 24 month follow-up, but not at 36 months and not for depression.

Roberts, Kane, Thomson, Bishop, and Hart (2003) conducted a randomised control trial of the Penn Prevention Program (PPP) to reduce the symptoms of depression in young people aged 11 to 13 years in rural Western Australia who were identified as being 'at risk' of developing depression. The PPP, employed in a school setting, focused on teaching young people to identify feelings, de-catastrophise thoughts, deal with family conflict, and develop coping skills. Outcome measures included the CDI (Kovacs, 1985), the RCMAS (Reynolds & Richmond, 1985), the Children's Attributional Style Questionnaire (CASQ) (Seligman et al., 1984), the Matson Evaluation of Social Skills with Youngsters (Matson, Rotatori, & Helsel, 1983), and the Child Behavior Checklist (Achenbach, 1991). No significant differences in levels of depression beyond that of a control group were found, but lower levels of anxiety were shown at post intervention and the 6 month follow-up.

Quayle, Dziurawiec, Roberts, Kane, and Ebsworthy (2001) conducted a randomised control trial of a universal prevention program [The Optimism and Life Skills Program (OLSP) adapted from the PPP] to reduce levels of depression and increase levels of self-esteem in girls from Western Australia. The OLSP focused

on instructing young people about the link between thoughts and feelings, challenging pessimistic beliefs, and increasing coping skills, social skills, and problem solving. Outcome measures included the CDI (Kovacs, 1985), the CASQ (Seligman et al., 1984), the Loneliness and Social Dissatisfaction Scale (Asher & Wheeler, 1985), and the Self-Perception Profile for Children (Harter, 1985). Results indicated that the program was successful at lowering depression and increasing self-worth at the 6 month follow-up relative to a control.

Other initiatives and programs currently employed to promote mental health in young Australians include the Headspace, Headroom, and Mindmatters initiatives. Headspace is a government funded initiative that seeks to provide a national and coordinated approach to mental health, social well-being, and the economic participation of Australians (12-25 years), with a particular focus on the early identification of those at risk of developing mental health problems (Headspace, 2006). Under the Headspace model, 28 community youth services have been established throughout Australia to (a) encourage help seeking behaviour and activities in the community that promote mental health, (b) provide education and training resources to the community and health professionals, (c) support the development of a more accessible, effective, and integrated health service, and (d) promote the uptake of evidenced based practice (Headspace, 2006). Headroom is an innovative website operated the Child, Youth and Women's Health Service (South Australia) that attempts to increase health literacy and community awareness about mental health via games, information, and activities related to mental health (<http://www.headroom.net.au/>). Mindmatters (2009) is a government funded, evidence-based, and whole school approach to mental health promotion that has been employed in 71 percent of Australian

secondary schools. The Mindmatters initiative is designed to enhance a young person's resilience, develop strategies to cope with change, loss, bullying, and harassment, and improve a young person's overall understanding of mental illness.

Why the Focus of Mental Health in Australia Needs to Change

Despite programs such as those cited above, a high proportion of young Australians still experience mental health difficulties, engage in health-risk behaviour, and face the likelihood of developing co-morbid mental illness. In some part this less-than-ideal situation may be the result of the flawed assumption that appears to underpin the promotion of mental health in Australia, and the limited mental health information *not* based on the absence of mental illness to guide the development of alternative approaches. It has been empirically demonstrated that mental health and mental illness are separate constructs and not simply opposite ends of the same continuum, suggesting that the prevention or alleviation of the latter does not necessarily indicate or increase levels of the former (Keyes, 2005b, 2007; Keyes & Lopez, 2002). The success of any strategy based on the assumption that mental illness and mental health are bipolar opposites is therefore questionable. That is not to say that a focus on mental illness is not warranted nor needed at times given that the annual cost of mental illness in Australia is estimated to be AUD 20 billion (COAG, 2006). But, rather to argue that a focus on mental illness is not a focus on mental health, nor does it promote mental health, and should be secondary to a focus on psychological strengths if the mental health needs of young Australians are to be met. Therefore, while strategies that focus on

the prevention or alleviation of mental illness may be successful, they do not actively propel a young person towards a state of flourishing in life.

The main focus of the Friends and PPP, as discussed previously, was to reduce the symptoms of anxiety and depression. However, as the studies that employed these included no indicators of positive functioning, it is unclear whether or not levels of mental health were increased. A holistic and treatment based approach is adopted by the Headspace and Mindmatters initiatives in order to increase knowledge about mental illness and provide solutions to mental health issues. However, Headspace arguably stops short of actively promoting mental health because it is primarily concerned with providing information about and treating the symptoms of mental illness, while Mindmatters also remains focused primarily on mental illness even though it does highlight the importance of positive self-talk when faced with challenges. An independent evaluation of Headspace is currently underway, but whether it has met its aims remains unclear (Muir et al., 2008). An evaluation of the effectiveness of Mindmatters has indicated that despite its non-uniform administration in schools, it does increase the support available to young people with mental health problems and the awareness of the importance of protective factors (Hazell, Vincent, Waring & Lewin, 2002). But, in the context of promoting mental health, it is purported that the Friends, PPP, Headspace, and Mindmatters initiatives fail to do so because they continue to operate within a mental health-by-default framework and effectively support only those who have mental health problems. In contrast, the Headroom initiative and OLSP do focus on developing psychological strengths to prevent the onset of mental illness in the first place. However, the sustainability of the benefits provided by the OLSP is unclear given that no follow-up period existed beyond 6 months. Furthermore, no

formal evaluation of Headroom's effectiveness currently exists and its on-line and informational platform fails to provide any practical strategies and may not reach those who do not have the time, resources, or inclination to access the website

Research that has sought to measure the success of strategies to reduce mental illness, under the guise of promoting mental health, or describe the prevalence of mental health via the absence of mental illness have predominately used indicators of negative functioning to provide an indication of mental health (Council of Australian Governments, 2006; Sawyer et al., 2000; Smart & Sanson, 2005; Zubrick et al., 1995). For reasons already outlined, this means that the information on mental health may be too narrow and inappropriate to develop alternative approaches to promote mental health in young Australians. Some of this research has reported that up to a third of young people in Australia show significant psychological distress (Eckersley, Wierenga, & Wyn, 2005), while others have suggested that approximately 80 percent are satisfied with life and have 'good' mental health (Sawyer et al., 2000; Smart & Sanson, 2005; Zubrick et al., 1995). This conflicting information suggests that new information on a young person's 'complete' mental health needs to be gathered and that an alternative approach to assessing and promoting mental health needs to be adopted. The adoption of a 'complete' mental health perspective would then provide more comprehensive information and provide a framework for the development and assessment of positively focused strategies to promote a state of flourishing in life.

Positive Psychology

The area of positive psychology is concerned with positive human functioning and the enhancement of well-being (Seligman & Csikszentmihalyi, 2000). Positive

psychology represents a shift from repairing the worst things in life to a focus on building strengths and helping people to flourish rather than merely exist (Keyes & Haidt, 2003; Seligman et al., 2005; Seligman, 2005). From a therapeutic perspective, positive psychologists do not focus on fixing what is wrong with people once they have 'broken' down, but rather on developing strategies to prevent them from 'breaking' down in the first place (Keyes & Lopez, 2002). Research from this perspective does not seek to erase or supersede the work that has already been done on identifying and treating mental illness (Seligman, Steen, Park, & Peterson, 2005), but rather to supplement this in order to provide a more complete and balanced understanding of an individual's functioning (Gable & Haidt, 2005; Seligman et al., 2005).

Flourishing in Life

The CSM of mental health is a diagnostic framework that conceptualises mental health and mental illness separately, and as complete or incomplete states (Keyes & Lopez, 2002) (Figure 1). In this framework, Complete Mental Health (CMH) (i.e., flourishing in life) is not just the absence of mental illness, nor is it just the presence of high levels of subjective well-being, but rather CMH encompasses the absence of mental illness *and* the presence of high levels of subjective well-being. Alternatively, incomplete mental health (i.e., languishing in life) encompasses low levels of mental illness *and* low levels of subjective well-being; incomplete mental illness (i.e., struggling in life) encompasses high levels of mental illness *and* high levels of subjective well-being; and Complete Mental Illness (CMI) (i.e., floundering in life) encompasses high levels of mental illness *and* low levels of subjective well-being. Practically, an individual who is flourishing

in life feels positive and is fulfilling their goals and aspirations, while an individual who is languishing in life lacks positive emotion and is not fulfilling their goals or aspirations in life (Grant & Cavanagh, 2007). Research conducted by Keyes and colleagues (Keyes, 2002, 2004, 2005a, 2006) has provided support for the CSM of mental health and indicated that people classified as flourishing in life are better off than those who are not flourishing in terms of their physical, psychological, and psychosocial functioning.

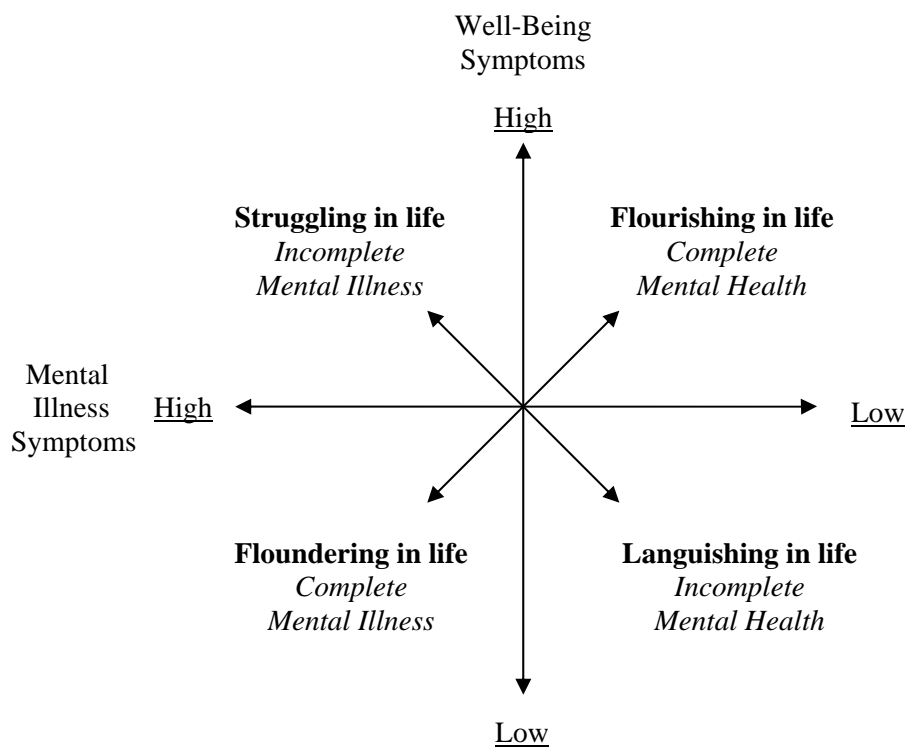


Figure 1. Mental health and mental illness: the complete state model.

The CSM of mental health (Keyes & Lopez, 2002) provides a valuable therapeutic and diagnostic framework for clinicians. In terms of a therapeutic framework, the CSM provides a way in which clinicians can organise and interpret an individual's cognitive, behavioural, and emotional functioning in a way that can

then be translated into objectives for therapy. Moreover, the CSM suggests that the objective of strategies to promote mental health must be to build those psychological strengths that can then shift people from poorer states of functioning (i.e., languishing, struggling, or floundering) towards a sustainable state of flourishing in life. In terms of a diagnostic framework, the CSM has indicated that the absence of mental illness does not imply the presence of mental health, nor does the absence of mental health imply the presence of mental illness, but rather mental health is a complete state that requires the combined assessment of mental health with mental illness (Keyes, 2005b, 2007).

Psychological Strengths (Hope)

This thesis will focus on the cognitive process of hope, defined according to Hope Theory (Snyder et al., 1991) and used as an exemplar of a psychological strength, and how it may be used as a mechanism of change to move young people towards a sustainable state of flourishing in life. A cognitive conception of hope is defined and its benefits outlined following a brief discussion on why a cognitive hope was chosen over alternative conceptualisations or other psychological strengths. The reader is directed to work by Snyder (1994, 1995, 2000, 2002) for a more comprehensive discussion on Hope. Hope has been associated with meaning (Frankl, 1984), development (Erikson, 1963), anticipation (Stephenson, 1991), and caring (Dufault & Martocchio, 1985; Herth, 1990, 2004). From a theological perspective, hope is founded on the belief in an ultimate being, power, or force (Holland et al., 1998; Weaver & Flannelly, 2004), and is orientated not only towards earthly goals, actions, and relationships, but also eternal goals and a relationship with the divine (Carson, Soeken, & Grimm, 1988). Alternatively,

from a nursing perspective, the role of hope as an emotion is emphasised by positioning it within the realm of “being” rather than “doing” and de-emphasising its relationship to realistic goals (Dufault & Martocchio, 1985; Herth, 1990, 2004). However, while a spiritual or emotional hope can be a valuable resource in times of despair or illness, these conceptualisations do not provide the deliberate and realistic goal orientated approach needed to promote mental health because they rely on a belief in a higher power or position emotions before cognitions.

Optimism has been described a valuable resource that increases an individual’s belief in a bright future, but it is suggested that it offers little practical instruction as to how an individual might reach that bright future (Snyder, 1994). Self-efficacy is suggested to increase an individual’s perception of control and belief in their capability to produce desired outcomes, but its emphasis on situation specific goals arguably represents only how a person ‘can’ perform an activity rather than ‘actually’ perform the activity (Bandura, 1997; Maddux, 2005). Finally, self-esteem is suggested to represent an individual’s overall evaluation of their self-worth, but its implicit emphasis on the value of an activity means that it must be valued enough to initiate and sustain an appraisal of one’s effectiveness in that activity (Hewitt, 1998; Snyder, Rand, & Sigmon, 2005). In contrast, Snyder et al. (1991; 2005) suggests that when hope is conceptualised as a cognitive process it (a) explicitly emphasises the need to initiate and sustain movement towards positive future goals, as well as to visualise multiple routes to obtain them; (b) operates in enduring, cross sectional, and situational contexts, and emphasises how a person ‘will’ initiate and continue to perform activities; and (c) emphasises the process that elicits positive emotions rather than the value placed on goals themselves.

Hope Theory

According to Snyder's Hope Theory (Snyder et al., 1991), hopeful thinking consists of three elements: goal setting, Pathways thinking, and Agency thinking. Goals provide the anchor for the mental action sequences that are generated by successful hopeful thinking (Snyder, 1994). However, successful hopeful thinking requires that goals contain some element of uncertainty (Snyder, 2000). For example, a goal that is certain does not necessitate hopeful thinking because it is obtainable (i.e., turning 18 years of age); while a goal that is unobtainable is counterproductive (i.e., flying unassisted). What is required is a realistic goal that is neither certain or unobtainable. The next two components of hopeful thinking, Pathways and Agency thinking, are suggested to continually affect and be affected by each other during the goal pursuit process (Snyder, 2000). Pathways thinking reflects an individual's capacity to conceptualise one or multiple avenues to arrive at a desired goal, while Agency thinking reflects an individual's ability to initiate and sustain movement along a chosen pathway to reach that goal (Snyder et al., 1991). Successful hopeful thinking then enables an individual to set goals, develop strategies to achieve those goals, and build and sustain the motivation to execute those strategies (Cheavens, Feldman, Gum, Scott, & Snyder, 2006; Snyder, 1995; Snyder et al., 1991).

Hopeful thinking begins as a child starts to think about themselves and their goal pursuits (Snyder, 2000). However, it is only upon reaching adolescence that an individual is suggested to have all the necessary cognitive resources required for successful hopeful thinking in all areas of life (Snyder, 2000). As already discussed, adolescence is the time that an individual starts to think abstractly and

is capable of what Piaget refers to as formal operational thought (Inhelder & Piaget, 1958). According to Seifert et al. (2000) formal operational thought enables a young person to (a) emphasise the possible rather than the actual, (b) reason systematically, and (c) combine ideas skilfully. Relating this to hopeful thinking, it may be only during adolescence that a young person can begin to (a) envisage future goals, (b) conceive possible and practical ways to obtain these, and (c) envisage the practical benefits of goal pursuit in all aspects of their lives.

According to Hope Theory (Snyder et al., 1991) an *impediment* is considered to be anything that gets in the way of goal pursuit and a *blockage* to be a consequence of being unable to cognitively envisage a pathway or make a movement towards a desired goal (Snyder, 1999). An *impediment* to hope may occur because of environmental circumstances, such as chronic illness, or a *blockage* may occur because of psychological distress, such as a feeling of worthlessness. The resultant stress and negative emotions may then act to interfere with an individual's ability to hope and lessen their perceived ability to do so. For instance, research has shown that people feel less confident and have less trust in their abilities after experiencing goal blockages (Coyne, Gallo, Klinkman, & Calarco, 1998). Accordingly, mental health problems may arise from an individual's inability to set, generate multiple routes to, or maintain the motivation to achieve goals.

Finally, Hope Theory (Snyder et al., 1991) attempts to explain how the experience of emotion reciprocally interacts with cognitions to provide either a positive or negative accompaniment to future goal pursuit (Snyder, 2000; Snyder, 2002; Snyder, Sigmon, & Feldman, 2002). In other words, while a cognitive hope

recognises the importance of emotions it positions them as secondary and as a by-product of hopeful thinking. It is suggested that conceptualising emotions as preceding cognitions would imply that our passions are the prime determinants of our goals and behaviours, and that this would ultimately then lead to uncontrollable and potentially negative outcomes (Shorey, Snyder, Rand, Hockemeyer, & Feldman, 2002). However, by placing cognitions first it allows an individual to make conscious decisions and take deliberate actions to acquire desired goals (Shorey et al., 2002). Thus, the successful pursuit of goals is thought to result in the experience of positive emotions which, in turn, lead to more instances of successful goal pursuit.

What are the Benefits of High Hope?

The literature has demonstrated overwhelmingly that high hope promotes physical and psychological health (Herth, 1990; Nikolaichuk, Jevne, & Maguire, 1999). When conceptualised cognitively, people high in hope, compared to those low in hope, not only believe that they can generate but actually generate more pathways to goals, sustain more energy to pursue goals, and view goal blockages as just temporary setbacks (Snyder et al., 1991), even when faced with adversity (Cheavens, 2000). In comparison, people low in hope set fewer goals, are more tenuous in their pursuit, are unlikely to produce alternative routes, and may view blockages as demoralising (Snyder, 2002). Thus, just as a generalised expectancy for failure can cause mental illness, it may be said that a generalised expectancy for goal success can promote mental health and protect against mental illness (Cheavens, 2000). Highly motivated individuals (i.e., those high in goal orientation) are suggested to set growth-seeking goals rather than the validation-seeking goals

commonly set by non-motivated individuals (i.e., those low in goal orientation) (Dykman, 1998). Growth-seeking goals are those in which an individual strives to learn and grow and from which the positive resources needed to reach and sustain CMH may be developed. On the other hand, validation-seeking goals are those in which an individual exclusively strives to prove their own self-worth and may ultimately increase the chance for self-blame and underlie depressive tendencies and co-occurring features of depression (e.g., social anxiety, task disengagement) (Dykman, 1998).

As hopeful thinking elicits emotion, people high in hope are suggested to experience enduring and positive emotions that are accompanied by a zest for the pursuit of goals, while people low in hope are suggested to experience negative emotions accompanied by a lethargic attitude towards the pursuit of goals (Snyder, 2002). This means that people high in hope are more positive and better equipped with the skills and resources needed to overcome challenges and obtain a state of flourishing in life, while people low in hope are not. For example, research has demonstrated that people high in hope deal better with stress because they (a) look outward, concentrate on the situation, and problem solve; (b) minimise the negative aspects of the situation; (c) seek support from others; and (d) maintain healthy lifestyles (Snyder, 1994, 2004; Snyder, Michael, & Cheavens, 1999). In terms of mental health promotion, this may mean that when faced with a challenging situation or a goal blockage, those low in hope may experience stress which over time elicits negative emotions, while those high in hope will have the resources needed to re-direct goal pursuit and alleviate any initial or subsequent stress that arises (Snyder, 2002).

The Broaden and Build Theory of Positive Emotions

Fredrickson's Broaden and Build Theory of positive emotions (1998, 2002, 2008; Figure 2) states that the continued experience of positive emotions act to broaden an individual's momentary thought-action responses and build their enduring personal resources. Thus, while the experience of negative emotions narrow the range of responses available in a situation (i.e., fight or flight) and carry immediate adaptive benefits, the experience of positive emotions widen the array of responses available and carry indirect and long-term adaptive benefits.

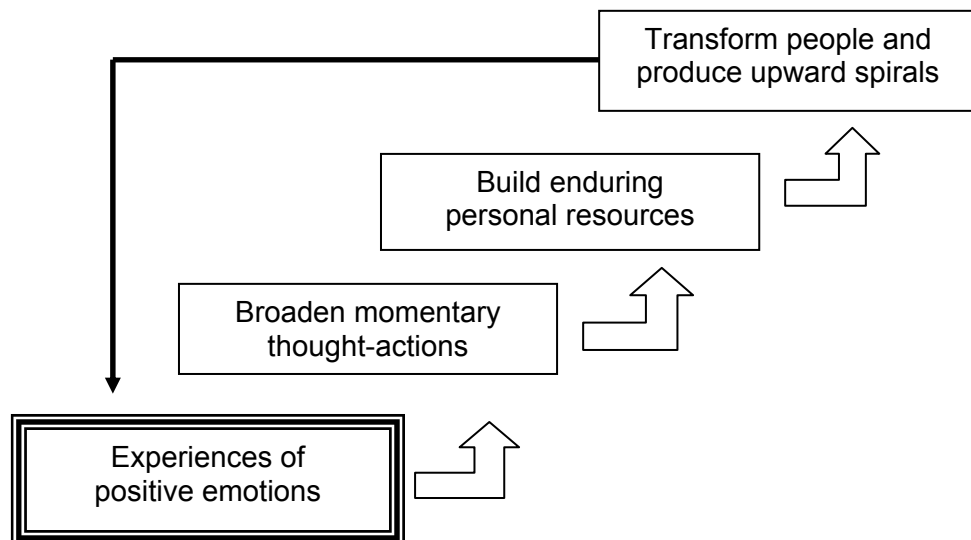


Figure 2. The Broaden and Build Theory of positive emotions

For example, *Joy* creates the urge to play, push boundaries, be creative in one's activities, and expand involvement in life, while *Interest* creates the urge to explore, learn, experience new things, and expand the self (Fredrickson, 2002). Thus, in contrast to the experience of negative emotions that, if prolonged, may lead to depression, anxiety, aggression, and health-risk behaviour, the experience

of positive emotions have indirect and long-term adaptive benefits as they help to develop the psychological strengths and positive resources an individual needs to reach and sustain a state of flourishing in life (Fredrickson, 2002; Fredrickson & Joiner, 2002). It has been shown empirically that the experience of positive emotions broadens thought-action repertoires and builds personal resources (e.g., resilience) (Fredrickson & Branigan, 2005; Fredrickson & Joiner, 2002; Fredrickson & Losada, 2005). Plus, the experience of positive emotion helps people to cope more effectively with adversity (Fredrickson, Tugade, Waugh, & Larkin, 2003), and interventions designed to increase the experience of positive emotions develop an individual's physical, social, and psychological resources (Fredrickson, 2008; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2007). Thus, the upward spiral of positive emotions that follow successful hopeful thinking may in turn increase the likelihood that an individual will reach and sustain a state of flourishing in life.

The Proposed Role of Hope in Mental Health Promotion

In Keyes 2007 article '*Promoting and Protecting Mental Health as Flourishing*', he argued that the assumption that underlies mental health research and practice in the United States (i.e., that the absence of mental illness is the presence of mental health) *must* be changed to facilitate a focus on the loftier goal of promoting a state of flourishing in life. With the high prevalence of mental illness in young Australians, and the associated emotional and financial burden it imposes, such a change needs to also occur in Australia. Positive mental health strategies that focus on psychological strengths, build enduring personal resources, buffer against or reduce mental illness, increase the engagement in

health-promoting behaviour, and prevent a life-persistent pattern of health-risk behaviour from developing are needed. It is purported that the cognitive process of hope plays an important role in mental health promotion and should be an important part of any strategy designed to promote mental health because it provides the mechanism that activates a positive cycle of functioning that then propels an individual towards a state of flourishing in life. The design and trial of a hope-focused strategy to investigate this in an Australian sample was not possible within the period of candidature. The research undertaken for this thesis therefore aimed to provide information to inform the subsequent development of such a strategy. A proposed model of the role of hope in mental health that combines the theories of Keyes and Lopez (2002), Snyder et al. (1991), and Fredrickson (1998) is outlined in the conclusion (Chapter eight) to provide a framework for the discussion of the current results.

CHAPTER TWO: AIMS OF THIS THESIS

The aim of this thesis was to contribute to knowledge in the area of mental health, from a positive psychological perspective, and extend the platform from which positive mental health strategies can be developed and launched to meet the mental health needs of young Australians. To do this, this thesis specifically drew on the theories of Keyes and Lopez (2002), Snyder et al. (1991), and Fredrickson (Fredrickson, 1998). The three gaps identified in the literature and the practical issues that shaped the form and content of the five papers that were produced are discussed below.

Gaps Identified in the Literature:

- 1. An Absence of Evidence to Indicate if an Explicit Focus on Hope Increases the Effectiveness of Cognitive Behaviour Therapy to Prevent the Onset of Depression in Young People.*

The first area evident following an initial search of literature was that, although evidence existed that strategies designed to prevent the onset of mental illness were effective [see Gillham, Shatte, & Freres (2000) and Merry, McDowell, Hetrick, Bir, & Muller (2004) for reviews], questions remained about their long-term effectiveness and just what elements within therapy were effective. This led to the question as to whether the inclusion of a focus on hope may be the difference between successful and unsuccessful therapy. As no research that examined this specific question was found, a meta-analysis was undertaken to determine if the presence of multiple compared to fewer hopeful elements increased the effectiveness of Cognitive Behavioural Therapy (CBT) to prevent the onset of depression in young people. An explanation as to why Depression was chosen as

an exemplar of a mental illness and CBT as the strategy employed is provided in the exegesis. The objective of the systematic review was to contribute to the existing knowledge base and help shape the content of strategies to promote mental health in young Australians.

2. The Absence of a Review of those Studies that Described a Young Person's Experience of Chronic Illness, using the Voices of Young People Themselves rather than Significant Others, to Help Guide the Content of Strategies to Promote Mental Health in this Population.

The second area evident following an initial search of literature was that the vast majority of studies that described a young person's experience of chronic illness did so from the perspective of others (e.g., nurse, parent, doctor). However, as this information may not accurately reflect a young person's experience of chronic illness, and assuming that this is the information used by health professionals when dealing with young people with chronic illness, this led to the question of whether this was the best information to inform the content of and shape strategies to promote mental health. Conventional wisdom, and research by Forsner, Jansson, and Soerlie (2005), indicates that the best source of information about a young person's experience of chronic illness comes from those diagnosed with chronic illness themselves. As no review of the research that used the voices of young people to describe their experience of chronic illness existed, a meta-synthesis was undertaken. As young people with chronic illness are said to be two to three times as likely to develop mental health problems compared to healthy children (Cadman, Boyle, Szatmari, & Offord, 1987; Eiser, 1990; Shooter, 2005), the object of the systematic review was to produce evidenced-based

recommendations regarding the content of strategies to promote mental health in this population.

3. *The Lack of Information about the Mental Health of Young Australian's that is not Based on the Absence of Mental Illness.*

The third area evident following an initial search of literature was that although numerous studies had conceptualised mental health within a positive framework and reported its prevalence and relationship to various physical, social, and behavioural outcomes in the United States (Cheavens et al., 2006; Fredrickson & Branigan, 2005; Fredrickson & Joiner, 2002; Irving, Snyder, & Crowson, 1998; Keyes, 2004, 2005b, 2006; Lopez, Floyd, Ulven, & Snyder, 2000; Snyder, 2002; Snyder et al., 1991), very few had had done so in Australia and none had operationalised the Complete State Model (CSM) of mental health (Keyes & Lopez, 2002). That is not to say a large body of information that examined the mental health of young Australians was not found. But rather that this information appeared predominately to focus on the identification (Sawyer et al., 2000), prevalence (Boyd, Kostanski, Gullone, Ollendick, & Shek, 2000), or prevention of mental illness (Barrett et al., 2006; Lowry-Webster et al., 2001; Shochet et al., 2001), which was presumed to indirectly report mental health. To address this lack of mental health information from a positive perspective, three independent but related studies were undertaken to better inform and meet the mental health needs of young Australians.

Initially, the CSM of mental health (Keyes & Lopez, 2002) was operationalised in a sample of young South Australians by combining scores from measures of positive and negative symptoms of functioning to determine the

prevalence of mental health according to the four states outlined by the model (i.e., flourishing, languishing, struggling, and floundering), and health-risk and health-promoting behaviour were assessed in order to determine any relationship between these and the optimum state of mental health (i.e., flourishing in life). Next, the scores obtained on the Adult Hope Scale (AHS) (Snyder et al., 1991) were used to examine if hope was a better predictor of mental health than was mental illness. Lastly, Australian normative scores for the AHS (Snyder et al., 1991), broken down by age, gender, and region were provided. Combined, it was envisaged that these results would help to meet the mental health needs of young Australians by (a) indicating the true prevalence of mental health in young Australians; (b) indicating that the promotion of mental health may be best achieved using strategies that build psychological strengths, like hope, rather than prevent or treat the symptoms of mental illness; and (c) providing health professionals with a means to identify young Australians who may need assistance to reach and sustain a state of flourishing in life based on the absence of psychological strengths rather than the presence of mental illness.

Practical Issues:

The traditional time taken for a research program that fulfils the requirements of a Doctor of Philosophy in Australia is between three and four years (fulltime). Such research is usually incremental in nature to ensure that it is directed by results and projects are restricted to testing hypotheses in small convenience samples unless access to well-funded projects is provided. However, faced with the constraints of my candidature, limited opportunities for funding, the thesis format chosen (a collection of published / submitted papers), and the additional

clinical workload involved, I was faced with two practical issues early on: (a) a traditional incremental approach might jeopardise the timely completion of the thesis given the high probability of delays in the process of data collection and/or journal publication, and (b) a small convenience sample would not be adequate to meet the proposed aims of the thesis. It was decided, therefore, that the current research would be incremental in design rather than nature, in that all studies would be planned to complement each other and started concurrently to maximise the time available to plan and recruit participants, and for journals to review and comment on submitted work.

An exegesis is now presented prior to the five papers, three of which have been published and two submitted for publication. The exegesis is aimed at providing additional background and contextualising information related to the studies described in the papers. The exegesis also provides information relating to why decisions were made that were outside of the scope of the journal papers.

CHAPTER THREE: EXEGESIS

Preamble

The broad rationale for this thesis came from observations made while volunteering with children's organisations throughout America and Australia. In general, these organisations helped young people who were disabled or living with chronic illness. My association with these organisations not only sparked my interest in psychology, but raised the broad question that was the impetus for the current research: why do some young people remain positive and hopeful in the face of seemingly impossible obstacles while others become negative and despondent? I postulated that the difference in these young people was the presence or absence of psychological strengths, such as hope, and wondered if the presence of such strengths were an essential element of mental health. An examination of the literature revealed that an area of psychology, positive psychology, was devoted to positive human functioning and that from this perspective the presence of psychological strengths, not just the absence of mental illness, was vital to reach and sustain an optimum state of mental health. But as little research from this perspective had been conducted in Australia, a need existed to provide mental health information that incorporated both positive *and* negative symptoms of functioning and investigate the potential of a strength-focused approach to mental health in young Australians. Following a discussion on the assumption that underlies a positive focus to mental health promotion, the following chapter will outline how and why the five papers that form the body of this thesis were undertaken.

Underlying Assumption of Research

This thesis rests on the assumption that the ability to successfully hope is an important element of mental health because it provides a young person with the skills and resources needed to reach and sustain an optimum state of mental health. The implication in this statement is that psychological strengths, such as hope, can be developed to increase levels of mental health and prevent or reduce symptoms of mental illness. The validity of such an approach is challenged, however, by the view that a baseline or genetically determined set-point exists to which the symptoms of positive functioning always return following any short-term increases (Headey & Wearing, 1992; Kahneman, Diener, & Schwarz, 1999). The 'Hedonic Treadmill', as this effect has been coined, suggests that any attempt to increase an individual's positive affect is futile as even though levels may fluctuate no sustained increase can ever be achieved (Brickman & Campbell, 1971; Headey, 2006; Headey & Wearing, 1992). In contrast, research from a positive psychological perspective has indicated that (a) levels of life satisfaction can and do change over time (Fujita & Diener, 2005); (b) strategies that focus on developing hopeful thinking increase subjective well-being and decrease the symptoms of mental illness (Cheavens et al., 2006); and (c) a focus on goals may avoid the 'Hedonic Treadmill' as goals change or are changed with time and ensure that increases in positive affect do not become routine and remain a source of positive uplift (King, 2008). Thus, it was deemed acceptable to adopt the assumption that levels of hope, a future goal-orientated process, can be increased and that hope may be a better focus of mental health strategies than mental illness because the ability to successfully hope may avoid the 'Hedonic Treadmill', buffer against the onset of mental illness, and promote a sustainable mental health.

Systematic Reviews

Paper one (*study one*) set out to confirm if existing strategies that used Cognitive Behavioural Therapy (CBT) that included an explicit focus on hope were more effective at preventing the onset of depression in young people than strategies that did not. Depression was chosen as an exemplar of mental illness because of its prevalence in young Australians, its usual onset during adolescence, and reports that it has increased in recent years (Andrews & Wilkinson, 2002; Department of Health, 2004). CBT was chosen as an example of a strategy to prevent the onset of depression because it has been suggested to be an effective means to do so in young people (Andrews & Wilkinson, 2002). It was purported that it may be the presence or absence of an explicit hope focus that then dictates the short or long-term effectiveness of CBT to prevent the onset of depression in young people. A meta-analysis of those studies that fit the inclusion criteria was conducted and the weighted or standardised mean differences were used to estimate the amount that CBT, with or without hopeful elements, changed a young person's self-reported depression scores at follow-up.

Paper two (*study two*) set out to describe a young person's experience of chronic illness and make recommendations about the content of strategies to promote mental health in this population. The current thesis was originally going to expand on the work undertaken in my honours year (Venning, Elliott, Whitford, & Honor, 2007), and focus on the mental health of young people with and without chronic illness. But, due to time constraints and problems with access to this population, this focus was abandoned midway through the first year. The review of the literature and the meta-synthesis of the research that described a young

person's experience of chronic illness using their own voices was completed to inform mental health promotion in this population. Findings were extracted from studies that fit the inclusion criteria and meta-synthesis conducted to produce single evidence-based findings that can be used to help develop and tailor the content of mental health promotion strategies.

Quantitative Research

The final three papers presented in this thesis set out to provide information on the mental health of young Australians within the framework of the Complete State Model (CSM) of mental health (Keyes & Lopez, 2002) and provide a baseline from which the mental health needs of young Australians can be better understood and met. Data for these studies were obtained from the South Australian Youth Mental Health Survey (SAYMHS) undertaken in early 2007 and conducted specifically for this thesis. The SAYMHS employed an on-line survey and collected demographic information and indicators of positive and negative functioning from young people (13-17 years) throughout regional and metropolitan South Australia. A discussion on the method used, design of survey, content, age targeted, sample size, and procedure employed follows.

Method Used: On-Line Survey

Planning for the SAYMHS began in early 2006. A review of previous studies that reported the mental health of young Australian's based on single indicators of positive or negative functioning indicated that they employed traditional methods, were backed by large organisations, and were well funded. However, as zero or limited funding was expected to be forthcoming to support this research, a way to

maximise the number of participants and minimise the cost was needed. An on-line survey was therefore chosen as the format. Research has indicated on-line methods are just as reliable as traditional methods for collecting data in psychology and have several advantages over traditional methods (Carlbring et al., 2007; Kiesler & Sproull, 1986). For the purposes of the current thesis the advantages of the on-line format included: (a) the limited to no administration time required of teachers, making participation attractive to schools; (b) instant data collection, thus removing the need to transfer data and the chance of mistakes at data entry; and (c) access to geographically isolated schools around South Australia.

The survey was modelled from a template used within the School of Psychology, The University of Adelaide, and hosted on the University's website. The first screen of the survey provided a student with information about the research, guaranteed confidentiality, and gained their consent (Figure 3). After a student had clicked on the 'I AGREE TO THE ABOVE TERMS' button they were then taken to the second screen, which was the main questionnaire (Figure 4). A response was registered when the radio button that corresponded to the selected answer was clicked. Only one answer was allowed per question and submission was disallowed until all 89 questions had been completed. Each participating school was assigned a unique identifier that students entered at the first question. This allowed for feedback to be provided to individual schools. Data were stored on the University's server.

The on-line survey consisted of five parts. Demographic information was initially collected (18 questions) followed by responses to the Adult Hope Scale (AHS; Snyder et al., 1991) (12 questions), the Satisfaction with Life Scale (SLS;

Diener, Emmons, Larsen, & Griffen, 1985) (5 questions), the Psychological Well-Being Scale (PWBS; Ryff, 1989) (18 questions), the Social Well-Being Scale (SWBS; Keyes, 1998) (15 questions), and finally the Depression Anxiety Stress Scale 21 (DASS-21; Lovibond & Lovibond, 1995) (21 questions). The AHS (≥ 15 years) was chosen over the Child Hope Scale (CHS; 7-15 years) (Snyder et al., 1997) for the following reasons. First, unlike the CHS, the AHS includes four

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THE RELATIONSHIP BETWEEN GOALS AND HAPPINESS

General Information: My name is Anthony Venning and I am a PhD student at The University of Adelaide. The purpose of this research is to explore the way young Australians deal with the problems faced in everyday life. These situations may include concerns or worries about things such as school, family or friends etc.

Participation: Participation in this study requires you to complete a questionnaire which will initially ask you to provide basic demographic information, and then respond to various questions asking about your outlook on life.

Questionnaire: Select your responses to the statements by using your mouse to click on the 'buttons'. You may only record one response for each item, and when you are finished responding, click the button at the bottom of the page to submit your responses. This study will not have any adverse side-effects, nor are there any foreseeable risks involved. If at any time you do not wish to continue, you are free to withdraw from the study.

Benefits: This study will help us understand what strategies adolescents and young adults use to deal with their problems.

Time: This task will take 10 to 15 minutes to complete

Your Rights: Your participation in this study is completely voluntary. You may withdraw from the study at any time simply by leaving the web site without submitting your responses. If you experience any negative feelings while completing, or after completing the questionnaire and want to discuss these further, please speak to your teacher.

Anonymity/Confidentiality: Your name is not collected so confidentiality is ensured.

For More Information: This study has been approved by the School of Psychology Human Ethics Committee, The University of Adelaide and the Department of Education and Children's Services. If you have any queries regarding this study, please contact me at anthony.venning@adelaide.edu.au, or my supervisor at the School of Psychology at Adelaide University: Dr Lisa Kettler: lisa.kettler@psychology.adelaide.edu.au. Any queries regarding ethical considerations should be addressed to the convenor of the School's Ethics Committee, Dr. Paul Delfabbro on 8303 5744 or paul.delfabbro@psychology.adelaide.edu.au.

How Do I Complete the Survey? Use your mouse to click on the 'buttons' to enter your responses. You can only choose **one** response per question. All questions must be answered - otherwise the questionnaire can't be submitted. Don't worry if you accidentally miss any - when you click on the "I have finished the questionnaire" button at the end of the questionnaire, a box will pop up and tell you if any questions were missed.

Consent: I acknowledge that if I am below 18 years of age, I have discussed and obtained the consent of my parent/s or guardian/s to participate in this research. I acknowledge that I have read and understood the above information.

I understand that:

- I am free to withdraw from the project at any time.
- The project is for the purpose of research only.
- Once I have completed the study, my details will not be divulged to any other parties.
- While information gathered in this study may be published, individual details will remain confidential.
- There are no known adverse effects of these questionnaires.

If you wish to proceed with this experiment please press the 'Agree' button.

Trusted sites | Protected Mode: Off | 100%

Figure 3. Screen shot of on-line questionnaire: first screen

items for each component instead of three to increase the robustness of the measure and four distractors to disguise its true nature. Second, the AHS has been used effectively in young samples from the age of 12 years to examine

activities, beliefs, and expectations, and determine the effectiveness of interventions to promote hardiness and hope (Buran, Sawin, Brei, & Fastenau, 2004; Green, Grant, & Rynsaardt, 2007). Finally, the information derived from the AHS is considered to be more useful to future investigators who may seek to identify the characteristics that are conducive to a successful transition from adolescence to adulthood. To avoid repetition, further details on why the AHS was chosen and the cultural modifications made can be found in Chapter 8 (*paper 5*).

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THE RELATIONSHIP BETWEEN GOALS AND HAPPINESS

- Enter your school code please (obtain from teacher)
- What is your age?
 12 years 13 years 14 years 15 years 16 years 17 years 18 years
- Do you have any brothers or sisters? If so how many?
 none 1 2 3 4 5+
- What is your gender?
 male female
- Do you smoke?
 no tried it once or twice socially regularly
- Do you drink alcohol?
 no tried it once or twice socially regularly
- What state do you live in currently?
 SA VIC NSW QLD NT WA TAS
- Please indicate whether you are currently employed?
 no casually part-time
- Are you a member of a sports or social group?
 no school group community group both
- Are you a member of a volunteer / charitable organisation?
 no yes

Done Trusted sites | Protected Mode: Off 100%

Figure 4. Screen shot of on-line questionnaire: second screen

A copy of the on-line questionnaire in Word format can be found in Appendix three. The five measures included in the on-line survey were chosen specifically to enable the CSM of mental health (Keyes & Lopez, 2002) to be operationalised.

The demographic questions addressed factors that had been associated with mental health in the literature. In this thesis, outside of the information that related to an individual's positive and negative functioning, only data relating to gender, geographical location, and an individual's engagement in health-risk or health-promoting behaviour were used. Ethical approval to gather the additional information was obtained and this was collected for research purposes outside of the scope of this thesis and which will be pursued in post-doctoral work.

Sample: Inclusion and Exclusion

The age range targeted was 12 to 18 years of age to coincide with the ages of young people at secondary school in Australia. Generally speaking, Year Eight students (i.e., the first year of secondary school) are 12 or 13 years of age while those in Year Twelve (i.e., the final year of secondary school) are 17 or 18 years of age. A power analysis was undertaken based on the requirements of study five to determine the sample size needed. It was calculated that for each of the seven age groups, in excess of 350 participants were needed to detect a small effect if any age by hope interaction occurred (≥ 2450 participants). Based on research that employed a similar on-line survey in a high school setting (Porter & Whitcomb, 2003), an estimated response rate of 15 percent indicated that to obtain the required numbers around 16 thousand young Australians needed to be approached. Faced with these numbers, it was envisaged that a simple random or stratified approach may not provide a representative sample, nor the numbers of schools required given that the participation of schools could not be guaranteed. Thus, to maximise the chances of obtaining a representative sample and the numbers required, every secondary school listed with the Department of Education

and Children's Services (DECS) in South Australia or in the 2005 Annual Report of the Advisory Committee on Non-Government Schools in South Australia that had a student population over 100 was approached. Copies of ethical approval, the information initially sent to schools, the participant information sheet, and the parental consent forms used are provided in Appendix four.

Data Collection

A schedule was arranged to visit each school that expressed interest in the first three weeks of February 2007. Data collection took place between March and July 2007. Parental consent forms were distributed and, once signed by a parent or guardian, collected by teachers before a student accessed the on-line survey. Completed consent forms were collected by myself or posted to the School of Psychology, the University of Adelaide, and are kept in a locked office. Alternatively, consent was obtained by default in those schools that employed a system in which parents were informed of upcoming activities via a newsletter. In these cases the principal, or his or her proxy, provided a consent form on behalf of parents. A student's assent was obtained via the first screen of the survey and surveys were completed during lesson time (e.g., during a pastoral care, health, or psychology class). In total, 52 of the 129 schools approached agreed to participate. However, data were recorded from only 41 as 11 withdrew before data collection began. Reasons cited for a school's non-participation included time constraints, concurrent participation in other research, or previous participation in other research. Data were recorded electronically from 38 schools ($n = 3441$). In situations where a school did not have access to, had a limited number of, or could not logistically get students to a computer, an identical paper version of the survey

was provided. Three schools used this method ($n = 598$) and data were entered manually onto the University's server.

A breakdown of the data collected in the SAYMHS is provided in Table 1. Upon the completion of data collection it was decided, however, that 12 and 18 year olds would be excluded from the subsequent analyses. This decision was made because numbers obtained in these age groups were less than what were specified by the power analysis, and removing these ages would then make results directly comparable with other Australian research that examined mental health (Sawyer et al., 2000). While this meant that the full data set gathered was not used in the current thesis, it has already been used in subsequent studies (Tully, Zajac, & Venning, 2009), and will remain a useful data set for future work.

Table 1
Age and Gender Breakdown of Data (12-18 years) collected in South Australia Youth Mental Health Survey

	Male <i>n</i>	Female <i>n</i>	Total <i>N</i>
12 years	36	57	93
13 years	502	537	1039
14 years	475	496	971
15 years	418	414	832
16 years	296	392	688
17 years	172	211	383
18 years	19	14	33
Total	1918	2121	4039

Following the decision to exclude 12 and 18 year olds, a second post-hoc power analysis was undertaken based on five age groups to confirm that the

numbers obtained were now adequate for the analyses planned. Results indicated that in excess of 305 participants of each age were needed to detect a small effect if any age by hope interaction occurred and thus the numbers were sufficient. To avoid repetition, further details on the post-hoc power analysis are provided in Chapter eight (*paper 5*) along with a breakdown of the final data set used.

Papers Three, Four, and Five

Paper three (*study three*) set out to describe the prevalence of mental health in young Australians according to the four states outlined in the CSM of mental health (Keyes & Lopez, 2002), and the relationship of these states to health-risk and health-promoting behaviour. This had never been done before in an Australian sample. It was envisaged that this information, derived from scores on both positive and negative symptoms of functioning, would help to inform the development and content of strategies to promote a state of flourishing in young Australians. A 'complete' focus on mental health was deemed to be more appropriate than an exclusive focus on mental illness, as this fails to acknowledge the importance of or lead to the development of psychological strengths, or an exclusive focus on psychological strengths, as this may ignore the normal experience of negative emotions essential for psychological growth (Held, 2004). The procedure employed to operationalise the CSM of mental health was modelled on similar research in the United States (Keyes, 2006), and data were drawn from the SAYMHS and combined to classify people as flourishing, languishing, struggling, or floundering in life.

Paper four (*study four*) set out to provide evidence that the process of hope predicts mental health in young people better than mental illness does. Research

has demonstrated that (a) only high levels of subjective well-being enable an individual to reach a state of flourishing in life (Keyes & Lopez, 2002); (b) the process of building mental health may directly or indirectly alleviate and undo the root causes of mental illness (Duckworth, Steen, & Seligman, 2005); (c) the presence of high levels of positive functioning when young is linked to positive mental health outcomes in adulthood (Arehart-Treichel, 2006); and (d) compared to young people low in hope, young people high in hope report increased levels of physical and psychological functioning (Cheavens et al., 2006; Snyder et al., 1991; Snyder et al., 2000). However, the capacity for hope to predict mental health (conceptualised as a combination of positive symptoms of functioning), and its capacity to predict mental health better than mental illness, remains empirically untested. It was envisaged that testing this would help to clarify the most appropriate focus of strategies to promote mental health. Data were drawn from the SAYMHS and confirmatory factor analysis was employed to test competing models that examine the relationship between hope and mental health, and mental illness and mental health.

Paper five (*study five*) set out establish normative scores for the AHS (Snyder et al., 1991) in a young Australian population. It was envisaged that the AHS has the potential to be used as an initial resource to identify young Australians who differ from the developmental norm in terms of their Hope scores and, where appropriate, to guide interventions to help those in need to reach and sustain a state of flourishing in life. The provision of Australian normative scores, broken down by age, gender and region, may increase the use of the AHS in clinical or health care settings in Australia by making Hope scores more meaningful in an Australia population and in doing so lessen the reliance on

measures of mental illness to indicate the presence or absence of mental health. Data were drawn from the SAYMHS and normative data specific to age, gender, and region is provided.

Further Notes on Papers

The plan for the current thesis was always to produce a body of work by publication rather than write a conventional thesis. This allowed findings to be disseminated as soon as possible, a publication record to be established, and feedback and comments from journal editors and reviewers to be incorporated into the final work. Although the five papers that form the body of this thesis have been produced as independent studies, they are related and represent an accurate and honest reflection of my thinking process behind this thesis. The discrepancy evident in the order the papers are presented and the actual publication dates is due to publication delays and/or other academic and 'life' commitments that meant aspects of the research were completed out of sequence. The order presented, however, corresponds to my thinking at the time the studies were formulated. Details of any requested amendments from journal editors have not been outlined as these have been incorporated into the final papers. It is hoped that when the reader comes across different but largely interchangeable terms being used in the chapters, such as adolescents or young people, they understand this is the result of journal editors' preferences rather than an intentional inconsistency. Finally, the reader will notice that the SAYMHS is referred to as *the Relationship between Goals and Happiness* in the information that was disseminated to schools and on the on-line survey. This alternative title was employed when the SAYMHS was conducted as it was thought to be more appropriate for the age range targeted.

CHAPTER FOUR: PAPER ONE - PUBLISHED

The effectiveness of Cognitive Behavioural Therapy with hopeful elements to prevent the development of depression in young people: a systematic review.

Anthony Venning, Lisa Kettler, Jaklin Elliott, and Anne Wilson (2009)
School of Psychology, The University of Adelaide
International Journal of Evidence Based Health Care, 7, 15-33

Statement of Contributions:

Mr Anthony Venning (*Candidate*)

I was responsible for the conception and primary authorship of the paper. I conducted the literature searches and analysed the data, and I was corresponding author and primarily responsible for responses to reviewers and revisions to the paper. The review was conducted using tools provided by the Joanna Briggs Institute and Dr. Elliott acted as the second reviewer to ensure the methodological quality of the papers that were selected.

Signed:

Date 7/08/2009

Dr Lisa Kettler, Dr Jaklin Elliott, and Dr Anne Wilson (*Co-authors*)

We were the supervisors of the research programme that lead to this publication and there was ongoing collaboration between Mr. Venning and us in refining the direction of the research. The realisation of the idea, collection of data, and analysis of data were the work of Mr. Venning. Mr. Venning was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the journal reviewers and editor. We hereby give our permission for this paper to be incorporated in Mr. Venning's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Lisa Kettler

Date 7/08/2009

Signed: Jaklin Elliott

Date 7/08/2009

Signed: Anne Wilson

Date 7/08/2009

Abstract

The onset of depression during adolescence can adversely impact future functioning. Cognitive Behavioural Therapy (CBT) has been suggested to prevent depression in adolescence by providing an individual with the ability to interpret and the tools to deal with the impact of negative life events. The objective of the current review was to examine the best available evidence to determine the effectiveness of CBT to prevent the onset of depression in young people, and assess whether the incorporation of hopeful elements makes CBT more effective. A comprehensive three step search strategy was developed to find both published and unpublished studies in English from 1987 to March 2007, papers selected for retrieval were then assessed for methodological validity by two independent reviewers. Papers that utilised a randomised control design and investigated the efficacy of CBT to prevent the onset of depression in young people between the age of 10 and 16 years were included. Papers were included if the CBT involved between four and fifteen sessions, a follow-up period of between 3 and 24 months, and included typical strategies such as the identification of negative and irrational beliefs, the establishment of links between thoughts, feelings, and behaviours, and provided tools so participants could self-monitor these. Data were extracted using the standard tool from the Joanna Briggs Institute, pooled in a meta-analysis, and then grouped and analysed according to the amount of hopeful elements the CBT was judged to contain. Limited evidence was found to indicate that CBT, regardless of its content (i.e., with or without hopeful elements), is effective at preventing the onset of clinical levels of depression in young people on a sustained basis. Nonetheless, given the devastating impact that depression can have on young people's future functioning, further research is needed to develop

effective interventions to equip young people with the cognitive skills to buffer its onset on a more sustained basis, and enable them to reach and sustain mental health.

Introduction

The onset of depression generally occurs in adolescence or young adulthood (Andrews & Wilkinson, 2002) which can adversely impact future functioning (Weller & Weller, 2000), and has a 60 to 70 percent chance of continuing into adulthood (Weller & Weller, 2000). It has been reported that the prevalence of depression in young people (a) is between 5 and 17 percent around the world (Adewuya, Ola, & Aloba, 2007; Habib & Seif El Din, 2007; Ravens-Sieberer, Wille, Bettge, & Erhart, 2007; Saluja et al., 2004; Sawyer et al., 2000; Tepper et al., 2008); (b) increases with age, with up to one in five expected to experience clinical depression before the end of high school (Gillham & Reivich, 2004); and (c) has increased in recent years (Centre for Epidemiology and Research, 2002). However, whereas it is not true that every young person will develop depression, it is true that the physical, social, and psychological changes they experience at this time act to heighten their vulnerability to depressive symptomatology (Cuijpers, 2003). As a result, interventions that offer positive strategies that can help buffer the impact of perceived or actual negative experiences at this time can help lessen a young person's vulnerability to and prevent the onset of depression.

It has been suggested that an adolescent's negative response to changes at this time may lead to the formation of a pessimistic explanatory style, which then in turn leads to a depressive symptomatology that persists into the future (Lewinsohn, Steinmetz, Larson, & Franklin, 1981). In other words, the challenges, potential failures, and/or negative experiences that occur during adolescence may lead to the formation of negative thoughts or feelings that leave young people vulnerable to depression. It has also been reported that when interventions are

employed to boost people's positive strengths and provide them with the tools needed to reframe any negative experiences, levels of mental illness are reduced and levels of well-being increased (Benson, Galbraith, & Espeland, 1995; Cheavens et al., 2006). Thus, psychologists can play an important preventative role in the lives of young people by providing them with not only the tools they need to identify negative thought patterns but also the tools to reframe them and set, work towards, and obtain future goals.

Research by Andrews and Wilkinson (2002) has suggested that CBT is an effective way to prevent the onset of depression in young people. Preventative interventions that occur prior to the onset of a mental disorder are designed to maintain low levels of the condition relative to a control, and include a follow-up that extends through a period of risk (Gillham et al., 2000). CBT is suggested to do this by providing an individual with the cognitive tools needed to overcome future stress and painful emotions and in turn effectively prevent the onset of depression (Abramson, Metalsky, & Alloy, 1989). However, as CBT is not a single therapy but rather a heterogeneous array of psychotherapies grouped under a common rubric (Snyder, 2002), not all CBT's may contain the hopeful and future orientated strategies that buffer against the impact of negative experiences and prevent the onset of depression. For example, according to Beck's model (1967), negative judgements about oneself and the future that are derived from stressful life events serve to fortify a negative self-image, which then facilitates a negative interpretation of subsequent experiences, which then further consolidates a negative self-concept (i.e., a cycle of negative thoughts is established). Thus, the inclusion of hopeful elements, as per Hope Theory (Snyder et al., 1991), to (a) teach young people how to recognise and change negative thought patterns; (b)

reframe negative life experiences as challenges to be overcome; (c) conceptualise goals; (d) produce numerous Pathways to these; and (e) summon the mental energy to maintain their pursuit, might be more effective at preventing this negative cycle from forming and provide benefits on a more sustained basis than CBT that does not.

In response to the high prevalence of depression in young people, its association to depression in adulthood, and the economic burden it places on society (Greenberg, Stiglin, Finkelstein, & Berndt, 1993; Harrington, 2005), it is imperative that effective interventions are employed that engage young people and not only prevent the onset of depression, but also provide the cognitive tool set needed to ensure they maintain mental health into adulthood. Accordingly, this review aimed to investigate the effectiveness of preventative CBT to prevent depression in young people and whether the inclusion of hopeful elements improves its effectiveness.

Objectives

The aims of the review were: (a) to examine the best available evidence in order to determine the on-going effectiveness of CBT designed to prevent the onset of depression in young people; and (b) to determine if CBT that incorporated hopeful elements was more effective at doing this than interventions that did not. The specific review questions were:

1. Compared to those who do not, do participants who receive CBT continue to score below the clinical cut-off for depression at follow-up (as indicated by scores on standard psychological measures)?

2. Compared with those who do not, do participants who receive CBT score differently at follow-up when tested on standardised psychological measures?
3. Compared with CBT judged not to contain any hopeful elements, as per Hope Theory (Snyder et al., 1991), do participants who receive CBT that contains one, two, or three hopeful elements report lower levels of depression compared to a control group at follow-up?

Method

Inclusion Criteria

Types of studies

Only quantitative research papers that used a randomised controlled design and reported the effectiveness of CBT to prevent the onset of depression in young people were included. Both universal and targeted interventions were included to determine the effectiveness of preventative CBT delivered to young people with varying levels of emotional and behavioural functioning and from different socio-economic areas. Papers published after 1987 were included to coincide with the revised classifications in the Diagnostic and Statistical Manual: Third Edition - Revised and papers that did not have an abstract in English were excluded

Types of participants

The review considered only those studies that dealt with young people aged between 10 and 16 years and who reported baseline levels of depression below what is considered clinically significant (i.e., according to the psychological instrument that was used). Research that was targeted at, or was concerned with,

young people who had a pre-existing Axis 1 disorder (e.g., depression) or were considered to be at risk or diagnosed with an Axis II to Axis V disorder (as defined by the Diagnostic and Statistical Manual: Third Edition - Revised) were excluded.

Type of intervention

The intervention of interest was CBT. However, as CBT is not a single therapy, but rather a heterogeneous array of psychotherapies grouped under a common rubric (Snyder, 2002), studies were included if they: (a) had between four (minimum) and fifteen (maximum) sessions, (b) had a follow-up period of between 3 (minimum) and 24 (maximum) months, and (c) included at least one of the following psychological strategies:

- The identification of negative and irrational beliefs;
- The establishment of links between thoughts, feelings, and behaviours;
- The provision of tools to self-monitor thoughts, feelings, and behaviours.

Type of outcome measures

The outcomes of interest to the current review were: (a) the absence of depression in the CBT group at follow-up (i.e., 3, 6, 12, 18, or 24 months), as indicated by scores below the clinical cut-off on the standardised psychological measures used; (b) lower levels of depression at follow-up reported by those in the CBT group compared to those in a control, no treatment, or usual care group, and (c) sustained lower levels of depression at follow-up reported by those in the CBT group that contained multiple hopeful elements compared to a control, no treatment, or usual care group, relative to the depression levels reported by those in the CBT groups that contained fewer hopeful elements. The standardised

psychological measures of interest to the current review were the Beck Depression Inventory (BDI) (Beck, Rush, Shaw, & Emery, 1979) and the Centre for Epidemiological Studies-Depression Scale (CES-D) (Radloff, 1977) (both designed for use in the general population), and the Children's Depression Inventory (CDI) (Kovacs, 1985) (designed for use in a young population), as these are the main psychological tools used to assess depression in young people.

Search Strategy

A comprehensive three step search strategy was developed to find both published and unpublished studies in English from 1987 to March 2007 (Appendix 1a). An initial limited search of PsycINFO, CINAHL and MEDLINE was undertaken to identify key words. A second search was then undertaken using all identified key words; databases searched included PubMed, PsycINFO, Web of Science and CINAHL; MeSH terminology and keywords were adapted when required. In addition, relevant websites and search engines were examined. The final step involved the manual searching of reference lists in identified studies to ensure that all relevant material was captured. Key journals in the area of clinical psychology and adolescent health that consistently appeared were also searched to capture relevant articles that fell outside the identified search terms. Hand-searching was also undertaken in journals that were not listed on databases but were known to contain literature in this field of investigation.

Methods of the Review

Assessment of methodological quality

Papers selected for retrieval were assessed for methodological validity by two independent reviewers prior to inclusion in the review using the standardised critical appraisal instrument from the Joanna Briggs Institute (Appendix 1b). The Joanna Briggs Institute is an initiative of the Royal Adelaide Hospital and The University of Adelaide, Australia, to provide resources and enable health professionals at the point of health care access to the best available international evidence about health care. All disagreements between reviewers on the methodological validity of studies were satisfactorily resolved through discussion.

Data collection

Data were extracted using the standard data extraction tool from the Joanna Briggs Institute (Appendix 1c).

Data analysis

Once the data were extracted the results were pooled in a meta-analysis (fixed effect) and the weighted mean difference (WMD) or the standardised mean difference (SMD) was then calculated. When studies used the same measure the WMD was calculated to estimate the amount the CBT changed depression scores on average, while taking into account the varying contributions of the studies. When studies used different measures the SMD was calculated to provide a uniform scale of measurement and express the size of the intervention effect relative to the variability observed in that trial. All results are accompanied by a measure of uncertainty indicated by the 95 percent confidence interval (CI). Based on the analysis, a relative positive or negative effect of the intervention was then estimated and presented graphically so that the area to the left of the line of no

effect represented a favourable outcome. Heterogeneity between combined studies was tested using a standard chi-square test (significance set at $p \leq .05$).

In addition, studies were grouped and analysed according to the number of hopeful elements the CBT was judged to contain (based on published protocols). Hopeful elements were considered to be: (a) a focus on goals, (b) instruction on how to generate 'Pathways' to goals (e.g., problem solve), and (c) instruction on ways to maintain 'Agency' to achieve goals (e.g., coping techniques) (Lopez, Ciarlelli, Coffman, Stone, & Wyatt, 2000). A study was considered to contain three elements if it explicitly dealt with goal setting, coping, and problem-solving; two if it dealt with goals and either coping or problem-solving; one if it dealt with goals or coping or problem-solving; and zero if it dealt with none of these.

Description of studies

A total of 42 papers were identified as eligible for the review based on the title and abstract. Of these, 32 were randomised controlled trials, seven allocated participants on an alternative basis, and three were meta-analyses. Thirty two studies were excluded as they did not meet inclusion criteria or their descriptive data were not clear (Appendix 1d). The ten studies that were included in the review yielded twelve results that compared a treatment group to a control, no treatment, or usual care group (Table 2). Four studies provided data at the 3 month follow-up point (573 subjects & 488 controls), seven at the 6 month follow-up point (750 subjects & 733 controls), five at the 12 month follow-up point (1096 subjects & 1099 controls), four at the 18 month follow-up point (514 subjects & 492

Table 2
Description of Included Studies

Study	Measure Used	Target Population	Recruited from	Intervention	Conditions	Follow-up Period				
						3	6	12	18	24
Cardemil et al. (2002)	CDI	Low income students (10-13 years)	Fifth and Sixth grade African- American students	PRP (12 sessions) Targeted	1. Intervention 2. No treatment	20	19			
						23	21			
Clarke et al. (1993a)	CES-D	Young people (14 -16 years)	Ninth and tenth grade students in two suburban areas	PC (3 sessions) Universal	1. Experimental 2. Control	279				
						234				
Clarke et al. (1993b)	CES-D	Young people (14 -16 years)	Ninth and Tenth grade students in two suburban areas	PC (5 sessions) Universal	1. Experimental 2. Control	151				
						149				
Gillham et al. (2007a)	CDI	Young people (12-15 years) With CDI < 13	Adolescents at schools in USA	PRP (12 sessions) Universal	1. Intervention 2. Usual Care	166	169	144	121	
						160	158	142	125	
Gillham et al. (2007b)	CDI	Young people (12-15 years) With CDI < 13	Adolescents at schools in USA	PEP (12 sessions) Universal	1. Intervention 2. Usual Care	156	155	137	122	
						160	158	142	125	
Gillham et al. (2006)	CDI	Young people (11-12 years) with CDI < 7 (Girls) < 9 (Boys)	HMOs	PRP (12 sessions) Targeted	1. Intervention 2. Usual care	111	102	97	96	
						101	91	82	83	

Note. Abbreviations used: BDI = Beck Depression Inventory; CDI = Children's Depressive Inventory; CES-D = Centre for Epidemiological Studies-Depression Scale; CPQ, Child's Perception Questionnaire; CWSC = Coping with Stress Course; HMO, Health Maintenance Organisation; OLS = Optimism and Life Skills Program; PC = Preventative Curriculum; PEP = Penn Enhancement Program; PPP = Penn Prevention Program; PRP = Penn Resiliency Program; PSFL = Problem Solving for Life; RAP-Kiwi = The Resourceful Adolescent Program; SAEL = Social Aspect in Everyday Life.

Table 2
Description of Included Studies (Cont.)

Study	Measure Used	Target Population	Recruited from	Intervention	Conditions	Follow-up Period				
						3	6	12	18	24
Jaycox et al. (1994)	CDI	Young people (10-13 years) identified via CDI and CPQ score	Adolescents from school districts in the USA	PPP (12 sessions) Universal	1. Intervention	55				
					2. Usual care	64				
Merry et al. (2004)	BDI	Young people (13-15 years) with scores <23 (score 2 on item 2 or 9)	New Zealand school districts (lower and middle class)	RAP-Kiwi (11 sessions) Universal	1. Intervention	178	153	136		
					2. Control	155	142	126		
Possel et al. (2005)	CES-D	Young people (13-15 years)	Two German school districts	SAEL (10 sessions) Universal	1. Training	123				
					2. Control	82				
Quayle et al (2001)	CDI	Young people (11-12 years)	A girls' school in Western Australia	OLS (8 sessions) Universal	1. Intervention	20				
					2. Control	13				
Roberts et al. (2003)	CDI	13 students from each class with highest CDI scores (11-13 years)	Seventh grade students in a rural district in Australia	PPP (12 sessions) Targeted	1. Intervention	65				
					2. Control	72				
Spence et al. (2005)	BDI	Young people (12-14 years)	Eighth grade students in co-educational schools in Australia	PSFL (8 sessions) Universal	1. Intervention	517		499		
					2. Control	550		575		

Note. Abbreviations used: BDI = Beck Depression Inventory; CDI = Children's Depressive Inventory; CES-D = Centre for Epidemiological Studies-Depression Scale; CPQ, Child's Perception Questionnaire; CWSC = Coping with Stress Course; HMO, Health Maintenance Organisation; OLS = Optimism and Life Skills; PC = Preventative Curriculum; PEP = Penn Enhancement Program; PPP = Penn Prevention Program; PRP = Penn Resiliency Program; PSFL = Problem Solving for Life; RAP-Kiwi = The Resourceful Adolescent Program; SAEL = Social Aspect in Everyday Life.

controls), and two at the 24 month follow-up point (620 subjects & 700 controls). All participants were recruited from community or school groups only. Results that were reported according to gender (Clarke, Hawkins, Murphy, & Sheeber, 1993a, 1993b), high or low initial symptoms, (Cardemil, Reivich, & Seligman, 2002; Possel, Baldus, Horn, Groen, & Hautzinger, 2005), or by individual schools (Gillham et al., 2007a, 2007b) were combined for the current review.

Methodological Quality

Assessment and outcomes

All studies measured the effectiveness of CBT by comparing the scores of young people who received CBT on the BDI (Merry, McDowell, Wild, Bir, & Cunliffe, 2004; Spence, Sheffield, & Donovan, 2005), the CDI (Cardemil et al., 2002; Gillham et al., 2007a, 2007b; Jaycox, Reivich, Gillham, & Seligman, 1994; Quayle et al., 2001; Roberts et al., 2003), or the CES-D (Clarke et al., 1993a, 1993b; Possel et al., 2005), to a control, no treatment, or usual care group at various follow-up points (i.e., at 3, 6, 12, 18, or 24 months). All measures used in the included studies have been reported to have good psychometric qualities with a score above or equal to 13 (BDI and CDI) or above or equal to 16 (CES-D) indicative of clinically significant levels of depression.

Randomisation

All studies randomised participants to a CBT, no treatment, or usual care group. Eight did this on an individual basis (Cardemil et al., 2002; Clarke et al., 1993a, 1993b; Gillham et al., 2007a, 2007b; Gillham, Hamilton, Freres, Patton, &

Gallop, 2006; Merry, McDowell, Wild et al., 2004; Possel et al., 2005; Quayle et al., 2001; Roberts et al., 2003), and two on a school basis (Quayle et al., 2001; Spence et al., 2005).

Incomplete data

Trials were excluded if less than 60 percent of respondents were available at follow-up, because when the attrition rate in randomised controlled studies exceeds 40 percent the validity of the results is undermined (James, Soler, & Weatherall, 2005) (Appendix 1e). Consequently, data collected at 6 months in the study by Quayle (2001), and 24 months in the studies by Gillham et al. (2007a, 2007b) were not included in the analysis.

Treatment protocols

All papers published a protocol for the CBT that was used to determine the number of hopeful elements they included (Appendix 1f). In total eight interventions were used in the 11 studies included: four studies were judged to contain three hopeful elements, one study two hopeful elements, three studies one hopeful element, and three studies were judged to contain zero hopeful elements. The descriptions of the CBT provided varied and the details on who delivered it can be found in Appendix 1g.

Demographics and clinical characteristics

All studies, except one (Quayle et al., 2001) included both male and female participants and covered a range of socio-economic classes. Five studies did not

provide information of ethnicity (Clarke et al., 1993a, 1993b; Possel et al., 2005; Quayle et al., 2001; Spence et al., 2005) and participants were recruited from schools or Health Maintenance Organisations in Australia, Germany, or the United States. Participants were deemed to be vulnerable for the development of depression based on their subclinical depression scores (Clarke et al., 1993a, 1993b; Gillham et al., 2007a, 2007b; Gillham et al., 2006; Jaycox et al., 1994; Merry, McDowell, Wild et al., 2004; Roberts et al., 2003), age (Possel et al., 2005; Spence et al., 2005), location (Cardemil et al., 2002), or age and gender (Quayle et al., 2001).

Results

Do Young People who Receive CBT Continue to Report Scores Below the Clinical Cut-Off Point for Depression at Follow-up?

In all studies, adolescents who received preventative CBT continued to score below the clinically significant cut-off score for depression at all follow-up points.

Do Young People who Receive CBT Maintain Lower Levels of Depression at Follow-Up Compared to those in the Control, No Treatment, or Usual Care Group?

Eleven studies were included in the meta-analysis to investigate the effectiveness of CBT compared to a control, no treatment, or usual care group at 3, 6, 12, 18, and 24 months (Cardemil et al., 2002; Clarke et al., 1993a, 1993b; Gillham et al., 2007a, 2007b; Gillham et al., 2006; Jaycox et al., 1994; Merry, McDowell, Wild et al., 2004; Possel et al., 2005; Roberts et al., 2003; Spence et al., 2005). Examination of scores indicated that the 95 percent CI included zero at all follow-up points so neither group was favoured: 3 months (SMD = - .10,

CI = - .23, .02), 6 months (SMD = - .07, CI = - .17, .03), 12 months (SMD = - .06, CI = - .14, .03), 18 months (SMD = - .05, CI = - .17, .07), and 24 months (SMD = - .04, CI = - .15, .07) (Appendix 1h).

The effectiveness of CBT determined by specific outcome measures

Depression, as measured by the CDI

Six studies used the CDI to measure depression (Cardemil et al., 2002; Gillham et al., 2007a, 2007b; Gillham et al., 2006; Jaycox et al., 1994; Roberts et al., 2003). However, because of the insufficient overlap at follow-up points, meta-analysis was only able to be conducted at 6, 12, and 18 months. Examination of scores indicated a WMD of - 1.12 at 6 months (95% CI = - 1.93, - .31) and - 1.25 at 12 months (95% CI = - 2.18, - .31) favouring CBT (Figures 5 & 6). At 18 months neither group was favoured (WMD = - .96, 95% CI = - 1.96, .04) (Appendix 1h).

Depression, as measured by the CES-D

Three studies used the CES-D to measure depression (Clarke et al., 1993a, 1993b; Possel et al., 2005). However, meta-analysis was only able to be carried out at 3 months. Examination of the scores indicated a WMD of - .92 (95% CI = -2.18, .35), but as the CI included zero neither group was favoured (Appendix 1h).

Depression, as measured by the BDI

Two studies used the BDI to measure depression (Merry, McDowell, Wild et al., 2004; Spence et al., 2005). Meta-analysis was only able to be carried out at 12 months, and examination of scores indicated a WMD of .21 (95% CI = - .77, 1.19), but as the CI included zero neither treatment was favoured (Appendix 1h).

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 06 The effect of preventative interventions, measured by the CDI, at 6 months follow-up

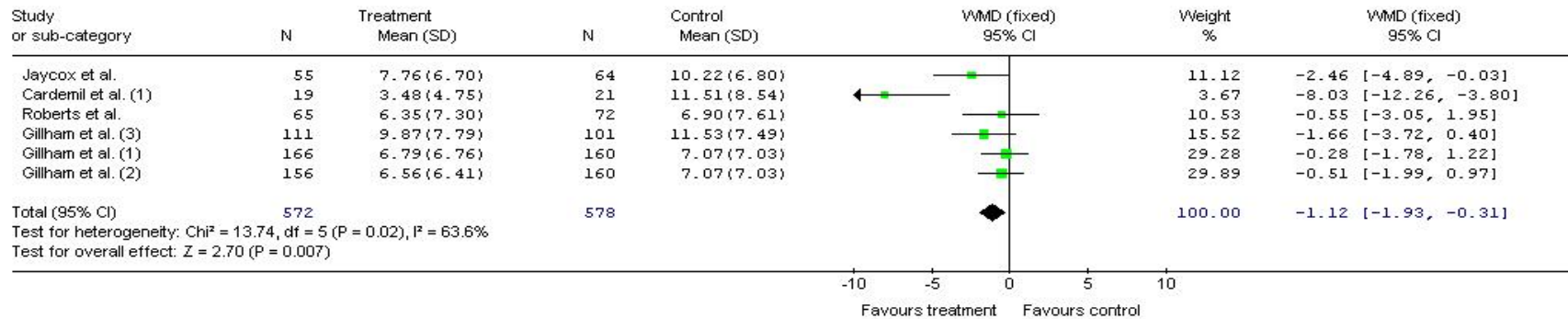


Figure 5: Cognitive Behavioural Therapy at 6 month follow-up, as measured by the Children’s Depressive Inventory: SD = standard deviation; WMD = weighted mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 07 The effect of preventative interventions, measured by the CDI, at 12 months follow-up

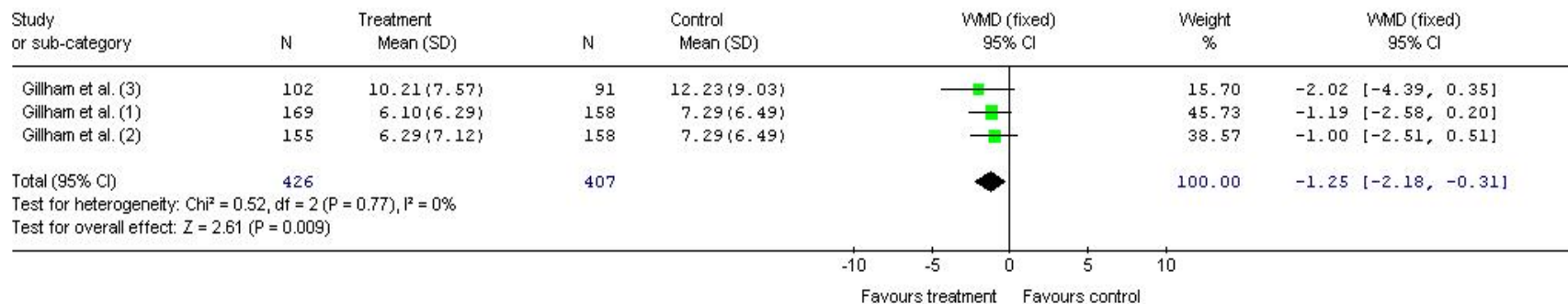


Figure 6: Cognitive Behavioural Therapy at 12 month follow-up, as measured by the Children’s Depressive Inventory: SD = standard deviation; WMD = weighted mean difference; CI = confidence interval.

Is CBT that Contains Hopeful Elements more Effective at Maintaining Lower Levels of Depression, Compared to a Control, No Treatment, or Usual Care Group, than CBT that Does Not?

The effectiveness of CBT that incorporated three hopeful elements

Four studies used CBT judged to incorporate three hopeful elements (Cardemil et al., 2002; Gillham et al., 2007a; Gillham et al., 2006; Spence et al., 2005). However, a meta-analysis was only possible at 6, 12, and 18 months due to insufficient overlap at follow-up points. Scores at 6 months indicated a WMD of - 1.39 (95% CI = - 2.53, - .25), favouring CBT over a no treatment or usual care group (Figure 7). However, at 12 (SMD = - .05, 95% CI = - .15, .05) and 18 months (WMD = .42, 95% CI = - .87, 1.71) neither group was favoured (Appendix 1h).

The effectiveness of CBT that incorporated two hopeful elements

As only one study was judged to use CBT that contained two hopeful elements (Gillham et al., 2007b) a meta-analysis was not possible.

The effectiveness of CBT that incorporated one hopeful element

Three studies used CBT that was judged to contain one hopeful element (Jaycox et al., 1994; Merry, McDowell, Wild et al., 2004; Roberts et al., 2003). However, due to insufficient overlap at follow-up and excluded data, a meta-analysis could only be carried out at 6 months. Examination of the scores indicated that neither group was favoured (SMD = .03, 95% CI = - .13, .19) (Appendix 1h).

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 10 The effect of preventative interventions with 3 hopeful elements at 6 months

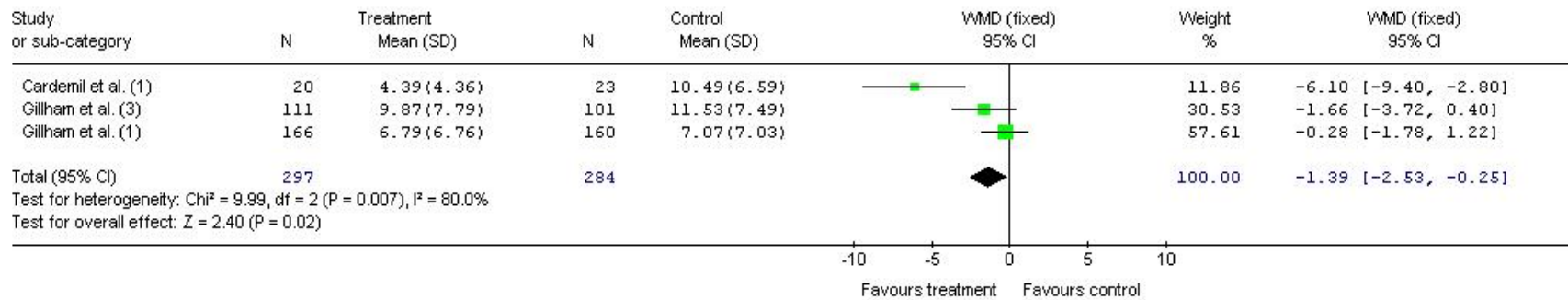


Figure 7: Cognitive Behavioural Therapy that incorporated 3 hopeful elements at 6 month follow-up: SD = standard deviation; WMD = weighted mean difference; CI = confidence interval.

The effectiveness of CBT that incorporated zero hopeful elements

Three studies were judged to use CBT that incorporated no hopeful elements (Clarke et al., 1993a, 1993b; Possel et al., 2005). Results were identical to those shown in *Depression, as measured by the CES-D* (Appendix 1h).

Summary of Results

In general, while the current review indicates that preventative CBT does maintain self-reported levels of depression below what is considered clinically significant up to 24 months, it also indicates that CBT is not effective at significantly reducing these levels below that of a control, no treatment, or usual care group (refer to Table 3). The exceptions to this were studies in which the CBT was judged to incorporate three hopeful elements and/or used the CDI (Kovacs, 1985) to measure the effectiveness of the CBT (Cardemil et al., 2002; Gillham et al., 2007a; Gillham et al., 2006; Spence et al., 2005). Relative to those in the control, no treatment, or usual care group, lower levels of depression were reported by those in the CBT group at all follow-up points, but neither group ever reported levels above what is considered clinically significant.

Discussion

The current systematic review indicated that the limited benefits of preventative CBT are not sustained in the long-term. However, these results did indicate that future research should examine the potential that these benefits may be increased and/or extended via the inclusion of elements of positive functioning (i.e., hopeful elements) and/or more accurately accessed via age appropriate measures.

Table 3
Effectiveness of Cognitive Behavioural Therapy over Control / No Intervention / Usual Care Group

	3	6	12	18	24
	Months	Months	Months	Months	Months
CBT Interventions (overall)	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Measured by the BDI	-	-	<i>No</i>	-	-
Measured by the CDI	-	Yes	Yes	<i>No</i>	-
Measured by the CES-D	<i>No</i>	-	-	-	-
With three hopeful elements	-	Yes	<i>No</i>	<i>No</i>	-
With two hopeful elements	-	-	-	-	-
With one hopeful element	-	<i>No</i>	-	-	-
With zero hopeful elements	<i>No</i>	-	-	-	-

Note: BDI, Beck Depression Inventory (Beck, 1979); CDI, Children's Depressive Inventory (Kovacs, 1985), CES-D, Centre for Epidemiological Studies-Depression Scale (Radloff, 1977).

These findings suggest that the inclusion of hopeful strategies, designed to provide young people with the extra resources needed to make sense of challenging or stressful situations, may act to extend the benefits of preventative CBT. According to Lewinsohn's 'scar' hypothesis (Lewinsohn et al., 1981), a pessimistic explanatory style develops if a young person experiences negative feelings as a result of a perceived lack of control over events. Thus, through the explicit instruction in the positive cognitive strategies that constitute hopeful thinking (i.e., those focused on current problems and future goals) an adolescent can regain a sense of control in a potentially turbulent time or prevent this negative cycle or 'scar' from ever forming.

Furthermore, results showed that when compared to studies that used the BDI (Beck et al., 1979) and CES-D (Radloff, 1977), and in comparison to a control, no treatment, or usual care group, those studies that used the CDI (Kovacs, 1985) to measure the effectiveness of preventative CBT indicated that it was effective up to 12 months. This result may therefore indicate that the BDI and CES-D should not be used to measure the effectiveness of preventative CBT in a younger population and may actually underestimate its effectiveness. Alternatively it may just be an artefact of the different measures used. For example, the preventative benefits of CBT were only identified in those studies that used the CDI: the CDI is a modification of the BDI and was designed specifically for a young population while the BDI and CES-D were designed for use within a general population. Thus, it is plausible that the CDI is more sensitive in a young population and correctly reflected the level of depressive symptomatology while the others did not. However, researchers have also noted that items on the CDI may be too broad and only tap non-specific symptoms that are more indicative of a general psychopathology rather than depression (Saylor, Finch, Spirito, & Bennett, 1984).

Conclusion

The current results indicated that CBT was effective at preventing the onset of depression in young people in the short-term, but only if it contained multiple hopeful elements and/or was assessed with the CDI (Kovacs, 1985). Depressive symptomatology was maintained below that of a control, no treatment, or usual care group for up to 6 months if the CBT used was judged to contain multiple hopeful elements, and up to 12 months if the age appropriate CDI (Kovacs, 1985) was used. But, as a limited amount of data was available for comparison beyond 3 months, we cannot conclude that the benefits of preventative CBT shown in the

current review are not just due to chance. That said, the indication that preventative CBT offers some protection against the onset of depression if it includes hopeful elements, and that these may be extended and/or have been previously underestimated by the use of inappropriate measures is promising. But the operation of these elements and the combined or individual roles they may play was unable to be determined. The practical benefits that these findings offer to those designing or implementing preventative interventions to offset the development of depression in young people include: (a) the confirmation that CBT can be effective in the short-term; (b) the indication that its benefits may be due to or extended through the inclusion of positive and future orientated cognitive skills; and (c) the use of age appropriate measures might be required to accurately determine the effectiveness of preventative CBT interventions. Future research is needed to unpack the individual roles these elements play, to determine the most accurate way to measure the effectiveness of preventative CBT in young people, and ultimately extend the benefits provided by preventative CBT.

Recommendations

The current systematic review indicates that CBT that is employed to prevent the onset of depression in young people is generally not effective in the long-term. That said, the current review indicates that the effectiveness of preventative CBT may depend on its content and the accurate assessment of its effectiveness may depend on the suitability of the measures chosen. Future research is needed to identify those strategies that provide young people with the tools needed to buffer against the onset of depression, how to best incorporate these into preventative interventions, and how to best measure the outcomes of these to meet the mental health needs of young people.

Appendix 1a

Search strategy

PubMed search strategy

1. mental hygiene OR hygiene mental (15083)
2. prevention OR primary prevention OR secondary prevention OR early intervention (831949)
3. mental health OR promotion of health (98220)
4. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (2637210)
5. personality disorder OR personality disorder* (26996)
6. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (1658457)
7. adult OR adults (4176536)
8. (#2 AND #3) OR #1 (31331)
9. #8 AND #4 (4625)
10. #9 NOT #5 (4553)
11. #10 AND #6 (1214)
12. #11 NOT #7 (581)

The result of 12th search was 459 articles (1987+), 6 were identified to fit the criteria.

PsycINFO search strategy

1. mental disorder OR mental disorder* OR depression OR depressive disorder* OR anxiety OR anxiety disorder* OR adjustment disorder OR adjustment

- disorder* OR dissociative disorder OR dissociative disorder* OR eating disorder OR eating disorder* OR mood disorder OR mood disorder* OR sleep disorder OR sleep disorder* OR substance related disorder OR substance related disorder* (263921)
2. mental hygiene OR hygiene mental (5632)
 3. prevention OR primary prevention OR secondary prevention OR early intervention (165745)
 4. mental health OR promotion of health (217647)
 5. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (295770)
 6. personality disorder OR personality disorder* (22398)
 7. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (470744)
 8. adult OR adults (214403)
 9. (S1 AND S3 AND S4) OR S2 (30727)
 10. S9 AND S5 (10243)
 11. S10 NOT S6 (9972)
 12. S11 AND S7 (1915)
 13. S12 NOT S8 (1650)

The result of 13th search was 862 (1987+) articles, 13 were identified to fit the criteria.

AustHealth search strategy

1. mental disorder OR mental disorder* OR depression OR depressive disorder* OR anxiety OR anxiety disorder* OR adjustment disorder OR adjustment

- disorder* OR dissociative disorder OR dissociative disorder* OR eating disorder OR eating disorder* OR mood disorder OR mood disorder* OR sleep disorder OR sleep disorder* OR substance related disorder OR substance related disorder* (8788)
2. mental hygiene OR hygiene mental (9)
 3. prevention OR primary prevention OR secondary prevention OR early intervention (30229)
 4. mental health OR promotion of health (10645)
 5. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (30383)
 6. personality disorder OR personality disorder* (637)
 7. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (43153)
 8. adult OR adults (17495)
 9. (#1 AND #3 AND #4) OR #2 (365)
 10. #9 AND #5 (60)
 11. #10 NOT #6 (60)
 12. #11 AND #7 (32)
 13. #12 NOT #8 (22)

The result of 13th search was 22 (1987+) articles, 0 new articles that fitted the criteria were identified.

Web of Science search strategy

1. mental disorder OR mental disorder* OR depression OR depressive disorder* OR anxiety OR anxiety disorder* OR adjustment disorder OR adjustment

- disorder* OR dissociative disorder OR dissociative disorder* OR eating disorder OR eating disorder* OR mood disorder OR mood disorder* OR sleep disorder OR sleep disorder* OR substance related disorder OR substance related disorder* (100000)
2. mental hygiene OR hygiene mental (226)
 3. prevention OR primary prevention OR secondary prevention OR early intervention (100000)
 4. mental health OR promotion of health (58271)
 5. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (100000)
 6. personality disorder OR personality disorder* (17911)
 7. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (100000)
 8. adult OR adults (100000)
 9. (#1 AND #3 AND #4) OR #2 (1748)
 10. #9 AND #5 (281)
 11. #10 NOT #6 (265)
 12. #11 AND #7 (89)
 13. #12 NOT #8 (71)

The result of 13th search was 71 (1987+) articles, 2 new articles were identified to fit the criteria.

CINAHL search strategy

1. mental disorder OR mental disorder* OR depression OR depressive disorder* OR anxiety OR anxiety disorder* OR adjustment disorder OR adjustment

- disorder* OR dissociative disorder OR dissociative disorder* OR eating disorder OR eating disorder* OR mood disorder OR mood disorder* OR sleep disorder OR sleep disorder* OR substance related disorder OR substance related disorder* (47230)
2. mental hygiene OR hygiene mental (37)
 3. prevention OR primary prevention OR secondary prevention OR early intervention (136213)
 4. mental health OR promotion of health (25703)
 5. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (248950)
 6. personality disorder OR personality disorder* (1604)
 7. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (199065)
 8. adult OR adults (195449)
 9. (#1 AND #3 AND #4) OR #2 (792)
 10. #9 AND #5 (228)
 11. #10 NOT #6 (234)
 12. #11 AND #7 (64)
 13. #12 NOT #8 (40)

The result of 13th search was 40 (1987+) articles, 0 new articles were identified.

Academic Search Premier search strategy

1. mental disorder OR mental disorder* OR depression OR depressive disorder* OR anxiety OR anxiety disorder* OR adjustment disorder OR adjustment disorder* OR dissociative disorder OR dissociative disorder* OR eating

- disorder OR eating disorder* OR mood disorder OR mood disorder* OR sleep disorder OR sleep disorder* OR substance related disorder OR substance related disorder* (104399)
2. mental hygiene OR hygiene mental (760)
 3. prevention OR primary prevention OR secondary prevention OR early intervention (161831)
 4. mental health OR promotion of health (103270)
 5. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (218419)
 6. personality disorder OR personality disorder* (6502)
 7. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (665846)
 8. adult OR adults (211281)
 9. (#1 AND #3 AND #4) OR #2 (1516)
 10. #9 AND #5 (196)
 11. #10 NOT #6 (190)
 12. #11 AND #7 (49)
 13. #12 NOT #8 (41)

The result of 13th search was 41 (1987+) articles, 1 new article were identified.

Expanded Academic Index search strategy

1. mental disorder OR mental disorder* OR depression OR depressive disorder* OR anxiety OR anxiety disorder* OR adjustment disorder OR adjustment disorder* OR dissociative disorder OR dissociative disorder* OR eating disorder OR eating disorder* OR mood disorder OR mood disorder* OR sleep

- disorder OR sleep disorder* OR substance related disorder OR substance related disorder* (17349)
2. mental hygiene OR hygiene mental (188)
 3. prevention OR primary prevention OR secondary prevention OR early intervention (25441)
 4. mental health OR promotion of health (13362)
 5. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (18604)
 6. personality disorder OR personality disorder* (284)
 7. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (279086)
 8. adult OR adults (105071)
 9. (#1 AND #3 AND #4) OR #2 (406)
 10. #9 AND #5 (43)
 11. #10 NOT #6 (46)
 12. #11 AND #7 (32)
 13. #12 NOT #8 (28)

The result of 13th search was 28 (1987+) articles, 0 new articles were identified.

ISI current contents

1. mental disorder OR mental disorder* OR depression OR depressive disorder* OR anxiety OR anxiety disorder* OR adjustment disorder OR adjustment disorder* OR dissociative disorder OR dissociative disorder* OR eating disorder OR eating disorder* OR mood disorder OR mood disorder* OR sleep

- disorder OR sleep disorder* OR substance related disorder OR substance related disorder* (100000)
2. mental hygiene OR hygiene mental (156)
 3. prevention OR primary prevention OR secondary prevention OR early intervention (100000)
 4. mental health OR promotion of health (39997)
 5. cognitive behavioural therapy OR cognitive behavioural therapies OR psychotherapy OR preventative therapy OR therapy* (100000)
 6. personality disorder OR personality disorder* (10771)
 7. child* OR children OR young people OR adolescent OR adolescents OR adolescence OR youth NOT infant (100000)
 8. adult OR adults (100000)
 9. (#1 AND #3 AND #4) OR #2 (1424)
 10. #9 AND #5 (237)
 11. #10 NOT #6 (222)
 12. #11 AND #7 (78)
 13. #12 NOT #8 (63)

The result of 13th search was 63 (1998+) articles, 2 new articles were identified.

Additional searches were done electronically through the Cochrane Library, Dissertation Abstracts International, Grey Literature, Google, and Google Scholar.

Appendix 1b

RCT Critical Appraisal Form

Author _____ Year _____ Record Number _____

- 1) Were the participants randomised to study groups?
 yes no not clear
- 2) Allocation to treatment groups was concealed from the allocator?
 yes no not clear
- 3) Other than research intervention, were participants in each group treated the same?
 yes no not clear
- 4) Were groups comparable at entry?
 yes no not clear
- 5) Were the outcomes measured in the same manner for all participants?
 yes no not clear
- 6) Those assessing outcome were blinded to treatment allocation
 yes no not clear
- 7) Outcomes were measured in a reliable manner
 yes no not clear
- 8) The statistical analysis used was appropriate for the data presented
 yes no not clear
- 9) Was there adequate follow-up of participants?
 yes no not clear
 (less than 60% followed up)

Appendix 1c

Data Extraction Form

Author Record Number

Journal

Year

Reviewer

Method _____

Setting _____

Participants _____

Number of Participants _____

Group A

Group B

Interventions

Intervention A _____

Intervention B

Outcome Measures

Outcome Description	Scale/Measure

Results

Dichotomous Data

Outcome	Treatment Group Number/total number	Control Group Number/total number

Continuous Data

Outcome	Treatment Group Mean & SD (number)	Control Group Mean & SD (number)

Authors Conclusion

Reviewers Conclusion

Appendix 1d

Excluded Studies

- Beardslee, W.R., Wright, E.J., Salt, P., Drezner, K., Gladstone, T.R.G., Versage, E.M., & Rothberg, P.C. (1997). Examination of children's responses to two preventative intervention strategies over time. *Journal of the American Academic Child Adolescence Psychiatry*, 36, 196-204.

Reason: out of age range.

- Bond, L., Patton, G., Glover, S., Carlin, J.B., Butler, H., Thomas, L., & Bowes, G. (2004). The Gatehouse project: can a multilevel school intervention affect emotional wellbeing and health risk behaviours? *Journal of Epidemiological Community Health*, 58, 997-1003.

Reason: looked at health risk behaviours, not depression.

- Cecchini, T.B. (1998). An interpersonal cognitive behavioural approach to childhood depression: a school-based primary prevention study. *Dissertation Abstracts International*, 58(12-B), 6803.

Reason: only post test data, no follow-up.

- Clarke, G.N., Hawkins, W., Murphy, M., Sheeber, L.B., Lewinsohn, P.M., & Seeley, J.R. (1995). Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: a randomized trial of a group cognitive intervention. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 312-321.

Reason: participants scored above the clinical cut-off point for depression at baseline.

- Clarke, G.N., Hornbrook, M., Lynch, F., Polen, M., Gale, J., Beardslee, W., O'Conner, E., & Seeley, J. (2001). A randomized trial of a group cognitive

intervention for preventing depression in adolescent offspring of depressed parents. *Archives of General Psychiatry*, 58, 1127-1134.

Reason: insufficient description of numbers in groups.

- Congleton, A.B. (1996). The effect of a cognitive behavioural group intervention on the locus of control, attributional style, and depressive symptoms of middle school students. *Dissertation Abstracts International: Humanities and Social Sciences*, 56(9-A): 3507.

Reason: only included post-intervention measure.

- Cuijpers, P., Van Straten, A., & Smit, F. (2005). Preventing the incidence of new cases of mental disorders: a meta-analytic review. *The Journal of Nervous and Mental Disease*, 193, 119-125.

Reason: systematic review, used to identify studies that fit criteria.

- Dadds, M.R., Holland, D.E., Laurens, K.R., Mullins, M., Barrett, P., & Spence, S.H. (1999). Early intervention and prevention of anxiety disorders in children: results at 2-year follow-up. *Journal of Consulting and Clinical Psychology*, 67, 145-150.

Reason: out of age range.

- Dadds, M.R., Spence, S.H., Holland, D.E., Barrett, P.M., & Laurens, K. (1997). Prevention and early intervention for anxiety disorders: a controlled trial. *Journal of Consulting and Clinical Psychology*, 65, 627-635.

Reason: out of age range.

- Gillham, J.E., Reivich, K.J., Jaycox, L.H., & Seligman, M.E.P. (1995). Prevention of depressive symptoms in school children: two year follow-up. *Psychological Science*, 6, 343-351.

Reason: out of age range.

- Gillham, J.E., & Reivich, K. (1999). Prevention of depressive symptoms in school children: a research update. *Psychological Science, 10*, 461-462.

Reason: out of age range.

- Gwynn, C.A., & Brantley, H.T. (1987). Effects of a divorce group intervention for elementary school children. *Psychology in the Schools, 24*, 161-164.

Reason: out of age range.

- Hains, A., & Ellman, S. (1994). Stress inoculation training as a preventative intervention for high school youths. *Journal of Cognitive Psychotherapy: An International Quarterly, 8*, 219-232.

Reason: used only students who volunteered, looked at reaction to stress.

- Kendall, P.C. (1994). Treating anxiety disorders in children: results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62*, 100-110.

Reason: outside of age range and only examined anxiety.

- Kendall, P.C., Flannery-Schroeder, E., Panichelli-Mindel, S.M., Southam-Gerow, M., Henin, A., & Warman, M. (1997). Therapy for youths with anxiety disorders: a second randomized clinical trial. *Journal of Consulting and Clinical Psychology, 65*, 366-380.

Reason: outside of age range and only examined anxiety.

- Lamb, J.M., Puskar, K.R., Sereika, S.M., & Corcoran, M. (1998). School-based intervention to promote coping in rural teens. *The American Journal of Maternal Child Nursing, 23*, 187-194.

Reason: no follow-up beyond post-test.

- Lowry-Webster, H., Barrett, P.M., & Dadds, M.R. (2001). A universal prevention trial of anxiety and depressive symptomatology in childhood: preliminary data from an Australian study. *Behaviour Change*, 18, 36-50.

Reason: no follow-up beyond post-test.

- McArdle, P., Moseley, D., Quibell, T., Johnson, R., Allen, A., Hammal, D., & LeCouteur, A. (2002). School-based indicated prevention: a randomised trial of group therapy. *Journal of Child Psychology and Psychiatry*, 43, 705-712.

Reason: no measure of depression.

- Merry, S., McDowell, H., Hetrick, S., & Muller, N. (2004). Psychological and/or educational interventions for the prevention of depression in children and adolescents. *Cochrane Database of Systematic Reviews*. 2: Art. No: CD003380. DOI: 10.1002/14651858.CD003380. pub2.

Reason: systematic review, used to identify studies that fit criteria.

- Pattison, C., & Lynd-Stevenson, R.M. (2001). The prevention of depressive symptoms in children: the immediate and long-term outcomes of a school based program. *Behaviour Change*, 18, 92-102.

Reason: out of age range.

- Reivich, K.J. (1996). *The prevention of depressive symptoms in adolescence*. Unpublished doctoral dissertation, University of Pennsylvania, Philadelphia.

Reason: no follow-up beyond post-test.

- Savoy, J.B. (1997). Cognitive behavioural treatment of anxious behaviours in middle school adolescents. *Dissertation Abstracts International: Section B*, 58 (3-B): 1546.

Reason: only included post-intervention measure.

- Shatte, A.J. (1997). Prevention of depressive symptoms in adolescents: issues of dissemination and mechanisms of change. *Dissertation Abstracts International: Section B*, 57 (11-B): 7236.

Reason: only included post-intervention measure.

- Shochet, I.M., Dadds, M.R., Holland, D., Whitefield, K., Harnett, P., & Osgarby, S.M. (2001). The efficacy of a universal school-based program to prevent adolescent depression. *Journal of Consulting and Clinical Psychology*, 30, 303-315.

Reason: follow-up period did not fit into criteria.

- Soler, J.A., & Weatherall, R. Cognitive behavioural therapy for anxiety disorders in children and adolescents. Cochrane Database of Systematic Reviews. 2005; Issue 4. Art. No: CD004690.DOI: 10.1002/14651858.CD004690.phb2.

Reason: systematic review, used to identify studies that fit criteria.

- Stein, B.D., Jaycox, L.H., & Kataoka, S.H. (2003). A mental health intervention for schoolchildren exposed to violence: a randomized controlled trial. *Journal of the American Medical Association*, 290, 603-611.

Reason: no control, the same intervention early or delayed.

- Stolberg, A.L., & Mahler, J. (1994). Enhancing treatment gains in a school based intervention for children of divorce through skill training, parental involvement, and transfer procedures. *Journal of Consulting and Clinical Psychology*, 62, 147-156.

Reason: outside of age range.

- Yu, D.L., & Seligman, M. (2002). Preventing depressive symptoms in Chinese children. *Prevention and Treatment*, 9, Article 7, posted May 8, 2002.

Reason: outside of age range.

- Walker, Z., Townsend, J., Oakley, L., Donovan, C., Smith, H., Hurst, Z., Bell, J., & Marshall, S. (2002). Health promotion for adolescents in primary care: randomised controlled trial. *British Medical Journal*, 325, 524-530.

Reason: no measure of depression and young people not identified as at risk.

- Wolchick, S.A., Sandler, I.N., Millsap, R.E., Plummer, B.A., Greene, S.M., Anderson, E.R., Dawson-McClure, S.R., Hipke, K., & Haine, R.A. (2002). A six year follow up of preventative interventions for children of divorce: a randomized control trial. *Journal of the American Medical Association*, 288, 1874-1881.

Reason: no measure of depression.

- Zubernis, L., Cassidy, K., Gillham, J., Reivich, K., & Jaycox, L. (1999). Prevention of depressive symptoms in preadolescent children of divorce. *Journal of Divorce & Remarriage*, 30, 11-36.

Reason: both groups received the same intervention.

- Stoppelbein, L.A. (2004). Primary prevention: an evaluation of a high school based cognitive-behavioural program. *Dissertation Abstracts International: Section B: 64(8-B)*, 4066.

Reason: not enough information provided.

Appendix 1e

Attrition Rates

Study		Start	3 months	Drop Out	6 months	Drop out	12 months	Drop out	18 months	Drop out	24 months	Drop out
Cardemil et al. (2002)	Intervention	26	20	(23%)	19	(27%)						
	No treatment	27	23	(14%)	21	(23%)						
Clarke et al. (1993) (1)	Experimental	361	279	(23%)								
	Control	261	234	(11%)								
Clarke et al. (1993) (2)	Experimental	190	151	(21%)								
	Control	190	149	(22%)								
Gillham et al. (2007) (1)	Intervention	232			166	(29%)	169	(28%)	144	(38%)	121	(48%)
	Usual care	234			160	(32%)	158	(33%)	142	(39%)	125	(47%)
Gillham et al. (2007) (2)	Intervention	231			156	(33%)	155	(33%)	137	(40%)	122	(47%)
	Usual care	234			160	(32%)	158	(33%)	142	(39%)	125	(47%)
Gillham et al. (2006)	Intervention	147			111	(25%)	102	(31%)	97	(34%)	96	(35%)
	Usual care	124			101	(19%)	91	(27%)	82	(34%)	83	(34%)
Jaycox et al. (1994)	Intervention	69			55	(20%)						
	Usual care	74			64	(14%)						
Merry et al. (2004)	Intervention	192			178	(8%)	153	(20%)	136	(30%)		
	Control	172			155	(11%)	142	(17%)	126	(27%)		
Possel et al. (2005)	Training	163	123	(25%)								
	Control	116	82	(30%)								
Quayle et al (2001)	Intervention	24			20	(17%)						
	Control	23			13	(44%)						
Roberts et al. (2003)	Intervention	90			65	(27%)						
	Control	99			72	(27%)						
Spence et al. (2005)	Intervention	751					517	(31%)	499	(34%)		
	Control	749					550	(27%)	575	(23%)		

Appendix 1f

Treatment Protocols

The Penn Resiliency Program	Adolescents were taught cognitive-behavioural and problem-solving skills with a focus on the links between thoughts and emotions, how to generate alternative explanations for negative life events, and several techniques for cop ing, handling conflict, setting goal s, and problem-solving .
Hopeful elements	Three
The Penn Prevention Program	Adolescents were taught to identify and challenge irrational and negative beliefs, and look towards solutions to problems and cope with their emotions. In addition, adolescents were taught goal setting , decision-making, and how to generate alternatives.
Hopeful elements	One
The Penn Enhancement Program	Adolescents were taught to focus on the stressors that are associated with depression, and learnt about peer pressure, friendships, conflict, goal setting , achieving goals , self-esteem, and body image
Hopeful elements	two
Preventative Curriculum [Clarke et al. (1993)] (1)	(3 classes) Adolescents were taught about the treatable nature of depression and were encouraged to seek intervention and increase their rate of pleasant activities (no specific skill training provided).
Hopeful elements	Zero
Preventative Curriculum [Clarke et al. (1993)] (2)	(5 classes) Adolescents were guided in exercises that instructed them how to identify relevant pleasant activities, chart the relationship between their frequency and their moods, and develop methods of increasing these.
Hopeful elements	Zero
The Resourceful Adolescent Program	Adolescents were taught to identify negative and irrational thoughts, cognitive restructuring, and strategies to improve self-esteem, stress management, problem solving , and conflict resolution.
Hopeful elements	One
Social Aspects in Everyday Life	Adolescents were taught about the relationship between cognitions, emotions, and behaviour. The program explored and challenged dysfunctional thoughts, focused on assertiveness training, and incorporated social competencies.
Hopeful elements	Zero
The Problem Solving for Life	Adolescents were taught to identify and challenge irrational and negative beliefs and taught to look towards solutions to problems and cope with their emotions. The program also taught adolescents goal setting , decision-making, and how to generate alternatives .
Hopeful elements	Three

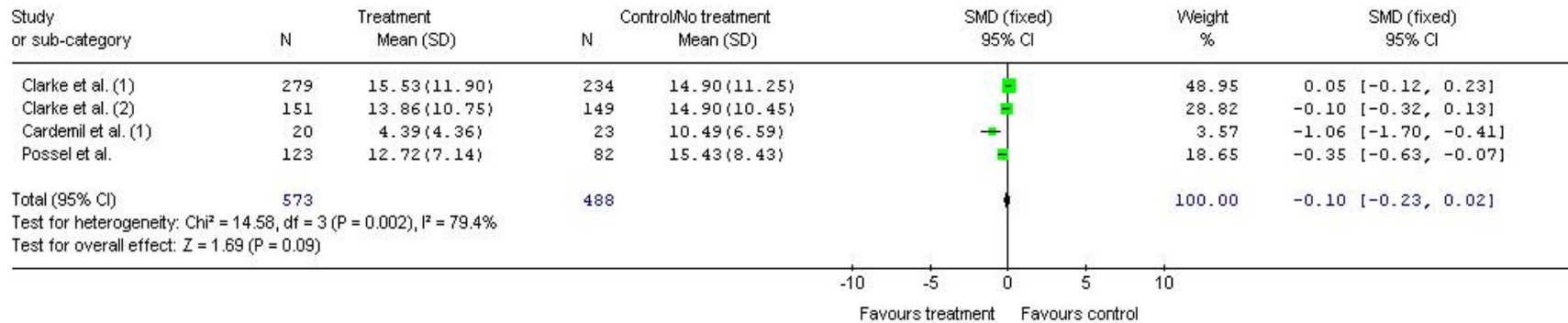
Appendix 1g

Intervention Facilitators

Intervention	Studies used in	Facilitated by
The Penn Resiliency Program	Cardemil et al. (2002)	Trained psychology masters students.
	Gillham et al. (2007, study 1)	School teachers, counsellors, or psychology graduate students.
	Gillham et al. (2006)	Psychologists or social workers.
The Penn Prevention Program	Roberts et al. (2003)	Psychologists and nurses with 30 hours training.
	Jaycox et al. (1994)	Not specified.
The Penn Enhancement Program	Gillham et al. (2007, study 2)	School teachers, counsellors or psychology graduates.
A Preventative Curriculum	Clarke et al. (1993, study 1)	Health teachers with 3 hrs training.
	Clarke et al. (1993, study 2)	Health teachers with 3 hrs training.
The Resourceful Adolescent Program	Merry et al. (2004)	Teachers with two and a half days training.
The Optimism and Life Skills Program	Quayle et al. (2001)	Postgraduate clinical psychologists with 30 hrs training.
The Problem Solving for Life Program	Spence et al. (2005)	Teachers with six hrs training.
The Social Aspects in Everyday Life program	Possel et al. (2005)	Psychologists or graduate students.

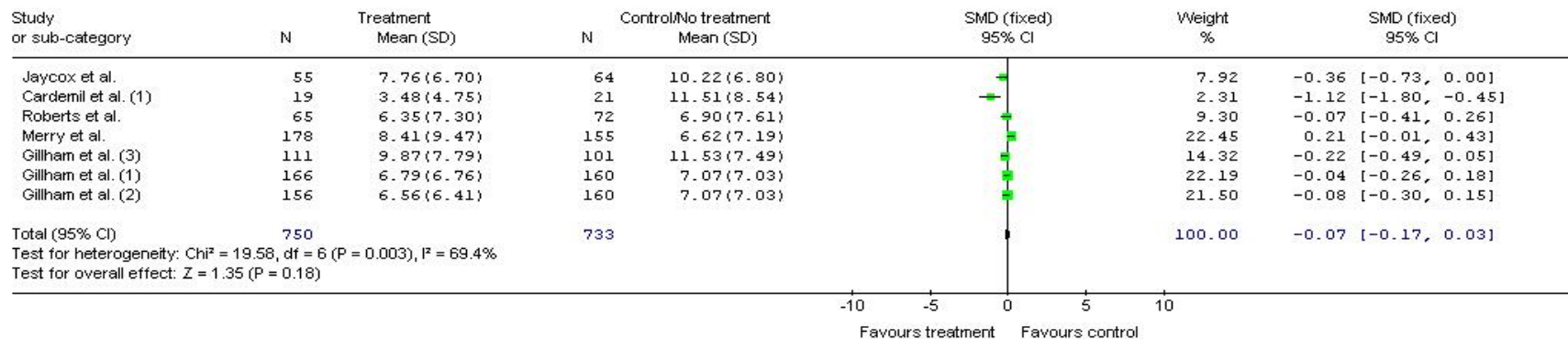
Appendix 1h

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 01 The effect of preventative interventions at 3 month follow-up



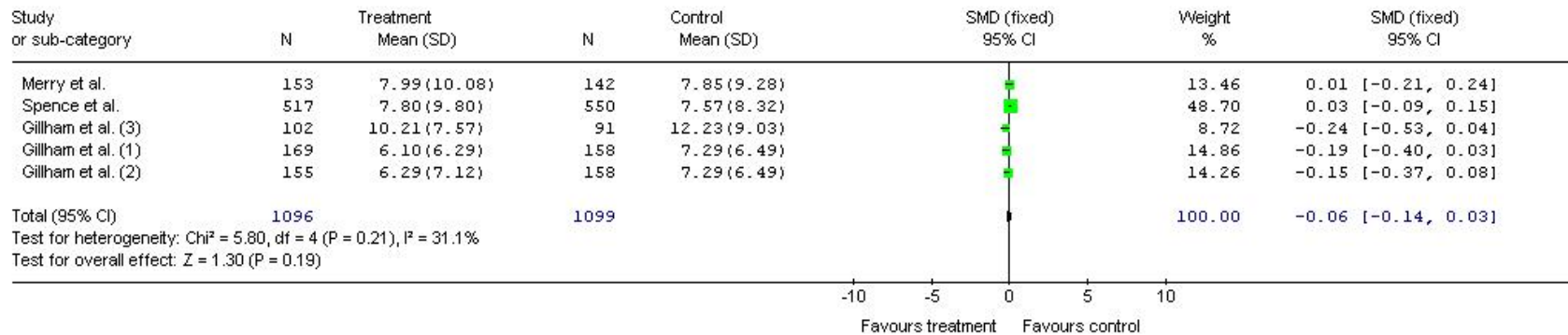
Cognitive Behavioural Therapy at 3 month follow-up: SD = standard deviation; SMD = standardised mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 02 The effect of preventative interventions at 6 month follow-up



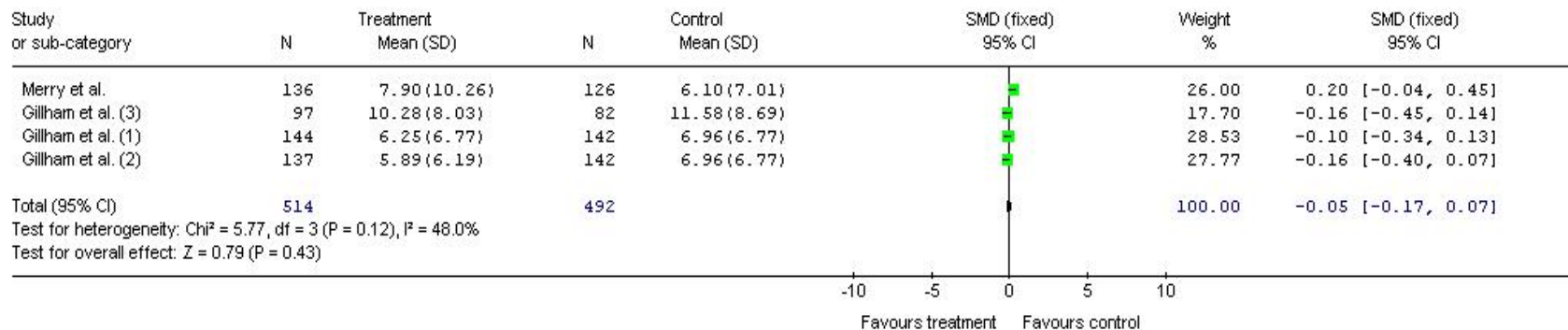
Cognitive Behavioural Therapy at 6 month follow-up: SD = standard deviation; SMD = standardised mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 03 The effect of preventative interventions at 12 month follow-up



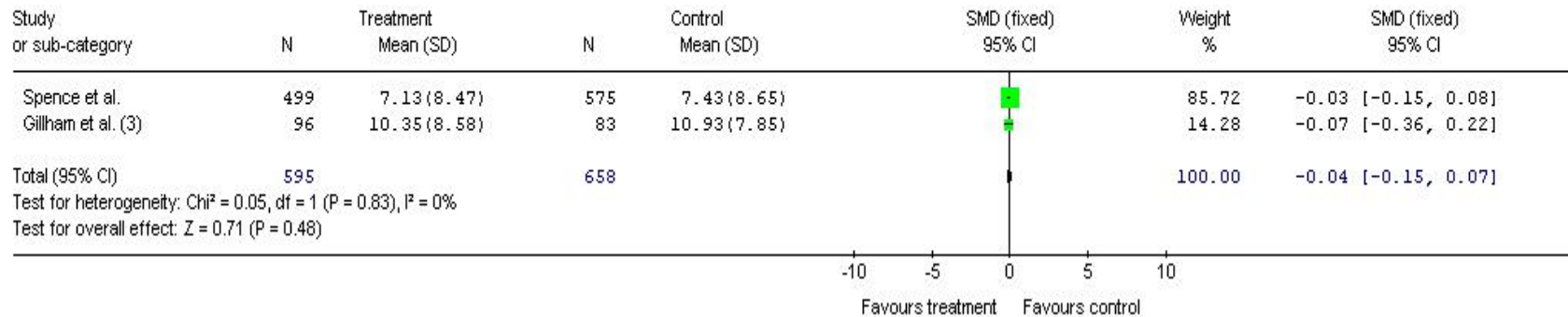
Cognitive Behavioural Therapy at 12 month follow-up: SD = standard deviation; SMD = standardised mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 04 The effect of preventative interventions at 18 month follow-up



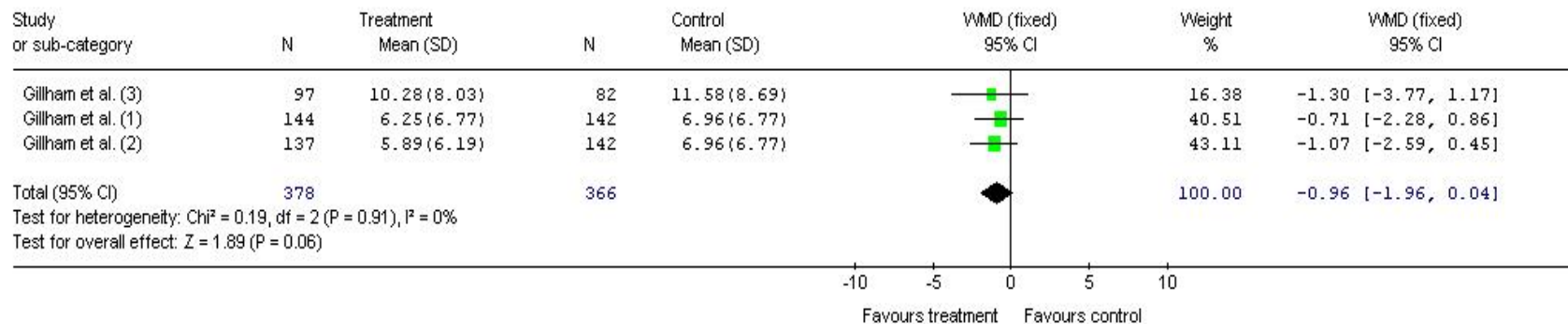
Cognitive Behavioural Therapy at 18 month follow-up: SD = standard deviation; SMD = standardised mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 05 The effect of preventative interventions at 24 month follow-up



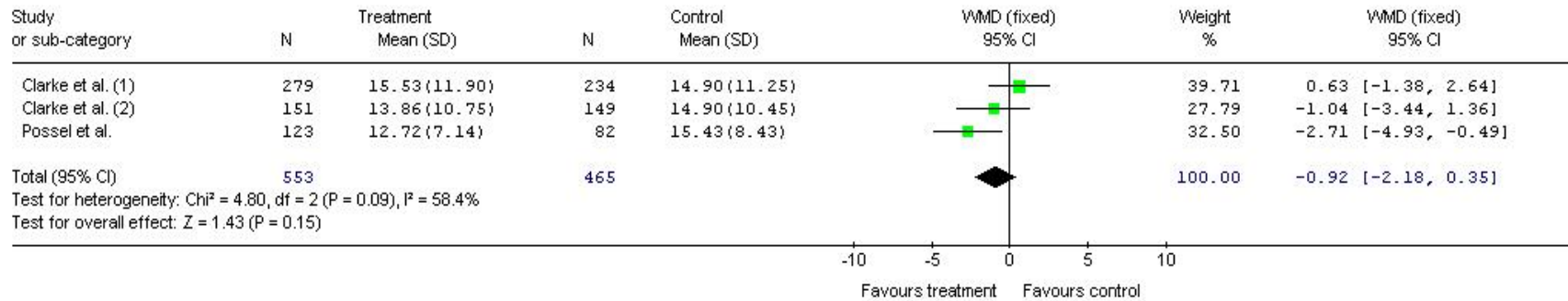
Cognitive Behavioural Therapy at 24 month follow-up: SD = standard deviation; SMD = standardised mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 08 The effect of preventative interventions, measured by the CDI, at 18 month follow-up



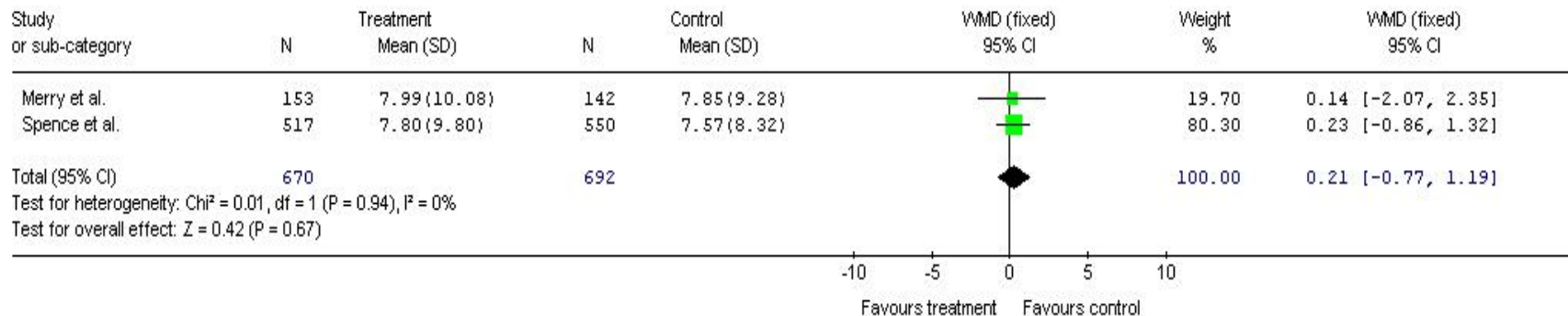
Cognitive Behavioural Therapy as measured by the Children’s Depressive Inventory: SD = standard deviation; WMD = weighted mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 09 The effect of preventative interventions, measured by the CESD, at 3 month follow-up



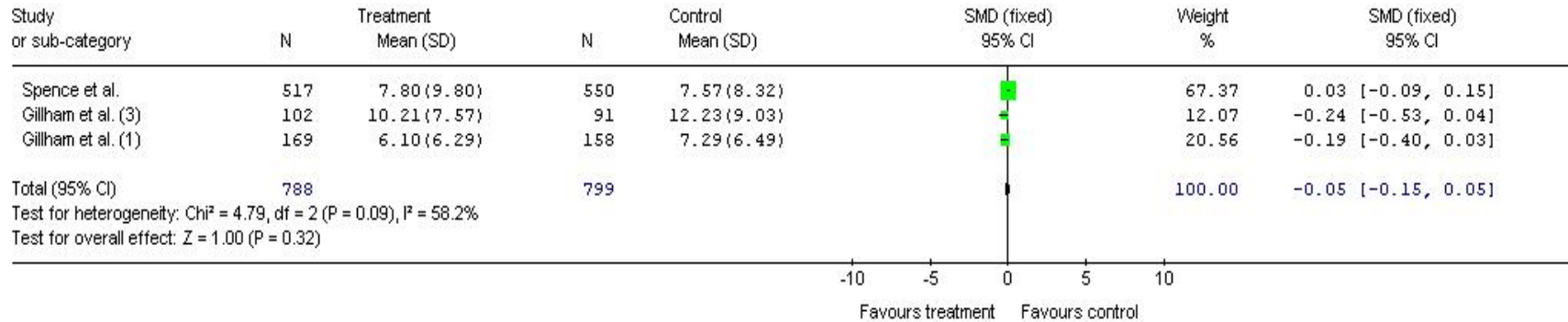
Cognitive Behavioural Therapy as measured by the Centre for Epidemiological Studies-Depression Scale: SD = standard deviation; WMD = weighted mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 11 The effect of preventative interventions, measured by the BDI, at 12 month follow-up



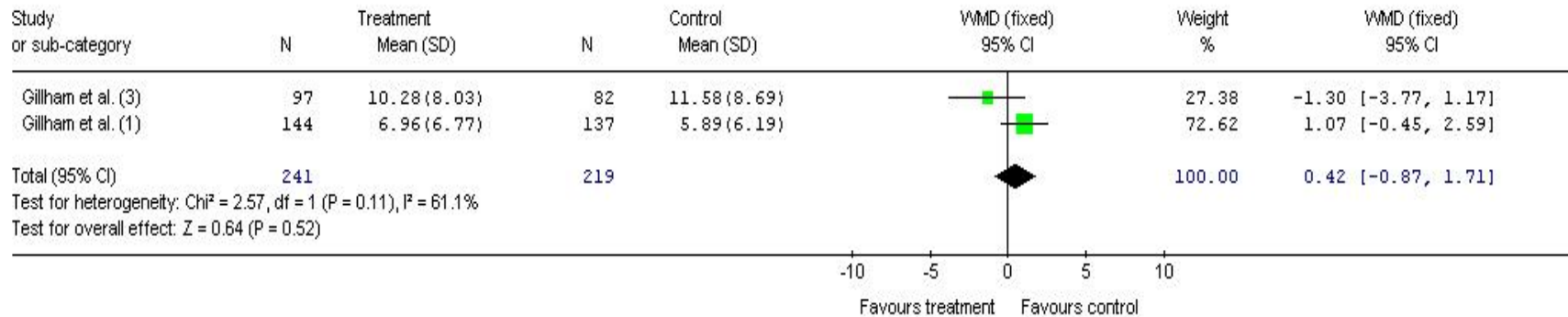
Cognitive Behavioural Therapy at 12 month follow-up, as measured by the Beck Depression Inventory: SD = standard deviation; WMD = weighted mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 12 The effect of preventative interventions with 3 hopeful elements at 12 months



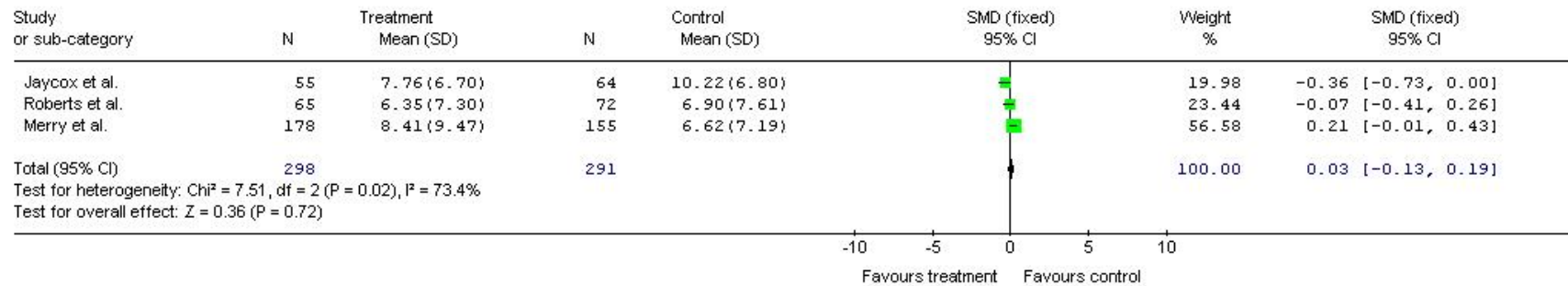
Cognitive Behavioural Therapy with three hopeful elements at 12 month follow-up: SD = standard deviation; SMD = standardised mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 13 The effect of preventative interventions with 3 hopeful elements at 18 months



Cognitive Behavioural Therapy with three hopeful elements at 18 month follow-up: SD = standard deviation; WMD = weighted mean difference; CI = confidence interval.

Review: The effect of preventative interventions on children considered at risk for depression: a systematic review
 Comparison: 01 Intervention vs Control
 Outcome: 14 The effect of preventative interventions with 1 hopeful element at 6 months



Cognitive Behavioural Therapy with one hopeful elements at 6 month follow-up: SD = standard deviation; SMD = standardised mean difference; CI = confidence interval.

CHAPTER FIVE: PAPER TWO - PUBLISHED

Understanding young people's experience of chronic illness:
a systematic review

Anthony Venning, Jaklin Elliott, Anne Wilson, and Lisa Kettler (2008)
School of Psychology, The University of Adelaide
International Journal of Evidence Based Healthcare, 6, 321-336

Statement of Contributions:

Mr Anthony Venning (*Candidate*)

I was responsible for the conception and primary authorship of the paper. I conducted the literature searches and analysed the data, and I was corresponding author and primarily responsible for responses to reviewers and revisions to the paper. The review was conducted using tools provided by the Joanna Briggs Institute and Dr. Elliott acted as the second reviewer to ensure the methodological quality of the papers that were selected.

Signed:

Date 7/08/2009

Dr Jaklin Elliott, Dr Anne Wilson, and Dr Lisa Kettler (*Co-authors*)

We were the supervisors (advisors) of the research programme that lead to this publication and there was ongoing collaboration between Mr. Venning and us in refining the direction of the research. The realisation of the idea, collection of data, and analysis of data were the work of Mr. Venning. Mr. Venning was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the journal reviewers and editor. We hereby give our permission for this paper to be incorporated in Mr. Venning's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Jaklin Elliott

Date 7/08/2009

Signed: Anne Wilson

Date 7/08/2009

Signed: Lisa Kettler

Date 7/08/2009

Abstract

It has been reported that the diagnosis of a chronic illness increases a child's susceptibility to future mental health problems (Eiser, 1990). Accordingly, the objective of the current review was to summarise the best available evidence that described a young person's experience of chronic illness and make recommendations towards the promotion of mental health and prevention of future mental health difficulties. The review considered qualitative research that used the voices of young people (under 18 years) to describe their experience of chronic illness and the impact it had on their lives. The search strategy sought to find both published and unpublished research papers (limited to the English language). An extensive search was performed using the following databases: PubMed, CINAHL, Web of Science, PsycInfo, Aust Health, Dissertation Abstract International, Expanded Academic Index, Health Source Nursing, and Academic Search Elite. In addition, the reference lists of identified papers were hand searched, to capture all pertinent material, as well as relevant worldwide websites. Each paper was assessed by two reviewers for methodological quality prior to inclusion in the review using the critical appraisal instrument [Qualitative Assessment and Review Instrument (QARI)] from software developed by the Joanna Briggs Institute. A total of 18 qualitative papers were included in the review (nine grounded theory, six phenomenology, one ethnography, one social ecological, and one multiple case study). Forty-four papers were initially identified but 26 excluded as they did not meet the inclusion criteria. Findings were extracted and meta-synthesised using QARI. Five syntheses about a young person's experience of chronic illness were derived: (1) the experience of chronic illness makes young people feel uncomfortable in their body and world; (2) the experience of chronic illness

disrupts 'normal' life; (3) the experience of chronic illness is not all bad; (4) ways of getting through the chronic illness experience, 'what others can do'; and (5) ways of getting through the chronic illness experience, 'what I can do'. The results indicated that a positive perspective needs to be taken to promote mental health in young people with chronic illness; clinicians, families, and interventions need to (a) bolster their sense of self, (b) normalise the experience, (c) foster its positive impact, (d) help them accept the situation, and (e) help to develop the future-orientated coping strategies that will provide them with a sense of hope.

Introduction

The diagnosis of a chronic illness at any stage in life may affect an individual's functioning on a psychological, social, spiritual, or emotional level. However, when diagnosed early, children with a chronic illness have been found to be two to three times as likely to develop mental health problems compared to healthy children (Cadman et al., 1987; Eiser, 1990; Shooter, 2005). Accordingly, young people diagnosed with chronic illness may be considered 'at risk' for the development of future mental health problem due to the psychological distress and general disruption caused by chronic illness.

Chronic disease, an objective and definable process that is characterised by pathology, multiple causes, and indicated by lengthy periods of exacerbation, remission, and progressive degeneration (Sperry, 2006), precedes chronic illness, "the subjective experience of chronic disease" (p.6). However, as mental health problems predominately stem from the subjective experience of chronic disease rather than its physical reality (excluding those chronic diseases that result in mental degeneration etc.), the current review will consider chronic illness to be the subjective experience of chronic disease and adopt a non-categorical approach. A non-categorical approach allows researchers to consider that there are more similarities than differences in an individual's experience of chronic illness (i.e., the social, mental, and physical impact) and, therefore, enables different diagnoses to be considered within the same framework as it implies common challenges and disruptions (Shooter, 2005; Stein & Jessop, 1982).

Research in this area points to the increased emotional, psychological, and behavioural vulnerability of young people who experience chronic illness (Eiser,

1990), but the majority of this evidence examines a young person's experience of chronic illness through the eyes and voices of others (e.g., a parent or nurse). Consequently, it is open to question whether this is truly representative of a young person's experience and therefore appropriate data upon which to make recommendations towards clinical practice and/or the development of interventions to promote mental health. The best source of information about the experience of chronic illness comes from the individuals diagnosed with chronic illness themselves (Forsner et al., 2005). Although some interpretive research like this does exist, differences in the epistemological grounding of the work, small sample sizes, and differing methodologies continue to fuel debate over its usefulness to guide generalisable recommendations.

However, qualitative research is not intended to be generalisable and objective in the same manner as quantitative research; rather, it is intended to be contextual and subjective (Whittemore, Chase, & Mandle, 2001). Where quantitative research is needed to control phenomena and predict the outcomes of interventions, qualitative research is best suited (and needed) to identify specific characteristics of phenomena in order to develop those interventions (Beck, 1990). As Christian and D'Auria (1997) argue, until we understand a child's experience of growing up with chronic illness, we will never know how to design successful strategies for their adjustment.

Objective

The objective of this review was to examine research that has looked at a young person's experience of chronic illness, synthesise existing findings and, based on these, to then offer evidence based recommendations towards the

promotion of mental health and prevention of future psychological disorders.

Specifically, the objectives of this review were to investigate:

- what the experience of chronic illness means to a young person; and
- how the experience of chronic illness impacts on a young person

Method

Inclusion Criteria

Types of studies

The review considered qualitative studies that drew on the experiences of young people diagnosed with chronic illness and included designs such as phenomenology, grounded theory, and ethnography. Non-English papers were excluded.

Types of participants / phenomena of interest

The review included only those studies that looked at young people with chronic illness and used their voices to describe the experience, and/or report the impact it had had on their lives, and then specifically draw on what young people reported in order to present analyses pertaining to these experiences. Thus, studies that focused on individuals below 18 years of age, within a home or clinical setting, and who experienced chronic illness were included. Studies that (a) investigated the experiences of children diagnosed with a non-chronic illness, (b) investigated the experiences of children living with a chronic illness that impeded their mental ability, (c) did not prioritise the experiences of children, (d)

investigated some other phenomena (e.g., the usefulness of camps for young people with chronic illness), or (e) investigated a young person's experience of chronic illness using the voices and opinions of others (e.g., family members, siblings or nurses) were excluded.

Search Strategy

The search included both published and unpublished studies in English from 1986 to 2006 (inclusive). A three step search strategy was used. An initial limited search of PSYCINFO, CINAHL, and MEDLINE was undertaken to identify key words. A second search was then undertaken using all identified key words; databases searched included PubMed, CINAHL, Web of Science, PsycInfo, Aust Health, Dissertation Abstract, Expanded Academic Index, Health Source Nursing, and Academic Search Elite. In addition, relevant worldwide websites (e.g., the Hope literature database) and search engines (e.g., Google Scholar) were also searched. The third step was to search the reference lists of identified papers to capture all relevant material. In addition, key journals that consistently appeared in searches (e.g., Qualitative Health Research) were hand searched to capture relevant research articles that fell outside the identified search terms. Abstracts that appeared to meet inclusion criteria were retrieved. Search terms that were used to conduct searches for each database are listed in Appendix 2a.

Assessment of Methodological Quality

Identified papers were assessed independently by two reviewers for methodological validity prior to inclusion in the review. The standardised critical appraisal instrument from the Joanna Briggs Institute was used, Qualitative

Assessment and Review Instrument (QARI) (Appendix 2b). All disagreements between reviewers were satisfactorily resolved through discussion.

Data Collection and Synthesis

Data was extracted and synthesised using the QARI programme. This programme embodies the process of meta-synthesis by aggregating findings in relation to the phenomena under review. The process occurs in three stages: initially, findings are grouped and rated according to their degree of credibility (as per the degrees of credibility scale outlined below) (Level 1 findings), findings are then categorised on the basis of their similarity in meaning (Level 2 findings), and finally a meta-synthesis is carried out to produce a single comprehensive set of findings (Level 3 findings).

Johanna Briggs Institute Degrees of Credibility Scale (Pearson, 2004)

1. Unequivocal (U): evidence that is beyond reasonable doubt and includes findings that are factual, directly reported or observed, and is not open to challenge.
2. Credible (C): evidence that, while interpretative, is plausible in light of the data and theoretical framework. Conclusions can be logically inferred from the data but, because the findings are essentially interpretive, these conclusions are open to challenge.
3. Unsupported (Us): when none of the other level descriptors apply and when, most notably, findings are not supported by the data.

Results

Description of Studies

A total of 44 papers were deemed appropriate to the review topic based on the title and abstract. Of the 44 papers identified, 18 were included (Beaune & Forrest, 2004; Christian & D'Auria, 1997; Danielsen, 1996; Herrman, 2006; Hicks, Bartholomew, Ward-Smith, & Hutto, 2003; Hockenberry-Eaton & Minick, 1994; Larouche & Chin-Peuckert, 2006; Rechner, 1990; Rydstrom, Englund, & Sandman, 1999; Saellfors, Fasth, & Hallberg, 2002; Stewart, 2003; Weekes & Kagan, 1994; Wise, 2002; Woodgate, 1998a, 2005, 2006a; Woodgate, Degner, & Yanofsky, 2003; Yeh, 2002) and 26 were excluded as they were not congruent with review objectives (Chapados, 2000; Doherty, Sandelowski, & Preisser, 2006; Forsner et al., 2005; Gallo, Schultz, & Breitmayer, 1992; Hinds, 1988; Hinds & Martin, 1988; Hokkanen, Eriksson, Ahanen, & Salanterä, 2004; Ishibashi, 2001; Kelly, Mullhall, & Pearce, 2003; Kiernan, Guerin, & MacLachlan, 2005; Knight, 2005; Kyngas & Barlow, 1995; Olsson et al., 2003; Parry & Chesler, 2005; Ross, 1989; Rydstrom, Hartman, & Segesten, 2005; Sapountzi-Krepia et al., 2005; Sartain, Clarke, & Heyman, 2000; Stevens et al., 2004; Woodgate, 1998b, 2006b; Woodgate & Degner, 2003; Yeh, 2001; Yoos & McMullen, 1996). Table 4 provides a summary of the included papers.

Quality of Studies

The quality of included papers (i.e., those that met the criteria outlined by the Joanna Briggs Institute) was high, both methodologically and in the richness of experience presented.

Table 4
Description of Included Studies

Study	Participants	Methodology	Country	Illnesses
Beaune, L., & Forrest, C.R. (2004)	N=6 (12-18 years)	Social ecological	Canada	Treacher Collins Syndrome
Christian, B.J., & D'Auria, J.P. (1997)	N=20 (12-18 years)	Grounded Theory	United States	Cystic Fibrosis
Danielsen (1995)	N = 4 (6-9 years)	Phenomenology	Canada	Cancer*
Herrman, J.W. (2006)	N=17 (8-15 years)	Ethnography	United States	Diabetes
Hicks, J., Bartholomew, J., Ward-Smith, P., & Hutto, C.J. (2003)	N=13 (5-9 years)	Phenomenology	United States	Cancer*
Hockenberry-Eaton, M., & Minick, P. (1994)	N=21 (7-13 years)	Phenomenology	United States	Cancer*
Larouche, S.S., & Chin-Peuckert, L. (2006)	N=5 (14-17 years)	Multiple case study design	Canada	Cancer*
Rechner, M. (1990)	N=5 (13-17 years)	Phenomenology	Canada	Cancer*
Rydstrom, I., Englund, AC, D., & Sandman, PO. (1999)	N=14 (6-16 years)	Phenomenology	Sweden	Asthma
Sallfors, C., Fasth, A., & Hallberg, L.R.-M. (2002)	N=22 (6-17 years)	Grounded Theory	Sweden	Chronic Arthritis
Stewart, J.L. (2003)	N=11 (9-12 years)	Grounded Theory	United States	Cancer*
Weekes, D.P., & Kagan, S.H. (1994)	N=13 (11-18 years)	Grounded Theory	United States	Cancer*
Wise, B. (2002)	N=9 (7-15 years)	Phenomenology	United States	Liver Failure
Woodgate, R.L. (2006)	N=15 (12-18 years)	Grounded Theory	Canada	Cancer*
Woodgate, R.L. (2005)	N=15 (12-18 years)	Grounded Theory	Canada	Cancer*
Woodgate, R.L. (1998)	N=23 (13-16 years)	Grounded Theory	Canada	Asthma, diabetes, arthritis, and bowel disease
Woodgate, R.L., Degner, L.F., & Yanofsky, R. (2003)	N=39 (4-18 years)	Grounded Theory	Canada	Cancer*
Yeh, C-H. (2002)	N=16 (13-17 years)	Grounded Theory	Taiwan	Cancer*

Note: *includes all types of cancers, Leukaemia, Hodgkin's, Non- Hodgkin's, lymphoma, T-lymphoma, Aplastic Anaemia, Non-Lymphocytic Leukaemia, osteosarcoma, brain cancer, solid tumours, Ewing's Sarcoma, and Rhabdomyosarcoma.

Qualitative Evidence

Meta-synthesis of qualitative data

Included studies were assessed using QARI. A total of 18 papers produced 94 findings.

Findings

Paper 1: Beaune, L., & Forrest, C.R. (2004).

The paper used a social ecological approach to explore the lived experiences of six adolescents (12-18 years) in Canada living with Treacher Collins syndrome.

Finding 1: Reconstructing the perceptions of others (C):

"...in some ways people might be discriminated against; certain people think because I have a facial difference, they use the word retarded. I don't like that term, but a lot of people would say retarded, mentally challenged, and then take pity on me and treat me as if I don't know". (p. 346)

Finding 2: Making meaning of the difference (C):

"I just think of it as something that just happened to me. It [TCS] did not affect me; it just happened. It's there; it's not a brick wall in my path that I have to get around. It's just part of my life and I accept it". (p. 347)

Finding 3: Forming friendships and fitting in (U):

"It was in a way frustrating. I mean I wasn't looking for no fights or looking to yell. I was just looking to talk and have friends and stuff like that". (p. 347)

Finding 4: Handling staring and teasing (U):

"I definitely do experience a kind of uneasiness or I feel uncomfortable sometimes...Sometimes I just can't take it; people look at me and everything. Other days people look at me and I don't pay attention...Some days I can handle it, I can answer the questions, and some days I just can't take the stares. Sometimes it's hard for me to walk down the street when I have had a bad day. Today I will feel wonderful, but some days I might feel tired and don't feel like going through the trouble". (p. 348)

Finding 5: Excelling (U):

"For me to have high standards is to make a difference, to go further in life, do well in life, and that is just what I want to do. In some cases in this world, it is pretty much based on looks, and I personally believe that I can make a difference but showing that you do not have to have good looks to do well in this world". (p. 348)

Paper 2: Christian, B.J., & D'Auria, J.P. (1997).

The paper used a grounded theory approach to capture the experiences of 20 young people (12-18 years) in the United States with Cystic Fibrosis.

Finding 6: Keeping secrets (U):

"When I do sports and things, I can look normal, but I have to try as hard to do it...then when I give all my effort all the time they don't think very much of that for some reason...and so when I play baseball next time, I'm not going to tell my coach I have it. So he won't treat me any different than the other kids." (p.7)

Finding 7: Hiding visible differences (U):

"When I take pills [to hide the visible differences e.g., coughing] around my friends, they don't mind it; but it's the people who I don't know-when I take them, and they see me-that's when it bothers me...Like, 'What a nerd, man-taking pills!'" (p. 8)

Finding 8: Discovering a new baseline (U):

"When I was little, I didn't know anyone who had CF [cystic fibrosis]. I mean, I thought I was the only person in the world who had it. Someone was reading the paper, where it was like, 30,000 other Americans [with CF], and I was thinking, "Oh, I wonder where all those people are?"...all these years I thought I was just the one person [with CF]". (p. 9)

Paper 3: Danielsen, S.M. (1995).

The paper used a phenomenological approach to investigate hope in four children (6-9 years) with cancer living in Canada.

Finding 9: Hope helpers are important (C):

"[I] usually cuddle with my mum, and she usually tells me it's alright and try to calm me down...it's hard". (p. 53)

Finding 10: It's OK to have cancer (U):

"(when asked what to say to others who find out they have cancer) It's ok to have cancer, you just don't have to think about it, but it's hard to think about it, hard not to think about it, um, there are lots of things, don't worry because um you won't have cancer forever and your whole entire life". (p. 55)

Finding 11: You need to keep hoping (U):

"(when discussing hope) Well, it's just like I believe I can do it - it's like hoping. You know you can get through the needle, so you just hope it won't hurt. I know it won't hurt, but I still hope". (p. 61)

Finding 12: I didn't want to have cancer in the first place (U):

"I had chemo yah, well that helped, but like I didn't want to have that stuff, I mean I didn't want to have cancer in the first place". (p. 63)

Paper 4: Herrman, J.W. (2006).

The paper used an ethnographical approach to explore the beliefs of 17 young people (8-15 years) in the United States with type 1 diabetes.

Finding 13: Costs of Diabetes Mellitus (C):

"I can't have icing on cake or Pop Tarts or even a big fat chocolate bar". (p. 214)

Finding 14: Rewards for family (U):

"My mom and I are a lot closer now...we talk a lot more...she really helps me." (p. 216)

Finding 15: Rewards of the management of Diabetes (U):

"It's kind of rewarding knowing you have calculated everything right and taken the insulin right and you actually end up in your zone...it feels nice." (p. 215)

Finding 16: Costs of the management of Diabetes (U):

"I always have to stop and check...you always have to worry about it whether you take care of it or not". (p. 215)

Finding 17: Costs for family (U):

"My parents are divorced...it's the diabetes and the stress". (p. 216)

Finding 18: Rewards of Diabetes Mellitus (C):

"You get to miss school sometimes...You can eat in the classroom...You can leave the playground early." (p. 215)

Paper 5: Hicks, J., Bartholomew, J., Ward-Smith, P., & Hutto, C.J. (2003).

The paper used a phenomenological approach to capture the lived experiences and quality of life of 13 leukaemia patients (5-9 years) in the United States.

Finding 19: Having leukaemia made me tired (U):

"My legs were just exhausted and I needed help getting to the bathroom. Going to school would have been impossible-I had trouble paying attention to what was on TV". (p. 196)

Finding 20: The disease and treatment affected activities (U):

"The port does not allow you to do sit-ups, because that will hurt the port. Also, my doctor won't let me jump off the diving board as long as I have the port. But I can swim". (p. 197)

Finding 21: Medication and treatment effects (U):

"When you are in hospital, they attach this big blue thing [IV pump] to your port and you have to take it everywhere-even into the bathroom. They stick needles in your back, and one time that made me throw up. Everyone has to be careful with you, and it's not fun". (p. 197)

Finding 22: Relationship changes (U):

"My real friends didn't say anything when I lost my hair, but other people stared and pointed at me-I don't talk to those people anymore". (p. 198)

Finding 23: Hair loss (C):

"The principal wouldn't budge on the cap thing, and the kids were giving me a hard time." (p.198)

Paper 6: Hockenberry-Eaton, M., & Minick, P. (1994).

The paper used a phenomenological approach to explore the thoughts and feelings of 21 cancer patients (7-13 years) in the United States.

Finding 24: Receiving information (U):

"Knowing everything about [cancer]. Knowing it and reading more about it [is what helps the most]". (p. 1027)

Finding 25: Knowing others with cancer (U):

"I make new friends here...and I know other people are having cancer; I am not the first one who has cancer". (p. 1028)

Finding 26: Knowing what to expect (U):

"It was scary because at first I didn't know what [cancer treatment] was...It's much better now that I know what is going on". (p. 1028)

Finding 27: Child caring for self (U):

"I try to do something fun...like go outside and ride my bicycle". (p. 1028)

Finding 28: Family caring for child (U):

"Well, my mom always tells me to breathe and it works. It is just like I breathe and somehow it just doesn't hurt that much [anymore]". (p. 1029)

Finding 29: Nurse caring for child (U):

"[Good nurses help because] when they stick you, you hardly feel it. They go slow. They count to three". (p. 1029)

Finding 30: Being unique (U):

"(When asked about the experience of first being diagnosed with cancer) I can't remember much of it. [The nurses] were nice. They even gave me presents in the surgery room". (p. 1029)

Finding 31: Being normal (U):

"[The changes associated with cancer result in] your life not being that normal, not being able to have a normal childhood since I was 9. It just affects how you live and everything". (p. 1029)

Finding 32: Bravery / courage (C):

"[When discussing her first bone marrow aspiration] I was pretty much scared, and I didn't want to do it. I just started to cry real bad...and then they just put the needle in and they were done". (p. 1030)

Finding 33: Acceptance (C):

"[when asked about the change over time] I lost my hair, [I've] grown a little bit taller, and have more hat collections". (p. 1030)

Paper 7: Larouche, S.S., & Chin-Peuckert, L. (2006).

The paper used a multiple case study design to explore five adolescent's (14-17 years) experience of cancer in Canada.

Finding 34: Avoiding social situations (U):

"I don't want to see people. I don't want them to see me sick". (p. 204)

Finding 35: I don't look normal (U):

"The eyebrows, the eyelashes are not looking normal....Even if I have my hat, I have no hair on my face and it's like I have a face all white and scratched everywhere". (p. 203)

Finding 36: People look at me (U):

"I find myself so ugly that I am scared to go out in a crowd because I think people will look at me". (p. 204)

Finding 37: Testing the waters (C):

"When I go out, it's important to be with my friends, cause they are my testing area...Like this summer, like when I go swimming, I'm gonna run it by them".

(p. 206)

Finding 38: Maintaining normality (U):

"[To minimise changes] you just buy a wig so some people won't really notice if you lose your hair...looking normal...like, I don't want no one to know what's wrong with me".

(p. 205)

Finding 39: Peer shield (U):

"My friends protect me against what people are going to think about me".

(p. 205)

Paper 8: Rechner, M. (1990).

The paper used a phenomenological approach to describe the experiences of five adolescents (13-17 years) with cancer in Canada.

Finding 40: I'm the same; you're different (C):

"[In regards to others altered perception of them] I'm the same, you're different".

(p. 141)

Finding 41: I deal with things differently (C):

"I tried to keep things in perspective...I didn't, never at any point did I think I was going to die...so I just decided to go on with life and forget about what I looked like and do the best I can do and people will forget". (p. 142)

Finding 42: I have this other life (C):

"I don't like it...cause, I guess I don't like it because it takes up some time, you can't see your friends too much anymore, can't do any sports and I really like those. And some of the things you just can't do but you have to manage until it's gone". (p. 142)

Paper 9: Rydstrom, I., Englund, A.C.D., & Sandman, PO. (1999).

The paper used a phenomenological approach to describe the experience of 14 young people (6-16 years) in Sweden living with asthma.

Finding 43: Feeling confident in other people's wish to help (U):

"[Talking about friends] They think of me and take showers and change clothes and everything". (p. 8)

Finding 44: Feeling confident in medicine (U):

"I can take...I take my medicine before I go to them [sports]."(p. 9)

Finding 45: Feeling confident in own knowledge (C):

"Well, cats, dogs, birds, all 'dust animals', I can't have them at home. There are animals I can have, fishes, turtles, elephants...can have pigs, they are not so dusty. They do not have so much hair and I can also have a snake". (p. 7)

Finding 46: Feeling deprived (U):

"[I want to] be able to eat the same food as the others and taste their food...be able to eat everything". (p. 9)

Finding 47: Feeling guilty (U):

"Mum doesn't want her to bring home a lot of horse hair. It is, I feel, as if everything was my fault. That it is I who have done it, that I have asthma and all...It feels as if I am a nuisance to everybody". (p. 10)

Finding 48: Feeling lonely (C):

"When you've got asthma, then you want to be at school because when you haven't been to school for 2-3 weeks it's so dammed boring to stay home and not be allowed to do anything, neither going out, nor meeting friends. It's bloody boring". (p. 11)

Finding 49: Feeling anxious and fearful (U):

"It's quite terrible waking up and not being able to breathe. Once I woke up and couldn't breathe, I cuddled up against mummy...Help, I must get up to mum...You don't think so much, you think it's so terrible, take it easy, breathe deep". (p. 11)

Paper 10: Sallfors, C., Fasth, A., & Hallberg, L.R.-M. (2002).

The paper used a grounded theory approach to describe the experiences of 22 young people (6-17 years) diagnosed with juvenile chronic arthritis in Sweden.

Finding 50: Dependency (C):

"Would you mind opening [the door] for me?" (p. 500)

Finding 51: Disturbed order (C):

"My whole body's throbbing...Thumping all over...it feels like lots of needles in you body...I don't like it, anyway...The bigger the joint, the more it hurts".
(p. 499)

Finding 52: Ambivalence (C):

"The worst thing was that my disease was invisible...because I didn't have a bandage or anything [thus, others distrusted their suffering]". (p. 500)

Finding 53: Uncertainty about the future (U):

"It's sort of difficult not to know if...today or tomorrow...my joints will be okay. That's a bit difficult...never knowing. You have to do it day by day". (p. 501)

Paper 11: Stewart, J.L. (2003).

The paper used a grounded theory approach to investigate the uncertainty experienced by 11 young people (9-12 years) in the United States living with cancer.

Finding 54: Not understanding (U):

"But I didn't know what it was at first [cancer]. I didn't really know what it was like, I was like, *huh?* I didn't have a *clue* [participant's emphasis]". (p. 399)

Finding 55: Getting used to it (U):

"Well, they told me that I'd probably get sick, but eventually my body got used to it and so my body wouldn't get sick every time I had to get medicine...It was hard to be without hair. But with time, I got used to it". (p. 402)

Finding 56: Not knowing (U):

"I don't know when I'll be through with all of this". (p. 399)

Finding 57: Not being able to predict (U):

"And it made me wonder, how bad am I gonna feel with this fever (thinking about side effects of yet another course of medication)". (p. 400)

Finding 58: Not sure about what things mean (U):

"Well, I thought like something was going on when I was first sick because two doctors would come in the room with like five nurses and I'd be worried. It scared me...I thought they would have to wheel me away or something [laughs] and do some experiments on me or something. I don't know, I thought something else had showed up in the tests they'd run or something". (p. 400)

Paper 12: Weekes, D.P., & Kagan, S.H. (1994).

The paper used a grounded theory approach to explore the experiences of 13 adolescents (11-18 years) undergoing treatment for cancer in the United States.

Finding 59: Movement toward a normal life (C):

"Well it's over. It wasn't so bad while I had it, but it's over. Now life can be normal". (p. 666)

Finding 60: Task accomplishment (Us):

"They [his parents] kinda set me up, cause when I was on therapy, they wouldn't let me do anything; now they expect me to just start doing all this stuff and not complain". (p. 666)

Finding 61: Positive thinking (U):

"[when asked to describe what is important and what positive thinking is] keeping your focus on something positive, and that takes you through the bad". (p. 667)

Finding 62: Not thinking about the treatments (U):

"If I thought about what it feels like to have the chemo and the bone marrows all the time, I wouldn't go back to the clinic. So, I just don't think about any of it until I have to; like the morning I wake up and my mom says, 'You have to go to clinic today'". (p. 667)

Finding 63: Reinterpretation (U):

"I'm sort of glad I got it. I like all the activities like camp, ski trips, and meeting people, but I don't like the sickness part, but its okay cause I'm a better person". (p. 667)

Finding 64: Busy-ness (C):

"I don't have enough to do. I'm still not as busy as I was before I got cancer, but at least people know that I can still do things [I'm still capable]". (p. 667)

Finding 65: Philosophical stance (C):

"If I can just stay cool [during the therapy process], the treatments go better and I don't get sick". (p. 667)

Paper 13: Wise, B.V. (2002).

The paper used a phenomenological approach to investigate the experiences of 9 recent paediatric liver transplant recipients (7-13 years) in the United States.

Finding 66: Searching for connections: Being the same and different (U):

"Like a guy in my church when he was a baby had an operation; at that time the scar went around his waist, about three-quarters of his body. And so that is now about the same size as mine 'cause it didn't grow. Just people have scars from other things, like not from medical things but just an accident". (p. 81)

Finding 67: "Being around sick people can be Weird": Ordinary experiences (C):

"When I have a little rejection, I take bolos of steroids to get it under control. I don't want it to sound like I am taking it for granted but it doesn't dawn on me that I am going through a rejection episode. When I get a rejection episode, just like, okay I am going to deal with it [it's part of life]". (p. 83)

Finding 68: It really hurted and I had to scream (U):

"Needles, don't like it. You have to. You don't like it, but you have to. I scream [when I get a needle]. Because I hate it. I hold my breath [to help me]... It really hurted and I had to scream". (p. 84)

Finding 69: Parental responses: I know mom is upset, she worries too much (U):

"I will never tell my Mom how I feel about anything. I don't think I would ever tell the truth because I would never want to upset her. I can just see the expression on her face. I know how she feels...she has been through so much stuff with me. I basically worry if she is all right instead of me". (p. 86)

Paper 14: Woodgate, R.L. (2006).

The paper used a grounded theory approach to investigate which sources of social support were most important to 15 young people living with cancer (12-18 years) in Canada.

Finding 70: Supportive relationships (U):

"Because of family and friends and support...If I did not have anybody, I would be in the garbage. The way I reason, the way I see it, is the only reason I have come this far is because of them". (p. 125)

Finding 71: [Others] Being there (U):

"When I was in hospital one night with the total radiation and I was sick before that and it was so hard for me to get through it because you have to be sitting in this room all by yourself for like 20 minutes. I was scared. And so what my mom did was to use the intercom and she read to me over the intercom. Boy, did that make a big difference!" (p. 126)

Finding 72: Consequences of being there (C):

"Well Ann [adolescent with cancer] and I were talking about how cancer is cancer the same for us and we found that first of all it brings you a lot closer to your family because they are the ones that are with you, for all of it, for everything like that...And me and her both agree on it that we would rather rent a movie and sit home and watch it with our families, then go out and sit in someone's basement with our friends". (p. 129)

Paper 15: Woodgate, R.L. (2005).

The paper used a grounded theory approach to investigate the impact that cancer had on 15 adolescent's sense of self (12-18 years) in Canada.

Finding 73: Ways of being in the world (C):

"It's just simple things that I can't do...There's just little frustrating things like not being able to do up buttons on my shirt and, and not being able to do up necklaces because of my finger...And like I always walk really, really slow. Like I can't run or move my legs really, really fast or anything. Or I don't know just like simple things that you don't even think about and most things that you take for granted, I just can't do anymore". (p. 11)

Finding 74: I'm pretty much the same person, well almost (C):

"Mmmm, I don't think I changed much as a person and who I am. I may have some different opinions and some things, and for all I know my opinions may have changed like that anyway, but no, I don't think it completely changes who you are". (p. 12)

Finding 75: Respond to me like I am the same person, but treat me special at times (C):

"That's the thing you have to deal with, people. And that just makes your confidence level go down more and you know your insecurity level way up. It's harder you know. If you have all these people and you think 'Oh they don't like me. They don't see me for who I am'". (p. 13)

Paper 16: Woodgate, R.L. (1998).

The paper used a grounded theory approach to explore the experiences of 23 young people (13-16 years) with chronic illness in Canada.

Finding 76: It's hard (U):

"When you're low, you can't sleep because your mind is so worried about going into a coma or like having a reaction and so I'd have more to eat and then I'd wake up in the morning and my blood sugar would be 16 or so and so I'd have to eat a really small breakfast. I think it is really hard". (p. 214)

Finding 77: It takes extra effort (U):

"I never thought ahead. Now everything I practically do, I think ahead, what will this do to me, will it do something beneficial, negative or just nothing". (p. 214)

Finding 78: It's restraining (U):

"It stops you from doing a lot of things. It stops you from being a kid practically, because you know little kids like running around and all that stuff". (p. 215)

Finding 79: It's painful (U):

"I'm sitting there practically snapping my pencil in two because it hurts so much [the pain resulting from the illness]". (p. 215)

Finding 80: It's a whole bunch of extra worries (C):

"The thing I would be most scared of right now is because there are so many disease in this world, when people hear the word disease, they think it's contagious...so all my friends know that I have this disease and I'm kind of scared to tell other people just in case they don't want to be my friend". (p. 217)

Paper 17: Woodgate, R.L., Degner, L.F., & Yanofsky, R. (2003).

The paper used a grounded theory approach to explore the experiences of 39 young people (4-18 years) with cancer in Canada. The category labels used by

the authors are intended to reflect the voices / feeling states of young people with chronic illness.

Finding 81: I have a bad stomach...I feel sick, I feel bad (U):

"I feel a little bit better than gross". (p. 806)

Finding 82: I am sore, hurting...Boy, my body hurts (U):

"What I know about cancer, I know you start with pain. [pause] I know that you get headaches, I know that you get stomach aches. I know that your hair falls out [pause] I know that you have to have pokes, [pause] they hurt [pause] that's all I know" (p. 807)

Finding 83: I am hurting, my heart is sad (U):

"Sad. I felt sad because I'm tired and I can't play and I can't go to school. Once I could go to school and play outside but now I can't". (p. 808)

Finding 84: I feel yucky, crappy, shitty...I feel really sick, I feel really bad (U):

"When I first started chemotherapy, it was really bad. I just kept on throwing up...I kept on throwing up and throwing up and throwing up. Yuck! It was really bad. I kept on throwing up, I didn't want to do anything [pause] and stuff like that...my throat was really sore and I couldn't eat or drink anything and I kept on throwing up". (p.806)

Finding 85: I am cranky, I am not myself (U):

"These days when I'm feeling cranky I hate it because I am sometimes mean to my family and I don't want to be. I love them way too much! I don't like how this changes everything". (p. 807)

Finding 86: I am just experiencing an everyday thing...I am just a little sick (C):

"But then it was you know, it was half decent...Yeah, you feel, you feel decent. You're capable of you know going places. I mean you may get tired but not as fast as before when you couldn't do anything". (p. 807)

Finding 87: I am wiped out...My body is just for me to care (U):

"It is usually feeling wiped out that prevents you from going out unless you are really sick and vomiting and can't stop throwing up. But it is usually that, that prevents you from going out and going to school. I mean lots of people sit through school if they have a headache or the flu or something. But when you are wiped out, it takes too much energy to get up, get showered, or get dressed and by the time you are ready to go you just want to pass out and die and sleep for another 12 hours. I used to be very excited about going to school but by the time that I got ready, I used to be so tired, so out of breath that I would fall back to sleep and sleep for about 8 hours straight". (p. 811)

Finding 88: I'm scared...I don't know what is going to happen to me (C):

"I had nightmares about the operation". (p. 808)

Paper 18: Yeh, C-H. (2002).

The paper used a grounded theory approach to provide a conceptual framework for the life experiences of 16 young people with cancer (13-17 years) in Taiwan.

Finding 89: Concerns about their future (U):

"My mother told me that I would not be able to get married with my illness. I argued with her that I would like to go out with boys. I knew I might never have a baby". (p. 236)

Finding 90: Pain as an indicator of their terminal stage (U):

"I know I am dying. I would like to die with no pain; just give me the morphine". (p. 235)

Finding 91: Cognitive subcategory (U):

"My mother or family never really discuss the illness with me. They just tell me to be a good boy, listen to the doctors, cooperate with the treatments, and then get back to normal. I see her [mother] moan and groan all of the time. She weeps in the corner after her conversations with the doctors. Most of the time, they [mother, families, and health care providers] discuss the illness in secret. Although their answers about my sickness are too sketchy, I know why I am sick and how it is going to be. They do not know that I know it already". (p. 235)

Finding 92: Social subcategory (U):

"I do not want my friends to know about my illness. After the illness was confirmed, I would have liked to drop out of school but my mother did not allow me to do so. I was absent from school for such a long time". (p. 235)

Finding 93: Distressing symptoms (U):

"The persistent vomiting and nausea make me very sick. I don't have any energy to do anything. Look at my thigh; it gets thinner day by day. When I am very sick, I am not able to eat anything. I have totally lost my appetite". (p. 234)

Finding 94: Empathising with other sufferers (C):

"I knew him from hospital ward. He had just completed the treatment some time ago. We both were honest and straightforward. We discussed most things with heart and soul. I remembered he had relapsed once. Since then, I never saw him again. He did not leave his phone number with me". (p. 236)

Categorisation and Synthesis of Findings

Categorisation analysis identifies common themes from the findings of qualitative evidence, enables them to be grouped into categories, and then enables the production of a single synthesised finding (Pearson et al., 2004). Accordingly, the above 94 findings were analysed and grouped into 14 categories that were developed according to commonality of meaning and relevance to a young persons' experience of chronic illness. The 14 categories were then subjected to a meta-synthesis that produced five synthesised and directive findings to be used as a basis for evidence-based practice.

Synthesis 1

A total of 23 findings were grouped into four categories and then further derived into a synthesis that related to how the experience of chronic illness made a young person feel uncomfortable in their body and world (Figure 8). The first category related to how the experience made young people feel different; the category related to the physical and emotional hurt caused by the experience; the third category related to how people didn't understand them; and the fourth category related to their need to avoid situations and others and hide their illness. These four categories were then aggregated into the first synthesised findings:

The experience of chronic illness makes a young person feel uncomfortable in their body and world. Thus, to be effective, interventions designed to promote mental health need to bolster a young person’s sense of self to reduce the perceived difference and provide the cognitive strategies necessary to move beyond their symptoms and deal with any associated changes.

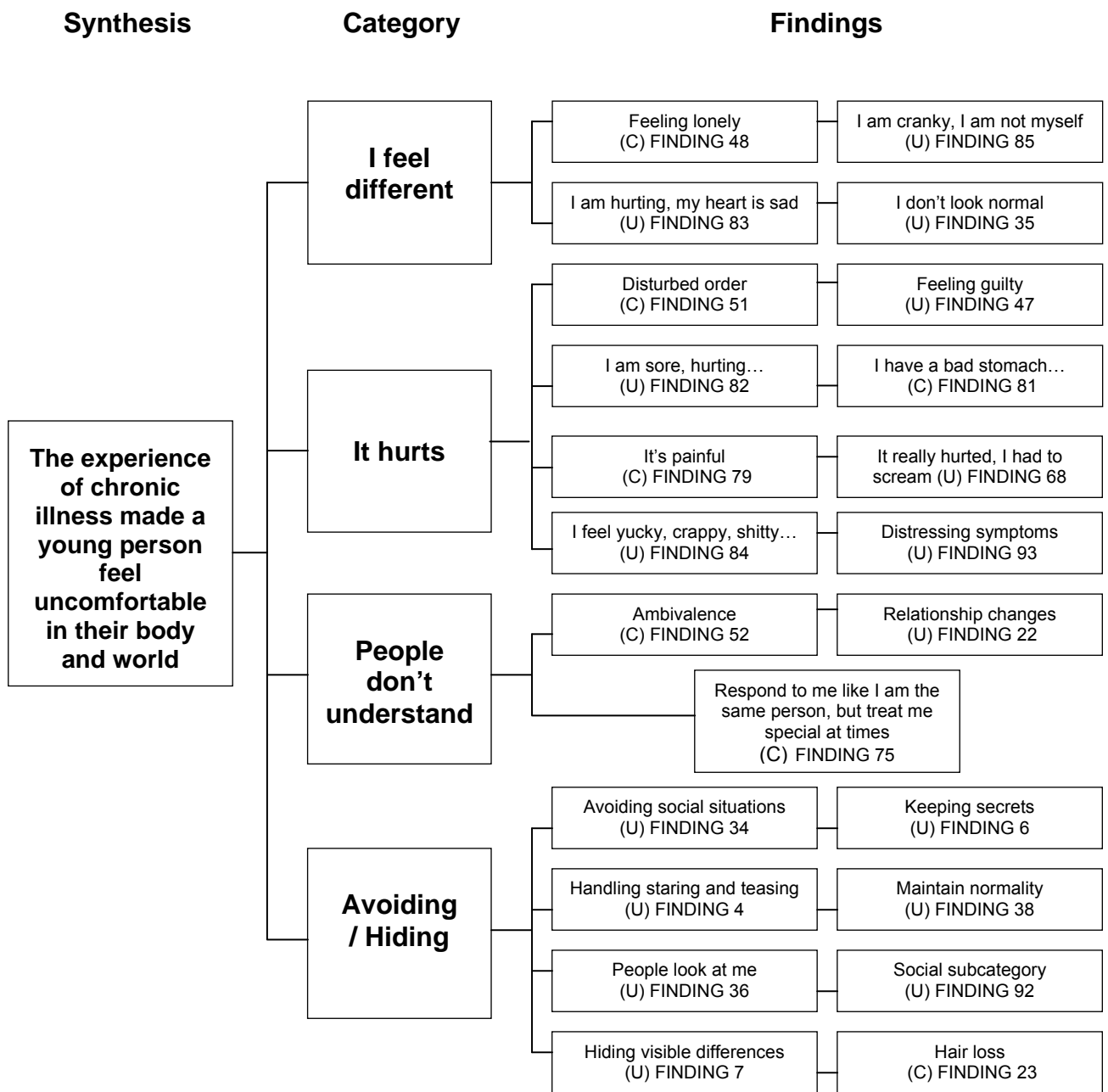


Figure 8. Synthesis 1

Synthesis 2

A total of 25 findings were grouped into four categories and then further derived into a synthesised finding that related to how the experience of chronic illness disrupted 'normal' life (Figure 9). The first category related to the experience of chronic illness as being unwanted; the second category related to how the experience of chronic illness restricted participation (i.e., participation in 'normal' life); and the third and fourth categories related to how the experience of chronic illness created uncertainty in both the present and the future. These four categories were then aggregated into the second synthesised finding: The experience of chronic illness disrupts 'normal' life. Young people potentially face future mental health difficulties if interventions do not provide the strategies to deal with its restrictive, unwanted, and uncertain impact on 'normal' life.

Synthesis 3

A total of eight findings were grouped into two categories and then further derived into a synthesised finding related to how the experience of chronic illness is not only negative but has a positive impact (Figure 10). The first category related to how the experience of chronic illness changed a young person for the better (e.g., became more loving, caring, and understanding), while the second category related how the experience of chronic illness had its rewards (e.g., it brought the family closer together). These two categories were then aggregated into the third synthesised finding: The experience of chronic illness is not all bad; its positive impact on a young person and their family must be understood,

acknowledged, and fostered if interventions to promote mental health are to be truly effective.

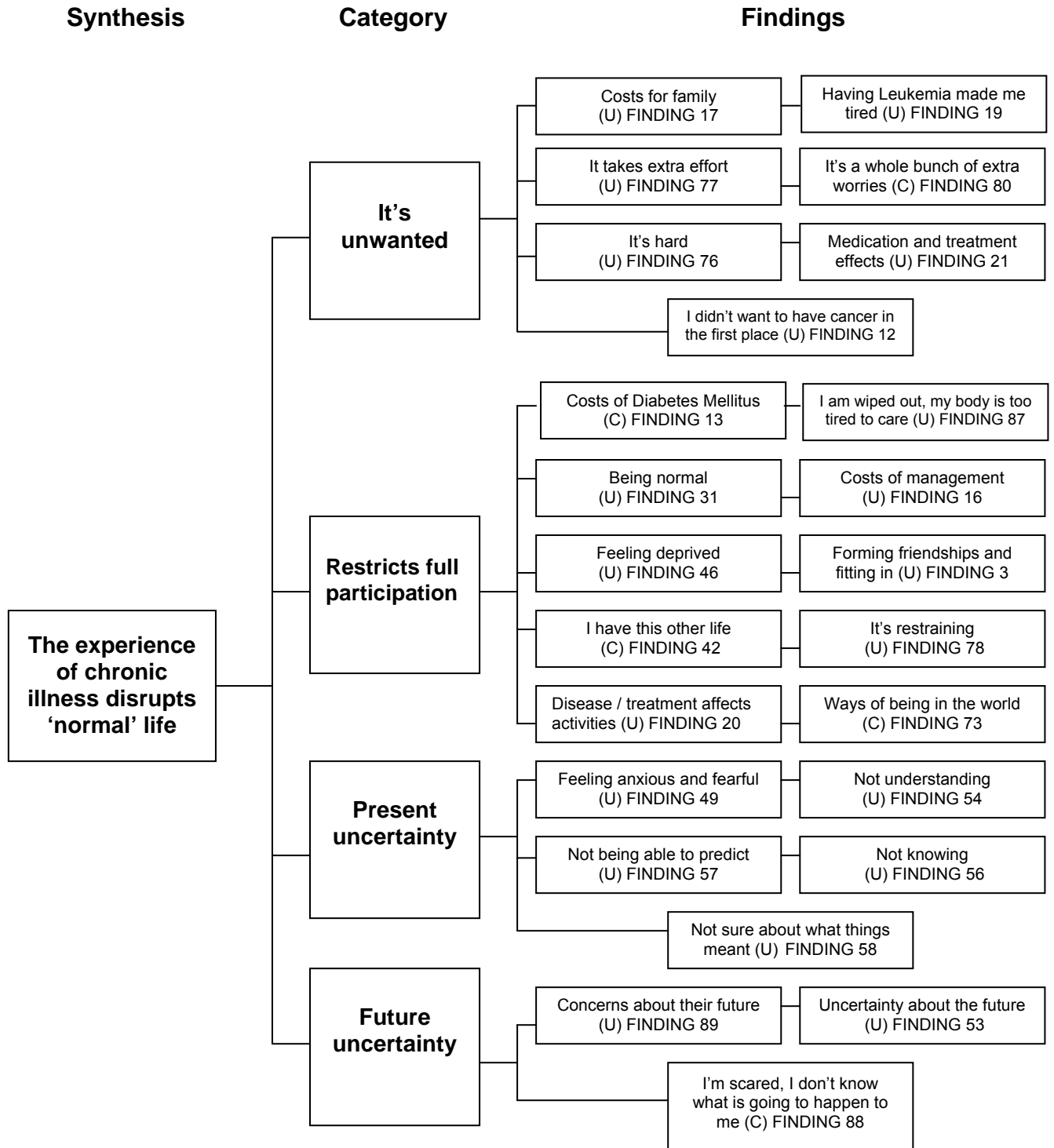


Figure 9. Synthesis 2

Synthesis 4

A total of 18 findings were grouped into two categories and then further derived into a synthesised finding that related to what a young person with chronic illness requires to aid their adjustment and get through the experience (Figure 11). The first category related to a young person's need for information and knowledge, while the second category related to the need for support and understanding from others. These two categories were then aggregated into the fourth synthesised finding: Interventions that focus on the promotion of mental health in young people with chronic illness needs to recognise their need for information, knowledge, and the support of others during this time.

Synthesis 5

A total of 20 findings were grouped into two categories and then further derived into a synthesised finding that related to the state of mind that a young person with chronic illness needs to have to assist their adjustment (Figure 12). The first category related to a young person's development and use of coping strategies to deal with the experience, while the second category related to their need to accept their situation and move forward. These two categories were then aggregated into the fifth synthesised finding: Effective mental health programs aimed at young people with chronic illness need to facilitate their acceptance / 'normalisation' of the experience and focus on the development of positive and future-orientated thinking.

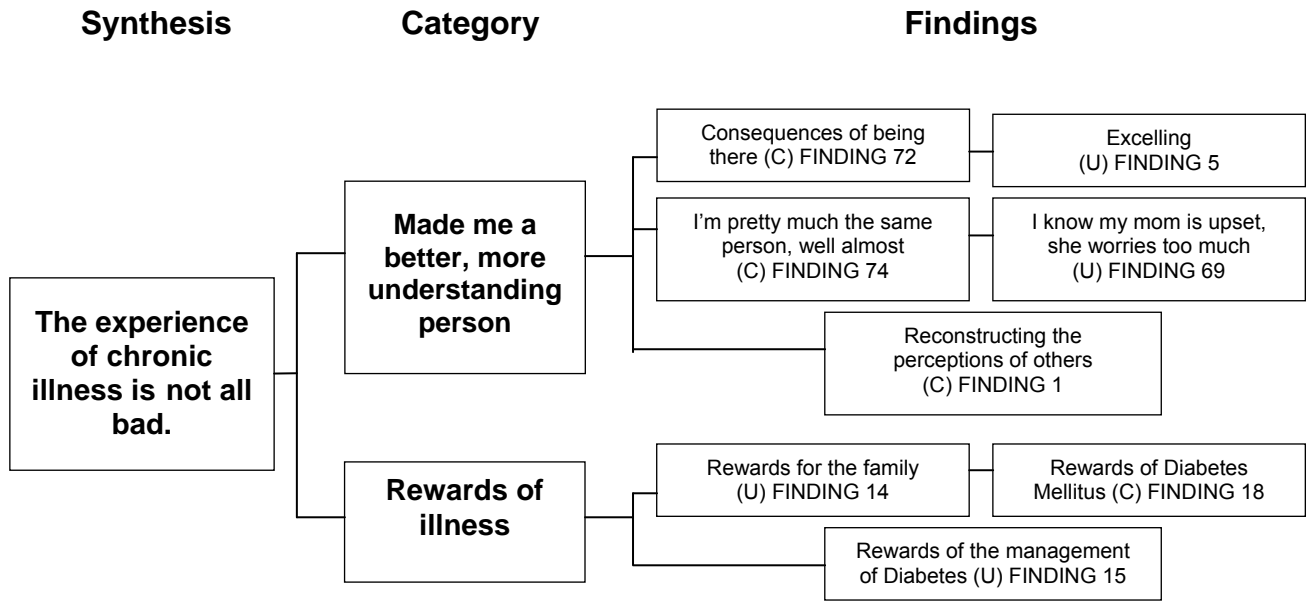


Figure 10. Synthesis 3

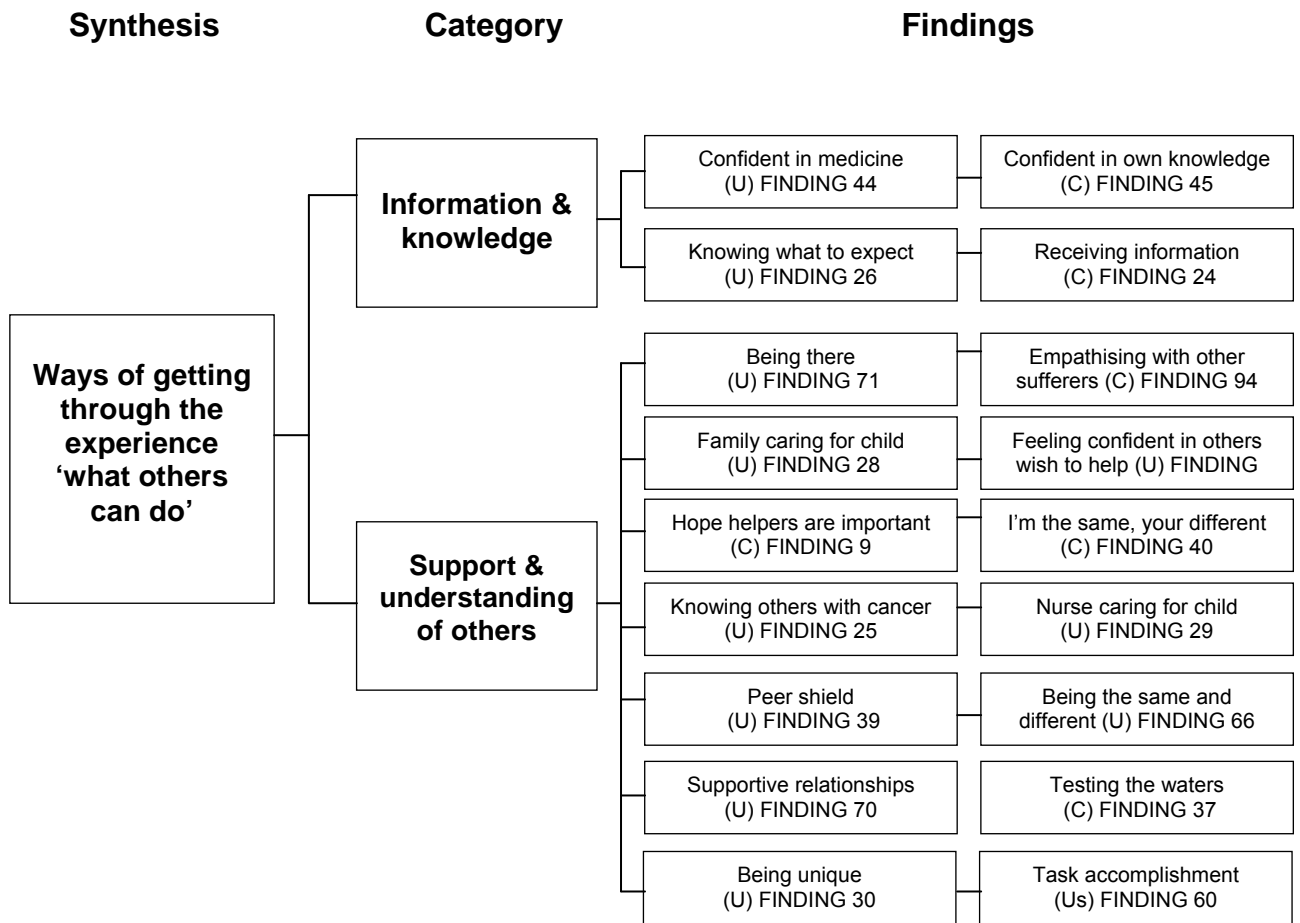


Figure 11. Synthesis 4

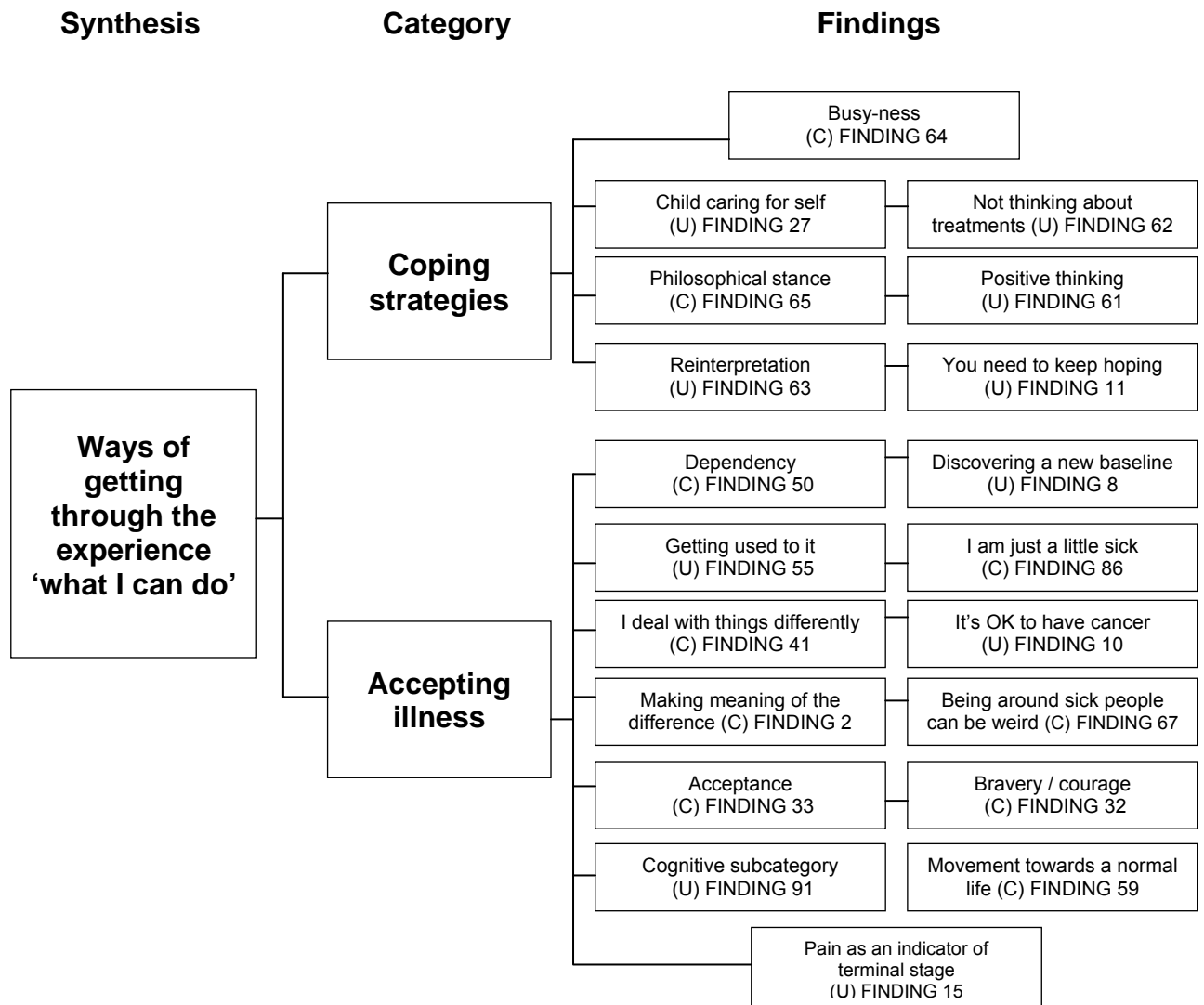


Figure 12. Synthesis 5

Discussion

Meta-synthesis enables the reinterpretation of qualitative data in order to capture the essence of the phenomenon of interest (Pearson, 2004). The current review identified a number of papers related to the topic under investigation. However, only 18 of these were considered to fall within the inclusion criteria. Critical appraisal of these was conducted using QARI and, as a result, five synthesised findings that related to a young person’s experience of chronic illness (e.g., what it meant to them and how it impacted their lives) were produced: (1) the

experience of chronic illness made a young person feel uncomfortable in their body and world; (2) the experience of chronic illness disrupted 'normal' life; (3) the experience of chronic illness was not all bad; (4) ways of getting through the chronic illness experience, 'what others can do'; and (5) ways of getting through the chronic illness experience, 'what I can do'. This synthesised evidence should be taken into account when planning, developing, or updating programs to promote mental health and offset the development of mental health difficulties. Out of these synthesised findings five specific needs that relate to the promotion of mental health and prevention of future psychological difficulties in young people with chronic illness can be identified. There is a need to;

1. Bolster a young person's sense of self in order to reduce the perceived differences and provide the cognitive strategies needed for them to move beyond the symptoms and deal with any associated changes.

The first synthesised finding relates to the visible and devastating impact that chronic illness has on an individual's developing sense of self. A growing body of evidence suggests that a well-established sense of self is required to help young people deal with the challenges of chronic illness and offset the development of future psychological difficulties (Rutter, 1990).

2. Normalise the experience of chronic illness and provide young people with the cognitive strategies needed to deal with the restrictive, unwanted, and uncertain impact that chronic illness has on their lives.

The second synthesised finding incorporates what has been referred to as the dual crisis faced by young people diagnosed with a chronic illness (Woodgate, 2006a). In other words, adolescents with a chronic illness face the restrictions and

uncertainty imposed by the illness on top of the 'normal' developmental difficulties of the time. Thus, while young people may have the ability to understand their situation, they may not have developed the cognitive or emotional tools, or experienced the life events needed to equip them with the strategies needed to contend with these additional problems (Rechner, 1990).

3. Understand, acknowledge, and foster the positive impact that the experience of chronic illness has on a young person.

The third synthesised finding relates to the positive impact that the experience of chronic illness can have on young people. It has been reported that young people with cancer experience personal gains in spite of the negative impact (Novakovic et al., 1996). Thus, while chronic illness may impede development in some areas of a young person's life (e.g., social skills and sense of self), it may enhance development in others (e.g., increase a capacity for love, strengthen relationship with family, increase understanding of other's feelings, acceptance, and understanding).

4. Provide a young person with information and knowledge about their chronic illness and facilitate the development of supportive relationships.

The fourth synthesised finding relates to a young person's need for information and knowledge about what's happening to them (i.e., to not be left in the dark) and supportive relationships during this time. The availability of information and knowledge about the medicine prescribed and procedures needed provide a sense of security and certainty in an otherwise uncertain situation; and the presence of support and the understanding of others have been reported to be

one of the most important resources for adolescents with chronic illness (Kyngas, Nousiainen, & Vaattovaara, 2000).

5. Help a young person come to terms with (accept) their situation and promote the development of their positive and future-orientated coping strategies to deal with the experience.

The fifth synthesised finding relates to successful development of a young person's coping strategies and acceptance of their situation. Research that has examined the types of coping strategies used by adolescents with cancer have reported that acceptance of the situation and a positive life attitude were important resources for coping during this time (Kyngas et al., 2000).

Conclusions

The conclusions of the current review are limited by the design and the number of studies conducted on the topic. However, meta-synthesis was able to be conducted and five synthesised findings were produced. In summary, the adoption of a positive approach by those within and outside of the health profession is suggested to facilitate the aspects important to a young person's mental health when they are living with chronic illness.

Implications for Practice

While young people with chronic illness may be at a greater risk of developing future psychological problems, having a chronic illness does not guarantee the development of these (Woodgate, 1999). Thus, it is imperative that any attempt to promote mental health and prevent psychological difficulties in this

population must be based on research that uses the voices of young people with chronic illness to be effective. From the results of this review a number of recommendations can be derived.

Any approach to mental health aimed at young people with chronic illness needs to be positive in order to (1) build a young person's strengths, (2) foster the positive aspects of the experience, and (3) develop their future perspective. The experience of chronic illness is sufficiently disruptive in itself that interventions which focus only on the negative, such as the reduction of mental illness symptoms, are likely to be inadequate. Instead, clinicians, families, and interventions need to adopt a positive focus and promote mental health symptoms (e.g., self efficacy and self esteem) to offset the development of mental illness symptoms (e.g., depression and anxiety). For example, the use of hope based therapy may be appropriate at this time because it is designed to help people visualise goals, produce numerous routes to obtain goals, summon the mental energy to maintain their pursuit, and reframe insurmountable obstacles as challenges to be overcome (Lopez, Ciarlelli et al., 2000).

Moreover, the chronic illness experience needs to be normalised as much as possible. For example, results indicate that the experience makes a young person feel 'different', 'lonely', 'yucky', 'sick', and 'in pain', because the experience is 'scary', 'hard', 'restraining', uncertain, and 'not normal'. The normalisation of the experience may then reduce the negative impact that it has on a young person's life, reduce their perceived sense of difference, bolster their already depleted sense of self, and help them to accept their situation. Suggested ways to provide a positive and 'normal' experience, while implicitly instilling a sense of hope for the future, for young people with chronic illness may include (1) specific camps (e.g.,

those exclusively for adolescents with chronic illness), (2) mentor groups (e.g., survivors of chronic illness talking to those currently experiencing chronic illness), or (3) continued attendance at previous schools (i.e., to allow the maintenance of existing and making of new friends).

Implications for Research

The majority of the research was conducted in the United States and Canada. As only three studies were conducted in countries other than these, they appear insufficient to outweigh the potential presence of cultural bias in responding. Further qualitative research is needed from other countries (e.g., Australia) to account for cultural factors to truly understand an adolescent's experience of chronic illness and aid in the development of interventions to promote mental health in young people with chronic illness.

Appendix 2a

Search Strategy

PubMed search strategy

1. chronic disease OR chronic diseases OR chronic illness OR chronic illnesses OR chronically ill OR diabetes mellitus OR cancer OR tumours OR cancers OR fibrosis, cystic OR congenital disorders (2918788)
2. qualitative OR grounded theory OR phenomenology OR grounded theory OR discourse analysis OR ethnography (131428)
3. adolescent OR adolescence OR teens OR teenagers OR youth OR youths (1154620)
4. adults OR adult OR adulthood OR old age OR aged (4147799)
5. 1 AND 2 AND 3 NOT 4

The result of 5th search was 385 articles, 15 were identified to fit the criteria.

Web of Science search strategy

1. chronic disease OR chronic diseases OR chronic illness OR chronic illnesses OR chronically ill OR diabetes mellitus OR cancer OR tumours OR cancers OR fibrosis, cystic OR congenital disorders (10 000)
2. qualitative OR grounded theory OR phenomenology OR grounded theory OR discourse analysis OR ethnography (829)
3. adolescent OR adolescence OR teens OR teenagers OR youth OR youths (98424)
4. 1 AND 2 AND 3

The result of 4th search was 89 articles, 3 were identified to fit the criteria.

PsycInfo search strategy

1. chronic disease OR chronic diseases OR chronic illness OR chronic illnesses OR chronically ill OR diabetes mellitus OR cancer OR tumours OR cancers OR fibrosis, cystic OR congenital disorders (32166)
2. qualitative OR grounded theory OR phenomenology OR grounded theory OR discourse analysis OR ethnography (47217)
3. adolescent OR adolescence OR teens OR teenagers OR youth OR youths (123096)
4. adults OR adult OR adulthood OR old age OR aged (38126)
5. 1 AND 2 AND 3 NOT 4

The result of 5th search was 32 articles, 2 were identified to fit the criteria.

Aust Health search strategy

1. chronic disease* OR chronic illness* OR chronically ill OR diabetes mellitus OR cancer* OR tumours OR cystic fibrosis OR congenital disorders (12652)
2. qualitative OR grounded theory OR phenomenology OR discourse analysis OR ethnography (2601)
3. adolescenc* OR teens OR teenagers OR youth* (18731)
4. adult* OR old age OR aged (33167)
5. 1 AND 2 AND 3 NOT 4

The result of 5th search was 3 articles, zero were identified to fit the criteria.

CINAHL search strategy

1. chronic disease OR chronic diseases OR chronic illness OR chronic illnesses OR chronically ill OR diabetes mellitus OR cancer OR tumours OR cancers OR fibrosis, cystic OR congenital disorders (124689)
2. qualitative OR grounded theory OR phenomenology OR grounded theory OR discourse analysis OR ethnography (42891)
3. adolescent OR adolescence OR teens OR teenagers OR youth OR youths (97813)
4. adults OR adult OR adulthood OR old age OR aged (312633)
5. 1 and 2 and 3 not 4

The result of 5th search was 414 articles, 16 were identified to fit the criteria.

Dissertation Abstract search strategy

((Chronic illness*) AND (adolescenc*) NOT (adult*))

Fifteen papers were found, 1 was identified to fit the criteria.

Expanded Academic Index search strategy

1. chronic disease OR chronic diseases OR chronic illness OR chronic illnesses OR chronically ill (7299)
 2. qualitative OR grounded theory OR phenomenology OR discourse analysis OR ethnography (15484)
 3. adolescent OR adolescence OR teens OR teenagers OR youth OR youths (67008)
- 1 AND 2 AND 3

The result of 4th search was 4 articles, zero were identified to fit the criteria.

Health Source Nursing search strategy

1. chronic disease OR chronic diseases OR chronic illness OR chronic illnesses
OR chronically ill OR diabetes mellitus OR cancer OR tumours OR cancers OR
fibrosis, cystic OR congenital disorders (82302)
2. qualitative OR grounded theory OR phenomenology OR grounded theory OR
discourse analysis OR ethnography (12193)
3. adolescent OR adolescence OR teens OR teenagers OR youth OR youths
(30522)
4. adults OR adult OR adulthood OR old age OR aged (63809)
5. 1 AND 2 AND 3 NOT 4

The result of 5th search was 18 articles, 1 was identified to fit the criteria.

Academic Search Elite search strategy

1. Chronic disease OR chronic diseases OR chronic illness OR chronic illnesses
OR chronically ill OR diabetes mellitus OR cancer OR tumours OR cancers OR
fibrosis, cystic OR congenital disorders (127565)
2. qualitative OR grounded theory OR phenomenology OR grounded theory OR
discourse analysis OR ethnography (28031)
3. adolescent OR adolescence OR teens OR teenagers OR youth OR youths
(112320)
4. adults OR adult OR adulthood OR old age OR aged (159311)
5. 1 AND 2 AND 3 NOT 4

The result of 5th search was 26 articles, zero were identified to fit the criteria.

Additional searches were done electronically through the

- Hope literature database
- Google scholar
- Grey literature
- Qualitative Health research
- The result was 6 items were identified to fit the criteria.

Appendix 2b

Critical Appraisal Instrument for Qualitative Studies

Type Primary / Secondary

Criteria	Yes	No	Unclear
1) There is congruity between the stated philosophical perspective and the research methodology.			
2) There is congruity between the research methodology and the research question or objectives.			
3) There is congruity between the research methodology and the methods used to collect data.			
4) There is congruity between the research methodology and the representation and analysis of data.			
5) There is congruity between the research methodology and the interpretation of results.			
6) There is a statement locating the researcher culturally or theoretically.			
7) The influence of the researcher on the research, and vice-versa, is addressed.			
8) Participants, and their voices, are adequately represented.			
9) The research is ethical according to current criteria or, for recent studies; there is evidence of ethical approval by an appropriate body.			
10) Conclusions drawn in the research report do appear to flow from the analysis, or interpretation, of the data.			

Include	Yes	No
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Reason	
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CHAPTER SIX: PAPER THREE - SUBMITTED FOR PUBLICATION

Prevalence of Mental Health in Australian Youth

Anthony Venning, Anne Wilson, Lisa Kettler, and Jaklin Elliott (2009)
School of Psychology, The University of Adelaide
Manuscript submitted for publication.

Statement of Contributions:

Mr Anthony Venning (*Candidate*)

I was responsible for the conception and primary authorship of the paper. I was responsible for the recruitment of the participants, design of the on-line questionnaire (based on a template supplied by The School of Psychology, The University of Adelaide), collection of data, analysis of data, and distribution of feedback to schools. I was corresponding author and primarily responsible for responses to reviewers and revisions to the paper.

Signed:

Date 7/08/2009

Dr Anne Wilson, Dr Lisa Kettler, and Dr Jaklin Elliott (*Co-authors*)

We were the supervisors (advisors) of the research programme that lead to this publication and there was ongoing collaboration between Mr. Venning and us in refining the direction of the research. The realisation of the idea, collection of data, and analysis of data were the work of Mr. Venning. Mr. Venning was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the journal reviewers and editor. We hereby give our permission for this paper to be incorporated in Mr. Venning's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Anne Wilson

Date 7/08/2009

Signed: Lisa Kettler

Date 7/08/2009

Signed: Jaklin Elliott

Date 7/08/2009

Abstract

The Complete State Model (CSM) of Mental Health (Keyes & Lopez, 2002) was used to describe the prevalence of flourishing, languishing, struggling, and floundering in life in a sample of young South Australians ($N = 3913$; 13-17 years, 52% female). Categorisation was based on the relative proportion of mental health and mental illness symptoms reported on standardised measures and the association of these categories to health-risk behaviour. Variability in categories and health-risk behaviour due to gender or region was investigated. Results indicated that a disturbingly small proportion of adolescents ($< 50\%$) were flourishing in life, that poorer states of mental health were associated with increased health-risk behaviour, and that the propensity to engage in health-risk behaviour did vary by gender and region. The current study extends the platform from which positively focused mental health strategies can be tailored and launched to meet the mental health needs of adolescents.

Introduction

Mental health is fundamental to well-being and relates to an individual's positive emotions, thoughts, and behaviours (Australian Bureau of Statistics (ABS), 1997). Indicated by the presence of positive and the absence of negative symptoms of functioning (Keyes & Lopez, 2002), mental health is defined as a state in which an individual is able to realise his or her own abilities, handle day-to-day events and obstacles, function effectively among his or her peers, and engage in health-promoting behaviour (ABS, 1997; World Health Organization, 2005). Alternatively, mental illnesses are among the greatest causes of disability, lost productivity, and diminished quality of life (Australian Health Ministers, 2003). Mental illnesses are indicated by the absence of positive and the presence of negative symptoms of functioning (Keyes & Lopez, 2002), and are typically associated with distress or impairment in day-to-day functioning (APA, 1980). Adolescence is characterised by immense biological and psychosocial changes (Carr-Gregg et al., 2003), is generally defined as the developmental period between the age of 12 and 20 years (Graber et al., 1996; Seifert et al., 2000), and is a time of increased vulnerability to mental illnesses and/or the adoption of health-risk behaviour that can severely impact future development (Australian Institute of Health and Welfare (AIHW), 2006a; Rowling, 2006; Rutter & Smith, 1995; Sawyer et al., 2000). However, adolescence is also a crucial time for the development of mental health and enduring positive health behaviour (Maggs et al., 1997).

To some degree, risk-taking behaviour during adolescence is normal as an individual attempts to discover and consolidate their identity (Carr-Gregg et al.,

2003). However, risk-taking behaviour becomes abnormal when the type or frequency of behaviour has the potential for serious, long-term, and negative health consequences (Irwin et al., 1997). For example, while not every adolescent who experiments with smoking or drinking will continue to do so, it has been suggested that the use of these 'gateway drugs' may open the door to harder drugs later in life (Berger, 2001), and lead to other health-risk behaviours (e.g., risky sex) and the associated negative physical and/or psychological outcomes (e.g., unhealthy lifestyle) (Kandel, 1996). It has been reported that cigarette smoking contributes to the development, maintenance, and increased severity of mental illness (Otten, Harakeh, Vermulst, Van den Eijnden, & Engels, 2007; Weston, Ashton, Condon, & Bourne, 1999); that the consumption of alcohol during adolescence in any amount is neurotoxic, disrupts cortical development, and leads to numerous physical, emotional, and social problems (Crews, He, & Hodge, 2007; Renshaw, 1989); that compared to people who are active, people who are sedentary are more likely to experience depression and obesity (Dunn, Trivedi, & O'Neal, 2001; Stephenson, Bauman, Armstrong, Smith, & Bellew, 2000); and that compared to those who get adequate sleep, those who do not develop more psychological, physical, and psychosocial difficulties (Zammit, 1988).

In Australia, it has been reported that 14 to 18 percent of youth have mental health problems (Sawyer et al., 2000; Zubrick et al., 1995), 14 percent are current smokers (AIHW, 2005b), 25 percent consume alcohol on a daily or weekly basis (AIHW, 2005a), and 62 percent engage in very little or no exercise each week (ABS, 2006). Similarly, reports from outside of Australia suggest that 5 to 17 percent of youth have mental health problems (Adewuya et al., 2007; Ravens-Sieberer et al., 2007; Saluja et al., 2004; Tepper et al., 2008), 25 percent smoke

cigarettes (Johnston, O'Malley, Bachman, & Schulenberg, 2008), 72 percent have consumed alcohol by the end of high school (Johnston et al., 2008), and 50 percent do not engage in exercise (Stone, 1998). Furthermore, it has been suggested that an adolescent's engagement in health-risk behaviour varies according to gender or the region in which they live. Research in Australia found that adolescent females smoke, drink alcohol, and exercise more than adolescent males (Sawyer et al., 2000), and compared to those in metropolitan areas, adolescents in regional areas were less physically active and more likely to smoke and drink in hazardous quantities (AIHW, 2005c). While this research is contrary to that which indicated males are more likely than females to engage in health-risk behaviour (Byrnes, 1999), and girls are less active than boys (Stone, 1998), it is consistent with a review that suggested people in rural areas have a higher rate of smoking, obesity, and inactivity than those in metropolitan areas (Eberhardt, 2004). In short, despite interventions to reduce the symptoms of mental illness and curb health-risk behaviour (Dale, 1998; Hawkins, 1999; Lowry-Webster et al., 2001; Perry, 1987; Quayle et al., 2001; Roberts et al., 2003), a high proportion of adolescents still experience mental health difficulties, engage in health-risk behaviour, and face the likelihood of developing co-morbid mental illness.

Confronted by the situation outlined above, health agencies face a formidable challenge of identifying those in need of assistance, reducing health-risk behaviour, and finding effective ways to increase the mental health of young people. However, without a paradigm shift away from the prevention of mental illness and towards the promotion of mental health, it is questionable if any attempts to do this can be effective. For example, based on the self-reported absence of mental illness or presence of life satisfaction, it has been estimated

that 82 to 86 percent of young Australians have 'good' mental health (Sawyer et al., 2000; Smart & Sanson, 2005; Zubrick et al., 1995). These estimates fail though, to incorporate an adolescent's complete functioning (i.e., both mental health and mental illness symptoms) and thus conflict with estimates that up to a third of Australian adolescents show significant psychological distress and up to 50 percent a more general malaise (Eckersley et al., 2005). Mental health estimates that are based on a single dimension, such as the presence of life satisfaction or the presence of mental illness, may not be accurate indication of mental health and therefore may be inappropriate to underpin its promotion.

The CSM of mental health conceptualises mental health as a syndrome of symptoms of hedonia and psychological and social well-being (Keyes & Lopez, 2002). Individuals who are *flourishing* in life are free from mental illness and exhibit high levels emotional well-being (i.e., hedonia) and high levels of positive functioning (i.e., psychological and social well-being). However, individuals who are *languishing* in life, while free from mental illness, exhibit low levels of emotional well-being, and low levels of positive functioning. In contrast, individuals who are *struggling* in life may exhibit some symptoms of mental illness, but still exhibit high levels of emotional well-being and positive functioning, and individuals who are *floundering* in life exhibit high levels of mental illness and low levels of emotional well-being and positive functioning (Keyes & Lopez, 2002). Thus, assessment via the CSM of mental health provides a more accurate picture of mental health than assessment via single dimension measures because it incorporates not only the absence of mental illness, nor simply the presence of mental health, but takes both dimensions into account. Keyes (2005b) provided empirical support for this perspective in a study that used confirmatory factor

analysis to investigate whether scores on measures of mental health and mental illness reflected a single latent or a two-factor model. Results strongly supported the latter and confirmed that mental health and mental illness are not just opposite ends of the same continuum.

The Current Study

The current study sought to identify the prevalence and distribution of flourishing, languishing, struggling, and floundering in life in young South Australians and investigate the association of these states to health-risk behaviour in order to better inform the development and targeting of mental health strategies. To do this, the CSM of mental health (Keyes & Lopez, 2002) was operationalised by assigning participants to 'diagnostic groups' or Complete Mental Health (CMH) states of flourishing, languishing, struggling, or floundering on the basis of their combined scores on a series of standardised measures of key aspects of mental health and mental illness. This allowed us to address four questions: (a) What is the relative prevalence of flourishing, languishing, struggling, and floundering in life amongst adolescents?; (b) Does an association between CMH states and health-risk behaviours exist?; (c) Are CMH states stronger indicators of health-risk behaviour than individual measures of mental health and mental illness?; and (d) Does health-risk behaviour vary within CMH states depending on gender or location?

Method

Participants

Data from the South Australian Youth Mental Health Scale (SAYMHS) were used. The SAYMHS collected on-line data on numerous mental health indicators in the first half of 2007 (March – July) from adolescents at 41 secondary schools throughout regional and metropolitan South Australia (aged 13-17 years). The total sample size was 3913 adolescents. Full details of the sampling, recruitment, and procedure have been published elsewhere (Venning, Elliott, Kettler, & Wilson, 2009).

Measures

Mental health

Emotional well-being was assessed using the Satisfaction with Life Scale (SLS) (Diener et al., 1985). The SLS was chosen to provide an indication of an individual's level of hedonia in the absence of direct clinical interviews because satisfaction with life has been suggested to provide a cognitive indication of emotional vitality (Keyes & Lopez, 2002). Scored on a Likert scale from one "*strongly disagree*" to seven "*strongly agree*", respondents indicate the extent to which they agree with each of the five questions: scores between 5-14 indicate dissatisfaction, 15-19 slight dissatisfaction, 21-25 slight satisfaction, and 26-35 satisfaction with life (a score of 20 is neutral) (Pavot & Diener, 1993). The SLS has demonstrated good psychometric properties (Diener et al., 1985; Pavot & Diener, 1993) and the Cronbach alpha in the current sample was .84.

Positive functioning was assessed using the Psychological Well-Being Scale (PWBS) (Ryff, 1989) and the Social Well-Being Scale (SWBS) (Keyes, 1998). The PWBS indicates how much an individual perceives himself or herself as thriving in

life and the SWBS indicates this in relation to their social life particularly. The shortened versions of the PWBS and SWBS (i.e., three items per sub-scale) were used in the current study to reduce administration time; each has demonstrated modest to excellent internal consistency (Keyes, 1998; Ryff & Keyes, 1995; Van Dierendonck, 2005). The PWBS consists of six subscales (e.g., 'self-acceptance' and 'purpose in life') and is scored on a Likert scale from one "*strongly disagree*" to six "*strongly agree*": total scores range from a low of 18 to a high of 108. The SWBS consists of five subscales (e.g., 'social integration' and 'social contribution') and is scored on a Likert scale from one "*strongly disagree*" to six "*strongly agree*": total scores range from a low of 15 to a high of 90. As no clinical cut-off scores currently exist for the PWBS and SWBS scores of 9 on each of the subscales (mid way point of possible scores) were used to indicate high (scores ≥ 9) or low (scores < 9) levels of each dimension. The Cronbach Alphas in the current sample were .81 (PWBS) and .76 (SWBS).

Mental illness

To provide an indication of an adolescent's mental illness symptoms the Depression Anxiety Stress Scale 21 (DASS-21) was used (Lovibond & Lovibond, 1995). The DASS-21 is a 21 item self-report inventory, designed for individuals 12 years and above, comprised of three self-report scales to measure the negative emotional states of depression, anxiety, and stress. The DASS-21 has demonstrated good psychometric properties and is scored on a Likert scale from zero "*did not apply to me at all*" to three "*applied to me very much or most of the time*" to indicate the extent to which an individual has experienced each state during the past week (Henry & Crawford, 2005; Lovibond & Lovibond, 1995).

Scores for each subscale are then multiplied by two to indicate normal, mild, moderate, or severe levels of depression (0-9, 10-13, 14-20, 21+), anxiety (0-7, 8-9, 10-14, 15+), and stress (0-14, 15-18, 19-25, 26+) respectively. The internal reliability of the DASS-21 in the current sample was .88 (depression), .79 (anxiety), and .82 (stress).

Demographic information and health-risk behaviour

Respondents reported their age, gender, and the region in which they lived. Age was coded continuously, and gender and region dichotomously. If a participant attended school within a 50-kilometre radius of the centre of Adelaide they were considered to reside in a metropolitan area, if they attended school outside of this they were considered to reside in a regional area. To assess an adolescent's engagement in health-risk behaviour, information on four health behaviours consistently linked with mental health and mental illness were extracted from the SAYMHS; (a) cigarette smoking, (b) alcohol consumption, (c) physical activity, and (d) quantity of sleep. Respondents indicated their use of cigarettes or alcohol (*no, tried it once or twice, socially, regularly*) or average amount of exercise they engaged in per week (*none, 1-5 hours, 5-10 hours, 10 hours+*) or sleep obtained each night (*5-6 hours, 7-8 hours, 9-10 hours, 11-12 hours, 12 hours+*) on Likert scales. This information was then collapsed to produce dichotomous variables: '*smoker / non-smoker*', '*drinker / non-drinker*', '*exercise < 5 hours a week / exercise > 5 hours a week*', and '*sleep < 8 hours per night / sleep > 8 hours per night*'. A total of five hours of exercise each week was deemed the point above which adolescents obtained the health benefits of physical activity (AIHW, 2006a). Similarly, in excess of eight hours of sleep per night was deemed

optimal based on the suggestion that an adolescent needs more than 8 hours of sleep each night to sustain normal levels of performance during the day (see Ferrara and Gennaro (2001) for a review of the literature on sleep research).

Categorisation of Complete Mental Health States

To categorise adolescents into CMH states the authors adapted the approaches previously used in studies by Keyes (2002, 2006). In these studies data were obtained via telephone or self-assisted audio interviews, both single and multiple item self-report state and trait measures were used, and the theoretical approach to categorisation was modelled on a diagnosis of major depression. However, as the current study sought to categorise adolescents beyond the mental health continuum (i.e., not only as flourishing or languishing) and gain a consistent and achievable approach to data collection given the large distances between schools and no contact with students, a purely statistical diagnostic criteria was used. An on-line survey was used to gather data on emotional well-being, positive functioning, and mental illness, and scores were then compared against pre-determined cut-offs to classify adolescents as flourishing, languishing, struggling, or floundering in life based on the relative proportion of positive and negative symptoms reported. Adolescents were categorised as flourishing in life if they reported no or normal levels of mental illness symptoms, high levels of emotional well-being, and high levels on several symptoms of positive functioning; languishing if they reported no symptoms of mental illness, low levels of emotional well-being, and low levels of positive functioning; struggling if they reported high levels on some but not all symptoms of mental illness, and relatively high levels of emotional well-being and positive functioning; and floundering if they reported high

levels on all symptoms of mental illness, low levels of emotional well-being, and low levels of positive functioning. The decision criteria are reported in Table 5.

Table 5
Criteria used to Categorise Adolescents into Complete Mental Health States

	DASS-21 ^a	EWB ^b	PWBS ^c & SWBS ^d
Flourishing	Normal range on all scales	Above or equal to 21	Above or equal to 9 on 6 of the 11 subscales
Languishing	Normal range on all scales	Did not fit the category of flourishing	
Struggling	Mild, moderate, or severe range on 1 or 2 of the scales	Did not fit the category of floundering	
Floundering	Mild, moderate, or severe range on all 3 of the scales	Below or equal to 20	Above or equal to 9 on 5 or fewer of the 11 subscales

^a The Depression, Anxiety, and Stress Scale-21 (Lovibond & Lovibond, 1995).

^b Emotional Well-Being (measured by the SLS; Diener et al., 1985).

^c the Psychological Well-being Scale (Ryff, 1989).

^d the Social Well-being Scale (Keyes, 1998).

Data Analysis

Data were analysed using SPSS version 15 (SPSS, Chicago, IL, USA). Mental states were initially divided into four categories based on the diagnostic rules outlined above and summarised using frequencies and cross-tabulations. A chi-square test was then used to initially determine if significant associations between CMH states and health-risk behaviours existed, and then to determine if these associations were stronger than those between individual measures of

mental health and mental illness and health-risk behaviour. To enable the latter, scores on measures of life satisfaction, depression, anxiety, and stress were re-coded into dichotomous variables to indicate normal or clinical levels of each construct (i.e., 0-9 indicated normal levels, and 10-42 clinical levels of depression). An alpha level of .05 was used to indicate significance and the effect of any associations interpreted using Cramer's V (range 0-1): higher values indicative of a stronger association. Finally, odds ratios were calculated to determine if the engagement in health-risk behaviour varied depending on gender or region within CMH states.

Results

Descriptive Analysis

The total sample size was 3913 adolescents ($M = 15$ years, $SD = 1.3$), 52 percent of which were female and 58 percent of which were from metropolitan areas. Results indicated that 17 percent of those sampled smoked cigarettes, 62 percent had consumed alcohol, 54 percent exercised less than 5 hours a week, and 67 percent slept less than 8 hours each night: a breakdown of health behaviour according to CMH states is provided in Table 6. As shown in Table 7, based on individual measures of mental illness, emotional well-being, and positive functioning, and using the cut-off criteria defined above for each measure, 35 percent, 37 percent, and 26 percent of adolescents respectively were found to have clinically significant symptoms of depression, anxiety, and stress, 70 percent to be satisfied with their life, while 88 percent and 76 percent respectively were found to have high levels of psychological and social well-being.

Table 6
Health behaviour of Sample (N = 3913) within Complete Mental Health States

	Smoke		Consume		Exercise		Sleep	
	cigarettes		alcohol		per week		per night	
	Yes %	No %	Yes %	No %	<5 hrs %	> 5 hrs %	<8 hrs %	>8 hrs %
Flourishing (n= 1639)	12	88	58	42	48	52	61	39
Languishing (n= 202)	18	82	62	38	61	39	72	28
Struggling (n= 1401)	19	81	63	37	55	45	70	30
Floundering (n= 671)	27	73	69	31	61	39	76	24

What are the Relative Prevalence's of Flourishing, Languishing, Struggling, and Floundering in Life amongst Adolescents?

Results indicated that 42 percent of the adolescents sampled were flourishing in life (50% of which were female and 55% from metropolitan areas), 5 percent were languishing (54% of which were female and 55% from metropolitan areas), 36 percent were struggling (54% of which were female and 60% from metropolitan areas), and 17 percent were floundering in life (51% of which were female and 60% from metropolitan areas). A graphical representation of the prevalence of CMH states at different ages indicated that the prevalence of flourishing was lower in older adolescents while the prevalence of floundering was higher: the prevalence of languishing and struggling appeared to remain fairly stable across age groupings (see Figure 13).

Table 7
Percentage of Adolescents Sampled (13-17 years) who Reported Mental Health and Mental Illness Symptoms (M = 15 years; N = 3913)

Mental Health or Mental Illness Symptom	Continuous Assessment (%)					
	Severe		Moderate		Mild	Normal
Depression ^a	10		13		12	65
Anxiety ^a	12		17		8	63
Stress ^a	7		9		10	74
	Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Satisfied	Extremely Satisfied
Emotional Well-Being ^b	3	8	14	25	24	21
		Low			High	
Psychological Well-Being ^c		12			88	
Social Well-Being ^d		24			76	

^a measured by the DASS-21 (Lovibond & Lovibond, 1995).

^b measured by Satisfaction with Life Scale (Diener et al., 1985); 5% of adolescents in the current sample were neither satisfied nor dissatisfied with life.

^c measured by the Psychological Well-being Scale (Ryff, 1989).

^d measured by the Social Well-being Scale (Keyes, 1998).

Does an Association between Complete Mental Health States and Health-Risk Behaviour Exist?

Significant associations between CMH category membership and cigarette smoking [$X^2(3) = 81.57, p < .001$], alcohol consumption [$X^2(3) = 25.12, p < .001$], physical activity [$X^2(3) = 36.66, p < .001$], and quantity of sleep [$X^2(3) = 59.49, p < .001$] were found. However, these associations varied in strength (Cramer's $V = .14, .08, .09, \text{ and } .12$ respectively) and were all relatively small. To determine

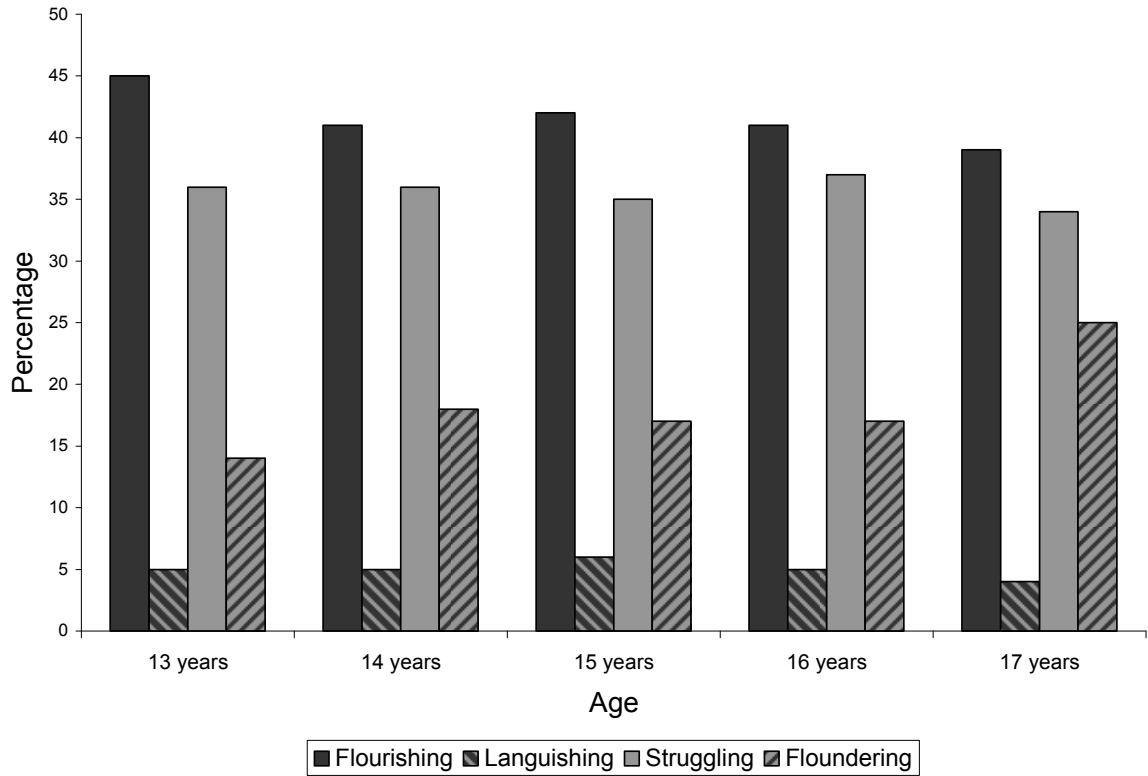


Figure 13. The prevalence of mental health states across age.

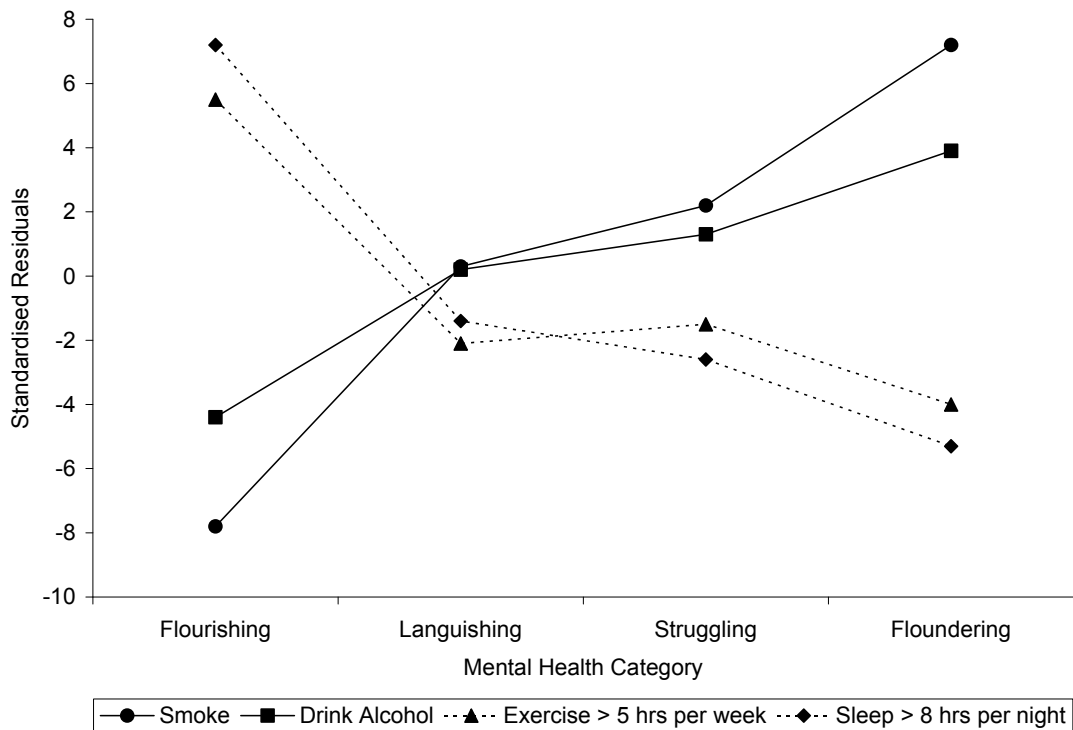


Figure 14. Difference between expected and observed frequencies of health-risk behaviour within complete mental health states (a score of zero indicates expected matches observed frequencies).

the direction of these associations the adjusted residuals were then examined. Results indicated that compared to what would be expected if health-risk was equal across all categories, fewer adolescents who were flourishing in life smoked cigarettes or consumed alcohol, while more than expected exercised in excess of 5 hours per week and slept in excess of 8 hours per night. The opposite was found for adolescents who were floundering in life. Thus, based on the current data, an association does exist between CMH states and health-risk behaviour (refer to Figure 14).

Are Complete Mental Health States Stronger Indicators of Health-Risk Behaviour than Individual Measures of Mental Health and Illness?

Results indicated that significant associations did exist between measures of mental health and health-risk behaviour and measures of mental illness and health-risk behaviour. However, the associations between CMH states and health-risk behaviour were generally stronger. Exceptions to this were evident in scores on the SLS (Diener et al., 1985) that indicated a stronger association to cigarette smoking [$X^2(1) = 92.42, p < .001, V = .16$], physical activity [$X^2(1) = 44.58, p < .001, V = .11$], and quantity of sleep [$X^2(1) = 65.41, p < .001, V = .13$] than CMH states; and scores on the stress scale that indicated a stronger association to alcohol consumption [$X^2(1) = 26.77, p < .001, V = .08$] than CMH states.

Does Health-Risk Behaviour Vary within Complete Mental Health States Depending on an Adolescent's Gender or Location?

Odds Ratios were calculated to indicate whether the likelihood of an adolescent smoking, consuming alcohol, exercising less than 5 hours a week, or sleeping less than 8 hours a night varied within CMH states according to gender and region. An odds ratio of one indicated that the behaviour was equally likely in

both groups; an odds ratio greater than one indicated that the behaviour was more likely in the first group; and an odds ratio of less than one indicated that the behaviour was less likely in the first group. A Confidence Interval (CI) that included one indicated a non-significant result. When gender was assessed, statistically significant differences in health-risk behaviour were indicated within all CMH states. Results indicated that when flourishing, languishing, struggling, or floundering, males were more likely to exercise in excess of 5 hours a week than females; when struggling, females were more likely to smoke or drink alcohol; and when floundering, males were less likely than females to sleep fewer than 8 hours per night (refer to Table 8). However, when regions were compared, statistically significant differences were evident only when adolescents were flourishing in life and indicated that those in metropolitan areas were more likely to sleep less than 8 hours than those in regional areas (refer to Table 9).

Discussion

The current study used data obtained from the SAYMHS ($N = 3913$) (Venning, Elliott et al., 2009) to report the prevalence of CMH states in South Australian adolescents (13-17 years), the association of these to health-risk behaviour, and whether these associations varied according to gender and region. Adolescents were classified within the framework of the CSM of mental health (Keyes & Lopez, 2002) according to their reported levels of emotional well-being, positive functioning, and mental illness as indicated on the standardised measures used. Results indicated that the majority of adolescents were not flourishing in life

Table 8
Odds Ratios (OR) and Confidence Intervals (CI) for Health-Risk Behaviours within Complete Mental Health States according to Gender

			% Male	% Female	OR	95% CI
Flourishing	Smoker	Yes	11	12	.84	.62 – 1.14
		No	89	88		
	Drinker	Yes	56	59	.88	.72 – 1.07
		No	44	41		
	Exercise < 5 hrs	Yes	35	61	.34	.28 – .42
		No	65	39		
Sleep < 8 hrs	Yes	60	61	.96	.78 – 1.16	
	No	40	39			
Languishing	Smoker	Yes	16	19	.83	.40 – 1.71
		No	84	81		
	Drinker	Yes	63	62	1.05	.60 – 1.87
		No	37	38		
	Exercise < 5 hrs	Yes	46	74	.30	.17 – .54
		No	54	26		
Sleep < 8 hrs	Yes	67	76	.67	.36 – 1.20	
	No	33	24			
Struggling	Smoker	Yes	16	21	.68	.52 – .89
		No	84	79		
	Drinker	Yes	57	68	.62	.50 – .77
		No	43	32		
	Exercise < 5 hrs	Yes	43	65	.40	.32 – .49
		No	57	35		
Sleep < 8 hrs	Yes	68	72	.83	.66 – 1.05	
	No	32	28			
Floundering	Smoker	Yes	24	29	.80	.57 – 1.13
		No	76	71		
	Drinker	Yes	66	71	.82	.59 – 1.13
		No	34	29		
	Exercise < 5 hrs	Yes	48	73	.34	.25 – .47
		No	52	27		
Sleep < 8 hrs	Yes	72	79	.69	.49 – .99	
	No	28	21			

Note. Smoker (yes or no) refers cigarettes; drinker (yes or no) refers to alcohol; exercise < 5 hrs (yes or no) refers to each week; sleep < 8 hrs (yes or no) refers to each night; bold indicates a significant result.

Table 9
Odds Ratios (OR) and Confidence Intervals (CI) for Health-Risk Behaviours within Complete Mental Health States according to Region

			% Metro	% Regional	OR	95% CI
Flourishing	Smoker	Yes	12	11	1.18	.87 – 1.60
		No	88	89		
	Drinker	Yes	57	58	.95	.78 – 1.16
		No	43	42		
	Exercise < 5 hrs	Yes	49	49	1.09	.89 – 1.32
		No	51	51		
Sleep < 8 hrs	Yes	66	54	1.66	1.36 – 2.03	
	No	34	46			
Languishing	Smoker	Yes	19	17	1.15	.56 – 2.39
		No	81	83		
	Drinker	Yes	68	56	1.69	.95 – 3.00
		No	32	44		
	Exercise < 5 hrs	Yes	63	58	1.26	.72 – 2.23
		No	37	42		
Sleep < 8 hrs	Yes	74	69	1.29	.69 – 2.39	
	No	26	31			
Struggling	Smoker	Yes	19	18	1.07	.81 – 1.41
		No	81	82		
	Drinker	Yes	63	64	.97	.77 – 1.21
		No	37	36		
	Exercise < 5 hrs	Yes	57	52	1.21	.97 – 1.49
		No	43	48		
Sleep < 8 hrs	Yes	71	68	1.19	.94 – 1.50	
	No	29	32			
Floundering	Smoker	Yes	25	29	.80	.57 – 1.13
		No	75	71		
	Drinker	Yes	66	72	.77	.55 – 1.09
		No	34	28		
	Exercise < 5 hrs	Yes	59	63	.86	.63 – 1.19
		No	41	37		
Sleep < 8 hrs	Yes	78	73	1.31	.92 – 1.87	
	No	22	27			

Note. Smoker (yes or no) refers cigarettes; drinker (yes or no) refers to alcohol; exercise < 5 hrs (yes or no) refers to each week; sleep < 8 hrs (yes or no) refers to each night; bold indicates a significant result.

(58%) and that these individuals, who were languishing, struggling, and floundering in life, were more likely to engage in some kind of health-risk behaviour than those who were flourishing. It was indicated that around 1 in 5 adolescents smoked cigarettes, while more than 50 percent consumed alcohol, exercised fewer than 5 hours a week, and slept fewer than 8 hours a day. Disturbing as these results are given the age range sampled, they are consistent with previous research that indicated only 38 percent of young Americans (12-18 years) were flourishing in life and that these adolescents were then less likely to report engaging in behaviours such as smoking cigarettes or drinking alcohol than those who were not flourishing (Keyes, 2006).

Keyes and Lopez (2002) have stated that while the absence of mental illness is a consequence of mental health, it does not signal, promote, or lead to mental health. In other words, while the optimum state of mental health is a syndrome of high mental health and low mental illness symptoms, interventions that exclusively focus on the symptoms of mental illness may not be enough to equip adolescents with the resources they need to reach and sustain a state of flourishing in life. This is not only theoretically postulated (Keyes, 2002, 2005b; Keyes & Lopez, 2002), but implied by the current results as scores on the SLS had a stronger association to health-risk behaviour than scores on the DASS-21. Future research would therefore benefit from examining a potential implication of this: that positively focused mental health strategies may be more effective at indirectly reducing health-risk behaviour and steering an adolescent towards a state of flourishing than the exclusive prevention or alleviation of mental illness. Furthermore, while only reported amounts of exercise and sleep reached statistical significance, the current results indicated that health-risk behaviour did vary within CMH states

depending on the gender or region in which an adolescent lived. As a result, it may be that tailored rather than standardised mental health programs are needed to ensure that the mental health needs of adolescents are met. For example, results suggested that females exercised less than males, regardless of their CMH state, so while a focus on increasing exercise should be common, a particular focus might need to be paid to young females. However, when adolescents are struggling in life, results indicated that males were less likely to drink and smoke. Thus, along with exercise, programs targeted at young females who are struggling in life may also need to focus on the adverse effects of smoking and drinking.

It has been suggested that an inability to deal with the challenges or stressors associated with adolescence interferes with an individual's ability to plan and make rational decisions for the future (Plant, 1992; Rowling, 2006; Trad, 1993). It may be, therefore, that an adolescent's psychosocial immaturity may undermine their developing ability to make competent decisions (Steinberg, 2007), and that an adolescent's involvement in health-risk behaviour will dissipate when those positive psychological traits needed to flourish in life are developed. Alternatively, if this does not occur and an adolescent continues to perceive that positive rewards are obtained from risky behaviour (i.e., smoking and binge drinking presents a cool and rebellious image to their peers), the behaviour and associated mental health problems may persist. According to Moffitt (1993), two patterns of risk-taking behaviour exist: a continuous course (life-persistent) of risk-taking behaviour and a temporary involvement (adolescent-limited) in risk-taking behaviour. However, the majority of risk-taking behaviour is limited to adolescence (i.e., temporary) and abandoned when pro-social behaviour becomes more rewarding (Moffitt, 1993). Thus, it is crucial that mental health programs targeted

at adolescents adopt a CMH perspective to prevent a 'life-persistent' pattern of health-risk behaviour from forming and build the positive resources needed to form an identity beyond the involvement in health-risk behaviour.

Limitations

The statistical categorisation of CMH states in the current study was limited by the use of self-report instruments and pre-determined cut-off scores. In order to validate its usefulness as a technique to identify those who need assistance to reach and sustain mental health, future research should investigate the correspondence of this method with the judgement of a clinical psychologist. In addition, as the design of the study was cross-sectional, and classification into CMH states based on the combination of scores from multiple scales, these results provided only a snapshot of CMH in young people and causal inferences could not be determined. It should be noted that, according to Cramer's V, the associations found between CMH states and health-risk behaviours were weak. The strength of these associations suggest that CMH states are only part of a larger set of predictors of health-risk behaviour, response categories used may not have had the variability to accurately reflect involvement in these behaviours, or that the dichotomisation of information limited the findings. Future research would benefit from using standardised measures to assess the involvement in and frequency of the health-risk behaviour and parametric methods to gain a better understanding of its association to CMH states. However, it was deemed appropriate to dichotomise information and use non-parametric methods because the scales used in the SAYMHS to assess health-risk behaviour were seen to insufficiently differentiate responses. Accordingly, it was decided to focus on the

engagement or non-engagement in a health-risk behaviour or amount of that behaviour deemed to be a precursor to future mental health problems.

As the current sample was drawn exclusively from South Australian schools that agreed to participate in the SAYMHS, the results may not accurately reflect the wider population. But, as no data could be collected on the characteristics of those who did not participate, and the information asked of those who did was restricted by the ethical bodies from which permission was obtained, adequate information to determine if non-participants differed significantly from participants was not available. However, as category membership corresponded with the expected health-risk behaviour of adolescents, and the current results were consistent with previous research (Keyes, 2006), the authors feel the results are generalisable. Finally, permission from the ethical bodies involved to conduct research within schools was granted on the condition that no comparisons were made within or between schools, so cluster effects were not analysed.

Conclusion

By adopting a CSM of mental health perspective the current results indicated that a disturbingly small proportion of South Australian youth (< 50%) were flourishing in life and that more than half of those sampled engaged in some kind of health-risk behaviour. In comparison, previous research that has adopted a narrower perspective of mental health has only indicated that 14 to 18 percent of Australian adolescents have mental health problems (Sawyer et al., 2000; Zubrick et al., 1995). As a result, health professionals might be reluctant to move towards a positive approach to mental health as this only highlights a bigger problem that is potentially beyond the capabilities of existing resources. By contrast, a positive

approach to mental health enables the identification of adolescents who may have previously gone unnoticed (i.e., by the absence of strengths rather than just the presence of mental illness) and indirectly reduces the future burden of mental illness by promoting a sustainable mental health. Further research is needed to examine the practical, economic, and long-term benefits of such a 'strength-focused' approach. The current study builds on the platform already built by positive psychology and enables health professionals to develop and launch strategies to meet the mental health needs of adolescents.

CHAPTER SEVEN: PAPER FOUR - SUBMITTED FOR PUBLICATION

Is Hope or Mental Illness a Stronger Predictor of Mental Health?

Anthony Venning, Lisa Kettler, Ian Zajac, Anne Wilson, and Jaklin Elliott (2009)
School of Psychology, The University of Adelaide
Manuscript submitted for publication

Statement of Contributions:

Mr Anthony Venning (*Candidate*)

I was responsible for the conception and primary authorship of the paper. I was responsible for the recruitment of participants, design of the on-line questionnaire (based on a template supplied by The School of Psychology, The University of Adelaide), collection and analysis of data, and the distribution of feedback to schools. I was corresponding author and primarily responsible for responses to reviewers and revisions to the paper.

Signed:

Date 7/08/2009

Dr Lisa Kettler, Dr Anne Wilson, and Dr Jaklin Elliott (*Co-authors*)

We were the supervisors (advisors) of the research programme that lead to this publication and there was ongoing collaboration between Mr. Venning and us in refining the direction of the research. The realisation of the idea, collection, and analysis of data were the work of Mr. Venning. Mr. Venning was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the journal reviewers and editor. We hereby give our permission for this paper to be incorporated in Mr. Venning's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Lisa Kettler

Date 7/08/2009

Signed: Anne Wilson

Date 7/08/2009

Signed: Jaklin Elliott

Date 7/08/2009

Mr. Ian Zajac (*Co-author*)

The realisation of the idea, collection of data, and analysis of data were the work of Mr. Venning. Mr. Venning was responsible for writing this paper; my role was to provide statistical assistance and provide input into the interpretation and presentation of results. I also provided advice on responding to comments to do with the analysis of data by the journal reviewers and editor. I hereby give my permission for this paper to be incorporated in Mr. Venning's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed:

Date 7/08/2009

Abstract

Health promotion strategies often focus on the prevention or alleviation of mental illness in an attempt to indirectly promote mental health. But, while the absence of mental illness may be a consequence of mental health, it does not necessarily signal or lead to mental health (Keyes & Lopez, 2002), suggesting that a focus on mental illness may not be the optimal way to promote mental health. The current study adopted a positive psychological approach and tested whether hope was a stronger predictor of mental health in young people than was mental illness. Confirmatory factor analysis was used to test the proposed model and data were drawn from a sample of young South Australians ($N = 3913$; 13-17 years). Results indicated that hope was a significantly stronger predictor of mental health than was mental illness. These results have implications for the content of strategies to promote mental health in young people.

Introduction

Psychological models and theories have contributed significantly to the area of public health (Murphy & Bennett, 2004). For example, the Health Belief Model (Rosenstock, 1966) and the Theory of Planned Behaviour (Ajzen, 1991) have played important roles in understanding, protecting, and improving the health of populations and communities. In contrast to the traditional focus of psychology (i.e., preventing or treating the symptoms of mental illness), however, the area of positive psychology suggests that focusing on the positive aspects of human functioning may provide new and valuable insights into the best way to promote health. Positive psychology is concerned with the study of an individual's positive virtues and strengths, and the identification of effective strategies to instil and amplify these in order to promote health (Park, 2004; Seligman, Steen, Park, & Peterson, 2005). From this perspective, the Complete State Model (CSM) of mental health (Keyes & Lopez, 2002) offers a practical way that health professionals can identify the prevalence of mental health and mental illness, and connect diagnosis to treatment. In diagnostic terms, the CSM of mental health considers an individual to have Complete Mental Health (CMH) if they report high levels of subjective well-being *and* very low levels of mental illness; Complete Mental Illness (CMI) if they report very high levels of mental illness *and* low levels of subjective well-being; and incomplete states of either if they report high or low levels of each concurrently.

The essential premises of the CSM of mental health (Keyes & Lopez, 2002) are that mental health and mental illness are distinct constructs, and that movement between states depends on the increased or decreased levels of

subjective well-being or mental illness symptoms experienced (e.g., CMI → CMH): subjective well-being is assessed by a combination of positive symptoms of mental health (e.g., psychological, social, and emotional well-being) and mental illness is assessed by a combination of negative symptoms of mental illness (e.g., depression or anxiety). But, while the absence of mental illness may be a consequence of mental health, the absence of mental illness does not necessarily signal or lead to mental health (Keyes & Lopez, 2002; Keyes, 2005). This implies that an exclusive attempt to promote mental health by default (i.e., via the alleviation of mental illness) may leave an individual in a state of incomplete mental health and not be as effective as an approach that builds an individual's psychological strengths to then launch them towards a state of CMH. It is not suggested that a focus on mental illness is not at times necessary if a risk of self-harm is present or evidence exists that an individual is unable to function. It is argued, rather, that treating the symptoms of mental illness may not develop the resources an individual needs to reach and sustain a state of CMH, whereas a focus on building an individual's psychological strengths may directly or indirectly undo the root causes of mental illness (Duckworth et al., 2005; Keyes, 2005).

The CSM of mental health (Keyes & Lopez, 2002) has been operationalised in adolescent populations in the United States (12-18 years) and Australia (13-17 years) in studies with large sample sizes; these studies indicated that when conceptualised separately from mental illness, less than 50 percent of young people could be classified as having CMH (Keyes, 2006; Venning, Wilson, Kettler, & Elliott, manuscript submitted for publication). Thus, it is imperative that health promotion strategies focus on preventing or treating the symptoms of mental illness *and* on promoting the psychological strengths that lead to increased levels

of well-being. An example of a cognitive strength that has been associated with elevated levels of well-being, reduced levels of mental illness, and positive health behaviour (e.g., physical exercise) is hope (Cheavens et al., 2006; Snyder et al., 1991; Snyder et al., 2000). When conceptualised cognitively, hope consists of two interrelated dimensions of Agency and Pathways (Snyder et al., 1991). Agency helps an individual to set, initiate, and sustain movement towards a goal, and Pathways refer to the ability to develop multiple strategies to achieve goals (Snyder, 2002). People high in hope set more, have more energy to pursue, and generate multiple routes to obtain goals, experience enduring and positive emotions, and view goal blockages as only temporary setbacks; people low in hope set fewer goals, are less driven in the pursuit of goals, experience negative emotions, and are unable to produce alternative routes if goal blockages occur (Snyder et al., 1991; Snyder, 2002).

The Broaden and Build theory of positive emotions (Fredrickson, 1998) suggests that in contrast to the experience of negative emotions which narrow the range of responses available in a situation (i.e., fight or flight) and carry immediate adaptive benefits, the continued experience of positive emotions accumulate and compound to broaden an individual's momentary thought-action responses and build enduring personal resources. For example, while the experience of sadness and fear may lead to depression, anxiety, and a decreased involvement in life, the experience of *Joy* or *Interest* may lead to creativity, exploration, and an increased involvement in life. Incorporating the Broaden and Build theory of positive emotion then, it is suggested that compared to those low in hope, the positive emotions that follow successful hopeful thinking accumulate and compound to then equip young people high in hope with the skills and resources needed to cope with

adversity, buffer against the onset or lessen the severity of mental illness, and enable them to reach and sustain a state of CMH.

The Current Study

It has been reported that compared to young people low in hope, young people high in hope report increased levels of physical and psychological functioning (Cheavens et al., 2006; Snyder et al., 1991; Snyder et al., 2000). However, whether hope predicts mental health (conceptualised as a combination of positive symptoms of functioning) in young people remains empirically untested. The current study sought to do this and adopted a cognitive conceptualisation of hope to test the hypothesis that hope is a stronger predictor of mental health than is mental illness. Addressing this question was hoped to provide evidence for or against the value of shifting the primary focus of health promotion towards building an individual's strengths. This hypothesis was tested in a sample of young people because (a) an increased prevalence of young people - and at earlier ages - are reported to experience mental health problems (Boyd et al., 2000); (b) young people who report mental health problems are more likely to engage in health-risk behaviour that can have profound long-term consequences (Chen et al., 2006); and (c) youth is a critical time for the development of positive strengths and health behaviours to ensure they continue into adulthood and have enduring consequences for health and well-being (Maggs et al., 1997).

Method

Participants / Procedure

The data for the present study were drawn from the South Australian Youth Mental Health Survey (SAYMHS), an on-line survey conducted to gather information on a number of mental health indicators from a sample of young South Australians (aged 13-17 years; $N = 3913$; 52% female). All public, private, regional, and metropolitan secondary schools in South Australia with a population over 100 were approached. Details regarding the SAYMHS, the recruitment of participants, the procedure employed, and the ethical bodies from which approval was obtained has been reported elsewhere (Venning, Elliott et al., 2009).

Measures / Variables

Mental Health

Scores on the Psychological Well-Being Scale (PWBS), Social Well-Being Scale (SWBS), and the Emotional Well-Being measure used in the SAYMHS to assess subjective well-being defined the latent variable of mental health.

Psychological well-being was assessed using the 18 item version of the PWBS (Ryff, 1989). Scored on a 6-point Likert scale (*strongly disagree* to *strongly agree*) respondents indicate the extent to which they agree with questions from various dimensions of their life (e.g., self-acceptance and purpose in life). Scores range from 18 to 108 and higher scores are indicative of higher psychological well-being. The 18 item version of the PSWB has demonstrated modest internal consistency in other non-clinical samples (Ryff & Keyes, 1995), and the Cronbach's Alpha in the current sample was .81.

Social well-being was assessed using the 15 item version of the SWBS (Keyes, 1998). Scored on a 6-point Likert scale (*strongly disagree* to *strongly*

agree) respondents indicate their social functioning in various aspects of their life (e.g., social integration and social acceptance) and scores range from 15 to 90 (higher scores indicative of higher social well-being). The SWBS has demonstrated modest to excellent internal consistency (Keyes, 1998) with a Cronbach's Alpha of .76 in the current sample.

Emotional well-being was assessed using the Satisfaction with Life Scale (SLS) (Diener et al, 1985). The SLS was chosen to indicate emotional well-being because it provides a cognitive indication of an individual's emotional vitality (Pavot & Diener, 1993; Keyes & Lopez, 2002). Scored on a 7-point Likert scale (*strongly disagree* to *strongly agree*) participants indicate the extent to which they agree with five questions about their life (e.g., the conditions of my life are ideal and I am satisfied with my life): scores range from 5 to 35 with higher scores indicative of higher levels of life satisfaction. The SLS has demonstrated good psychometric properties in a variety of populations [see Pavot & Diener (1993) for a review] and the Cronbach's Alpha in the current sample was .84.

Mental Illness

Scores on the Depression Anxiety Stress Scale (DASS-21) (Lovibond & Lovibond, 1995) used in the SAYMHS to assess symptoms of mental illness defined the latent variable of mental illness. The DASS-21 is a 21 item self-report inventory designed to measure the negative states of depression (e.g., I couldn't seem to experience any positive feeling at all), anxiety (e.g., I was worried about situations in which I might panic and make a fool of myself), and stress (e.g., I found it hard to wind down). Each item is scored on a 4-point Likert scale from zero (*didn't apply to me at all*) to three (*applied to me most of the time*) with higher

scores indicative of higher levels of each construct: total scores were then multiplied by two to indicate normal, mild, moderate, or severe levels of depression (scores of 0-9, 10-13, 14-20, 21+), anxiety (scores of 0-7, 8-9, 10-14, 15+), or stress (scores of 0-14, 15-18, 19-25, 26+) respectively (Lovibond & Lovibond, 1995). The DASS-21 has proven to be reliable in large non-clinical samples (Crawford & Henry, 2003), and its internal consistency in the current sample was .88 (depression), .79 (anxiety), and .82 (stress).

Hope

Scores on the Adult Hope Scale (AHS) (Snyder et al., 1991) were used to define the variable of Hope. The AHS consists of twelve self-report items to assess an individual's level of hope within a goal-setting framework. Each item is scored on an 8-point Likert scale (*definitely false* to *definitely true*) to indicate how well a statement describes the individual (e.g., I can think of many ways to get the things in life that are important to me *and* I meet the goals I set for myself), with a total Hope score then obtained by combining scores on the four Agency and Pathways items (four items are distracters): scores range from a low of 8 to a high of 64. The AHS has been reported to have excellent internal consistency (Snyder et al, 1991), and the Cronbach Alpha of the modified version used in the SAYMHS was .83. For details on the cultural modifications made to the AHS and why it was used with this age range refer to Venning, Elliott et al., 2009.

Data Analytic Plan

Prior to hypothesis testing, variables were assessed for distributional normality and no marked deviations were noted. Descriptive statistics and Pearson

correlations were computed using SPSS version 15.0 (SPSS, Chicago, IL, USA). Confirmatory Factor Analysis (CFA) was used to test the factorial models and was carried out in Analysis of Moment Structures (AMOS 7) software (SPSS, Chicago, IL, USA) using the Maximum Likelihood estimation procedure. Initially, models were tested to confirm the independence of mental health and mental illness. Following this, a model was tested to examine the relationship between hope and mental health and mental illness and mental health, before the predictive nature of hope's components to mental health were examined separately. The sample was then split to examine if these relationships held constant for both males and females. In order to evaluate model fit we report three fit indices and adopt the criteria recommended by Hu and Bentler (1999) and Bentler (2007). The fit indices reported were model Chi Squared (χ^2), the Standardised Root Mean Square Residual (SRMR), and the Comparative Fit Index (CFI). Values of $\leq .05$ for SRMR and $\geq .95$ for CFI are said to indicate a good fitting model (Garson, 2006; Hu & Bentler, 1999).

Results

Tables 10 and 11 provide a summary of correlations and descriptive statistics.

Using CFA our first model tested whether the measures of psychological, social, and emotional well-being, and Depression, Anxiety, and Stress defined a single mental health factor. The loadings of these scales on the mental health factor were high (.64, .57, .56, -.91, -.74, and -.79, respectively), but the fit statistics indicated poor model fit: $\chi^2(9) = 3054, p < .001; n = 3913; SRMR = .13; CFI = .76$. Therefore, we tested a model that included two independent but related

factors of mental health and mental illness. As can be seen in Figure 15, the loadings on these two factors were high and the fit statistics indicated good model fit: $\chi^2(7) = 64.4, p < .001; n = 3913; SRMR = .009; CFI = .99$. It was therefore indicated that in the current sample mental health and mental illness are independent but related constructs.

Table 10

Correlations between Observed Variables (N = 3913)

	1	2	3	4	5	6	7	8
1 Pathways	1							
2 Agency	.62*	1						
3 Depression	-.19*	-.32*	1					
4 Anxiety	-.07*	-.17*	.68*	1				
5 Stress	-.09*	-.18*	.74*	.72*	1			
6 Psych ^a Well-Being	.46*	.58*	-.56*	-.38*	-.39*	1		
7 Social Well-Being	.36*	.49*	-.50*	-.31*	-.35*	.67*	1	
8 Satisfaction with Life	.38*	.52*	-.49*	-.28*	-.33*	.65*	.55*	1

Note: ^a = Psychological; * $p < .001$ (2-tailed)

In our second model we incorporated the latent variable of hope, defined by its two component scores, to examine the relationship between hope and mental health, and mental illness and mental health. The fit statistics indicated good model fit: $\chi^2(17) = 619.30, p < .001; n = 3913; SRMR = .046; CFI = .96$. The regression coefficients were then compared to test whether hope predicted mental health better than did mental illness. Results indicated that hope explained significantly more of the variance in mental health than mental illness [$Z = 11.41,$

$p < .001$ (two-tailed), 37% of the variance compared to 19%] and is therefore a stronger predictor of mental health than is mental illness (Figure 16). To explore the predictive natures of Agency and Pathways the latent variable of hope was removed in our third model and replaced by its components, direct regression paths were then drawn between Agency and mental health and Pathways and mental health (both were allowed to correlate with mental illness). The fit statistics indicated good model fit [$\chi^2(15) = 136, p < .001; n = 3913; SRMR = .019; CFI = .99$] and that Agency explained significantly more of the variance in mental health than Pathways [$Z = 19.68, p < .001$ (two-tailed) (17% compared with 2%).

Table 11

Descriptive Statistics for Observed Variables

	Total ($N = 3913$)		Male ($n = 1863$)		Female ($n = 2050$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pathways (4-32) ^b	23.00	4.41	23.04	4.53	22.96	4.31
Agency (4-32) ^b	23.19	4.98	23.32	5.02	23.08	4.95
Depression (0-42) ^b	8.32	8.86	7.95	8.51	8.67	9.15
Anxiety (0-42) ^b	6.91	7.03	6.80	7.11	7.00	6.96
Stress (0-42) ^b	10.71	8.29	10.18	8.24	11.18	8.32
Psych ^a Well-Being (18-108) ^b	76.49	11.27	75.79	11.18	77.14	11.32
Social Well-Being (15-90) ^b	58.79	9.46	58.73	9.35	58.85	9.56
Satisfaction with Life (5-35) ^b	23.69	6.58	24.14	6.40	23.27	6.72

Note: *M* = Mean; *SD* = Standard Deviation; ^a = Psychological; ^b = range of scores

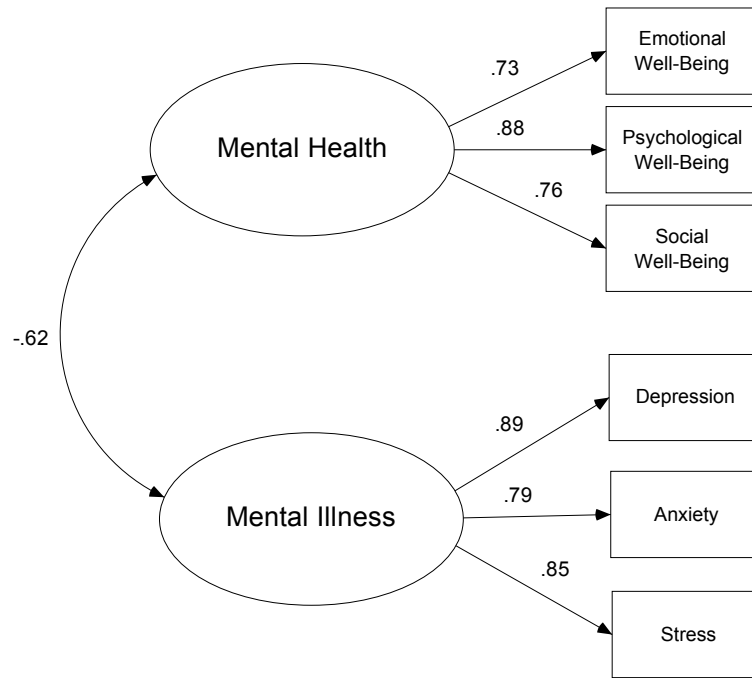


Figure 15: Relationship of mental health to mental illness.

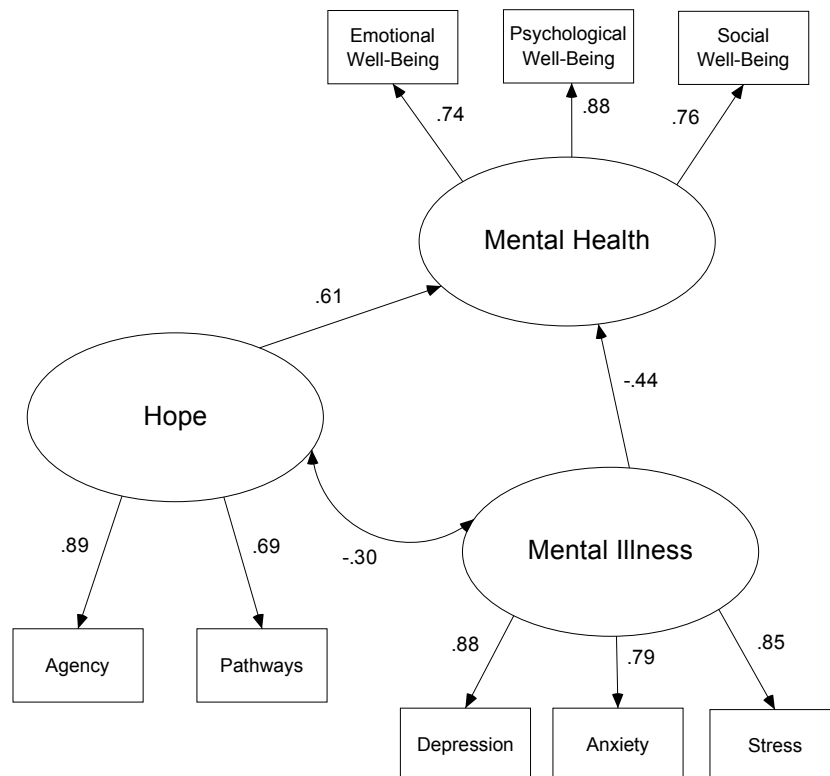


Figure 16: Path-analytic model: influence of hope and mental illness on mental health.

Finally, we explored whether these findings held constant for males and females. We split the sample by gender and repeated the last two models in both groups. When our second model was retested, fit statistics indicated good model fit for both males [$\chi^2(17) = 289, p < .001; n = 1863; SRMR = .046; CFI = .97$] and females [$\chi^2(17) = 352, p < .001; n = 2050; SRMR = .048; CFI = .96$]. In both groups, a comparison of hope and mental illness showed that hope explained significantly more of the variance in mental health than did mental illness [males, $Z = 10.05, p < .001$ (two-tailed), 38% compared to 16%; females, $Z = 6.37, p < .001$ (two-tailed), 36% compared to 21%]. When our third model was retested, fit statistics indicated a good model fit for both males [$\chi^2(30) = 159, p < .001; n = 1863; SRMR = .028; CFI = .99$] and females [$\chi^2(30) = 168, p < .001; n = 2050; SRMR = .022; CFI = .99$]. In both groups, Agency explained significantly more of the variance in mental health than Pathways [males: $Z = 13.29, p < .001$ (two-tailed) (18% compared with 3%); females: $Z = 14.96, p < .001$ (two-tailed) (18% compared with 2%)].

Discussion

The current study provides evidence that hope predicts mental health better than does mental illness. This result is consistent with a positive psychological view that unless characterised by the presence of other positive and meaningful dimensions, an absence of mental illness does not necessarily equate to mental health (Keyes & Lopez, 2002; Magyary, 2002). On a practical level, the current result implies that the focus of strategies to promote mental health may be best redirected to building a young person's positive strengths, such as hope, to promote mental health and indirectly prevent mental illness, rather than prevent or

remedy mental illness in an attempt to indirectly build mental health. The long-term benefits of a hope-focused approach to mental health in young people may include the development of adaptive thought patterns, the development of enduring personal resources, the engagement in positive health behaviour, and the prevention or reduction of mental illness, antisocial behaviour, and/or substance abuse.

It has been suggested that an explicit focus on hope increases the effectiveness of any therapeutic approach to treat the symptoms of mental illness (Snyder, Michael, & Cheavens, 1999). Recent studies have indicated that the process of hope may play a causal role in the reduction of depression and anxiety (Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007), and that when compared to no hopeful elements, the inclusion of multiple hopeful elements increases the effectiveness of therapy to prevent the onset of depression in young people (Venning, Kettler, et al., 2009). Thus, the promotion of hope may be an effective way to prevent or treat the symptoms of mental illness. It may also be an effective way to bring about therapeutic change. For example, although therapies that focus on treating the symptoms of mental illness might successfully alleviate its symptoms, they do little to develop the resources an individual needs to reach and sustain a state of Complete Mental Health (CMH) (Keyes & Lopez, 2002). In contrast, successful hopeful thinking, and the skills and positive resources that are developed, may help to propel a young person from a poorer state of mental health towards a sustainable state of CMH.

Hope, and its components, allow for a structured and deliberate approach to mental health strategies targeted either at a population, group, or individual level. The current study indicated that no gender differences existed in the relationship

between hope and mental health, but that Agency explained significantly more of the variance in mental health than Pathways. This result is consistent with studies reporting that Agency predicted academic grades, behavioural problems, and positive affect better than Pathways, and Agency but not Pathways had a significant effect on depression and anxiety symptoms (Arnau et al., 2007; Ciarrochi, Heaven, & Davies, 2007). Thus, even though Agency and Pathways are theorised to be essential elements of hope (Snyder et al., 1991), it may be that the ability to set and maintain the determination to achieve goals is more important than developing alternative routes to obtain them in terms of promoting mental health, regardless of gender.

The employment of positive and hope-focused strategies to promote CMH in a clinical or school setting depends on a number of elements. Conceptually, it requires a framework that positions mental health and mental illness as separate constructs, but provides the diagnostic ability to assess therapeutic change using positive *and* negative symptoms of functioning. Practically, it requires the increased use of measures of positive *and* negative symptoms of functioning, and a decreased reliance on exclusive measures of mental illness to indicate mental health. The CSM of mental health (Keyes & Lopez, 2002) already provides just such a diagnostic framework and multiple well-validated measures of positive functioning already exist. The contribution of the current study, therefore, was to confirm that mental illness is not the best indicator of mental health and highlight the need to focus on psychological strengths, like hope, in order to promote and obtain a more accurate picture of a young person's mental health, and potentially develop the resources they need to reach and sustain a state of CMH.

The data used in the current study were exclusively obtained from participants recruited throughout regional and metropolitan South Australia. As a result, the sample may not be representative of young people from other countries or cultures and the constructs assessed may therefore differ due to the self-report nature or cultural interpretation of questions. Future investigations would benefit from defining the latent variables of mental health and mental illness using alternative measures and/or in conjunction with the judgement of a clinical psychologist, and investigating if other positive strengths predict mental health. Garson (2006) indicated that the use of three variables (as used in the current study) is acceptable to define a latent variable, but four or more is optimal. Future research may benefit from increasing the amount of indicator variables used to define mental health, mental illness, and hope. However, the three indicators used to define mental health, the three used to define mental illness, and the two used to define hope in the current study were deemed acceptable because they were theoretically based and the fit statistics indicated good fit.

Conclusion

The current results highlight the value of further investigation into hope as an important component of a young person's CMH and have significant implications for the development and content of strategies to promote mental health in young people. The high prevalence of mental illness and the enormous burden it imposes means that a focus on the symptoms of mental illness must remain in health promotion strategies. However, it is imperative that these strategies also focus on building a young person's psychological strengths in order to indirectly prevent

mental illness, rather than prevent or remedy mental illness in an attempt to indirectly build mental health.

CHAPTER EIGHT: PAPER FIVE - PUBLISHED

Normative Scores for the Hope Scale using Australian adolescents

Anthony Venning, Jaklin Elliott, Lisa Kettler, and Anne Wilson (2009)
School of Psychology, The University of Adelaide
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Statement of Contributions:

Mr Anthony Venning (*Candidate*)

I was responsible for the conception and primary authorship of the paper. I was responsible for the recruitment of participants, design of the on-line questionnaire (based on a template supplied by The School of Psychology, The University of Adelaide), collection and analysis of data, and distribution of feedback to schools. I was corresponding author and primarily responsible for responses to reviewers and revisions to the paper.

Signed:

Date 7/08/2009

Dr Jaklin Elliott, Dr Lisa Kettler, and Dr Anne Wilson (*Co-authors*)

We were the supervisors (advisors) of the research programme that lead to this publication and there was ongoing collaboration between Mr. Venning and us in refining the direction of the research. The realisation of the idea, collection, and analysis of data were the work of Mr. Venning. Mr. Venning was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the journal reviewers and editor. We hereby give our permission for this paper to be incorporated in Mr. Venning's submission for the degree of Doctor of Philosophy from the University of Adelaide.

Signed: Jaklin Elliott

Date 7/08/2009

Signed: Lisa Kettler

Date 7/08/2009

Signed: Anne Wilson

Date 7/08/2009

Abstract

The Hope Scale (Snyder et al., 1991) shows promise as an initial resource to help identify adolescents who lack valuable cognitive strategies needed to reach and maintain mental health. The purpose of the current study was to establish normative data for the Hope Scale in Australian adolescents (13-17 years), and to determine whether total hope or subscale scores differed across age, gender, or geographical location. Participants ($N = 3913$) were recruited from 41 secondary schools throughout regional and metropolitan South Australia. Significant differences were found in total Hope scores across age and region and in Pathways scores across age, region, and gender. Normative scores are provided.

Introduction

Adolescence is a time of major life changes in which the associated challenges can severely affect future development, and, in some, may cause vulnerabilities to or trigger mental health problems (Rowling, 2006). During adolescence, for example, it has been reported that (a) an inability to deal with the stressors associated with the final years of school interferes with one's ability to plan and make decisions for the future (Trad, 1993); (b) one in five will experience clinically significant levels of mental illness before the end of high school (Gillham & Reivich, 2004); (c) the influence of varying biological and societal forces cause males and females to pursue different goals (Snyder, 1994; Snyder, 2000); and (d) those who live in the country have fewer aspirations than those living in the city (Quaglia, 1995). That being said, as hopeful thinking has been suggested to act as a buffer against the onset of mental health problems (Snyder, 2002), the identification of adolescents who may lack the valuable cognitive strategies required for hopeful thinking would be of benefit to clinicians, teachers, or counsellors.

The Hope Scale (Snyder et al., 1991) has potential to be used as an initial resource to identify adolescents who differ from the developmental norm in terms of their hopeful thinking and, where appropriate, to guide interventions to prevent the onset of mental illness. Advantages of the Hope Scale for such a use include its brief format (i.e., it takes under 5 minutes to complete) and its free access in the public domain. The Hope Scale was developed to measure an individual's level of hope, defined as the thinking process through which an individual sets goals, develops strategies to achieve those goals (Pathways), and builds and sustains

the motivation to execute those strategies (Agency) (Snyder, 2002). Pathways reflect an individual's capacity to conceptualise one or multiple avenues to arrive at a desired goal, and Agency reflects an individual's ability to initiate and sustain movement along a chosen pathway to reach a desired goal (Snyder et al., 1991). Combined, these components provide an individual with the cognitive energy to start moving towards a goal and the perceived ability to generate the routes to get there (Snyder, 1995, 2002).

The aim of the current study was to establish normative data for the Hope Scale in Australian adolescents aged between 13 and 17 years, and to determine whether Hope scores, as measured by the Hope Scale and its component sub-scale scores, differ across age, gender, and geographical location. The Hope Scale was chosen over other hope measures because it is a psychometrically superior instrument (Bryant & Cvengros, 2004), has good construct validity (Snyder et al., 1991), and was not developed for use solely within a clinical population (Herth, 1992; Nekolaichuk & Bruera, 2004; Nowotny, 1989; Raleigh & Boehm, 1994). In addition, the Hope Scale is less time consuming and therefore more appropriate for large scale sampling than other hope measures (Herth, 1991; Miller & Powers, 1988). Normative scores for the Adult Hope Scale (AHS) (≥ 15 years; Snyder et al., 1991) and the Child Hope Scale (CHS; 7-15 years; Snyder et al., (1997)) do currently exist and are based on samples from the United States. But because the existing normative scores (a) are not directly comparable because of differences in number and wording of questions in the scales; (b) do not use the same measure to span the age range of individuals at secondary school (i.e., 13-17 years); (c) do not account for the different geographical location in which an individual may live (e.g., metropolitan or regional); and (d) provide only

an average score for an adult or child rather than a developmental norm for each age (e.g., 13, 14, 15 years etc.), these are not adequate to identify developmental variations in adolescents' hopeful thinking.

Method

Participants

The current research used data from the South Australian Youth Mental Health Survey (SAYMHS) 2007. The SAMHS recruited participants from secondary schools throughout regional and metropolitan South Australia and obtained an adolescent's scores on a range of mental health indicators. Table 12 provides the gender and age breakdown of participants used in the current study ($N = 3913$).

Table 12
Age and Gender Distribution of Sample

Age	Male <i>n</i>	Female <i>n</i>	Total <i>N</i>
13	502	537	1039
14	475	496	971
15	418	414	832
16	296	392	688
17	172	211	383
Total	1863	2050	3913

Sampling and Recruitment

The SAYMHS was administered to a sample of adolescents from South Australia. South Australia (population 1.5 million (Australian Bureau of Statistics

(ABS), 2007) is comprised of one large capital city (Adelaide) and several large regional centres and smaller towns. Prior to data collection, a power analysis was undertaken and revealed that 305 adolescents of each age would be sufficient to detect a small effect ($d = .2$) if any age x hope interaction occurred. Thus, a cell size of > 305 was planned to achieve a power of .8 and detect any significant difference at $\alpha = .05$ (two-tailed). To achieve the required sample size (1525 participants), all public, private, regional, and metropolitan secondary schools listed either with the South Australian Department of Education and Children's Services or in the 2005 Annual Report of the Advisory Committee on Non-Government Schools, and that had a student population over 100, were approached. In line with previous research a response rate of 15 percent was estimated (Porter & Whitcomb, 2003), which indicated that between 9 000 and 10 000 students needed to be accessed.

In total, 129 secondary schools were contacted. Prior to contacting the schools ethical approval to conduct the study was obtained from the University of Adelaide's Human Research Ethics Committee, DECS, and the Catholic Education office of South Australia. Emails were sent to school principals, deputy principals, and/or school counsellors inviting them to participate (confirmation of ethical approval, a parental consent form, and background information were also included). If schools had not initiated contact within seven days a phone call was made to inquire if they wanted to participate. In the schools that did participate, parental consent was obtained and students accessed the questionnaire during lesson time (e.g., during pastoral care, health, or psychology classes). In total, 52 of the 129 schools approached agreed to participate, but data were obtained from only 41 schools (32%) (see Figure 17) because 11 dropped out before data

collection began. The reasons cited for a schools' non-participation included time constraints, concurrent participation in other research, or previous participation in research. The schools that participated represented all metropolitan and regional areas of South Australia.

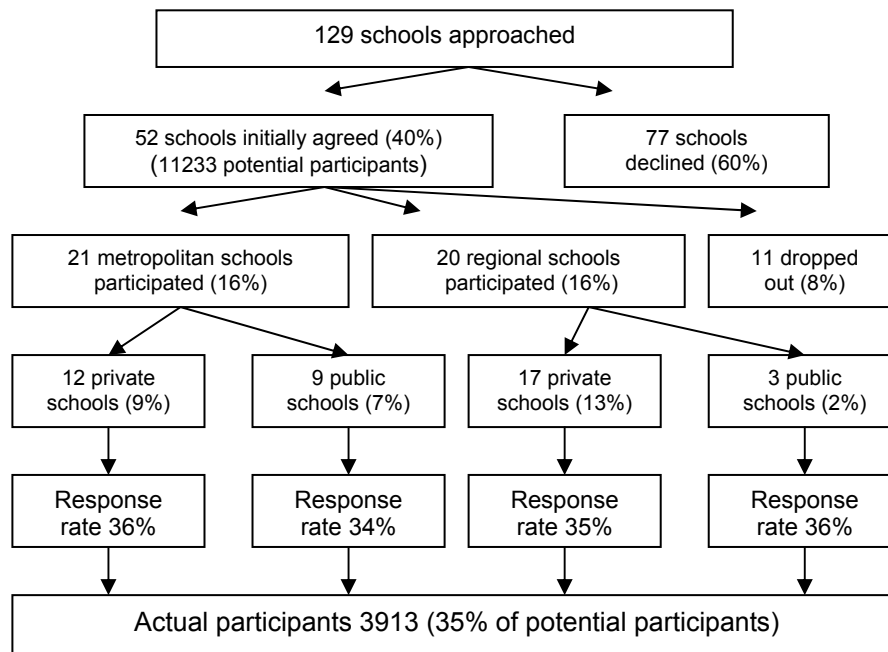


Figure 17: School participation (% of schools approached) and response rate

Materials

The AHS (Snyder et al., 1991) is a 12 item self report inventory designed to access an individual's level of hope within a goal-setting framework (≥ 15 years). Four items reflect Pathways (1, 4, 6, and 8), four Agency (2, 9, 10, and 12), and four are distracters (3, 5, 7, and 11). A total Hope score is then achieved by summing the scores on the Pathways and Agency subscales. Scored on an 8-point Likert scale to indicate how well the statement describes an individual ("definitely false", "mostly false", "somewhat false", "slightly false", or "slightly true", "somewhat true", "mostly true", "definitely true"), scores range from a low of 8 to a

high of 64. The AHS has good internal reliability (.74 to .84) and test-retest correlations (.82 over 10 weeks) (Snyder et al., 1991), with the internal reliability (Cronbach's alpha) of the scale in the current study being .79 (Pathways), .67 (Agency), and .83 (Hope).

The current study was concerned with establishing Australian normative scores for adolescents aged 13 to 17 years (i.e., adolescents at secondary school, years 8-12), a range that lay across the recommended ages for the AHS (≥ 15 years) and the CHS (7-15 years). Thus, the AHS was chosen for the following reasons. Unlike the CHS, the AHS included four distracters to disguise the true nature of the scale. Moreover, the AHS has been used effectively in adolescent / young adult samples before to examine the activities, beliefs, and expectations of those with chronic illness (12-21 years) (Buran et al., 2004), and determine the effectiveness of interventions to promote hardiness and hope (16-17 years) (Green et al., 2007). Finally, normative scores derived from the AHS are more useful to future investigators who may seek to identify the characteristics conducive to a successful adaptation from adolescence to adulthood. Previous research has demonstrated that adult measures of self-esteem, optimism, life satisfaction, and happiness have been used effectively to investigate this transition in adolescent and young adult populations (Caprara, Steca, Gerbino, Paciello, & Vecchio, 2006). An 8-point continuum was used in place of the original 4-point, as suggested by Lopez, Ciarlelli, Coffman, Stone, and Wyatt (2000), to encourage more diverse responding and the AHS was adapted slightly to ensure some colloquial terminology was not misinterpreted by an Australian population. Accordingly, after it was shown to a focus group of 15 adolescents (14-17 years) recruited from schools with which the researchers were affiliated, questions 1, 5,

and 10 were slightly re-worded to make them both culturally congruent and age appropriate (refer to Table 13). The Flesch-Kincaid grade level of the re-worded scale is 4.4.

Table 13

The Hope Scale (Snyder et al., 1991): Australian Modifications in Italics, American Wording in Brackets, Added Words in Bold.

-
1. I can think of many ways to get out of a *difficult situation* (jam).
 2. I energetically pursue my goals.
 3. I feel tired most of the time.
 4. There are lots of ways around any problem.
 5. I am easily *beaten* in an argument (downed).
 6. I can think of many ways to get the things in life that are important to me.
 7. I worry about my health.
 8. Even when others get discouraged, I know I can find a way to solve the problem.
 9. My past experiences have prepared me well for my future.
 10. I've been pretty successful in life **so far**.
 11. I usually find myself worrying about something.
 12. I meet the goals that I set for myself.
-

Procedure / Data Collection and Questionnaire

Data were collected in the first half of 2007 (March - July) and recorded on-line from participants at 38 of the 41 schools that agreed to participate ($n = 3315$). An on-line format was chosen to (a) make it more attractive to schools because it required less time for a student to complete, (b) make it more interactive and

increase a student's interest beyond that of a paper questionnaire (Kiesler & Sproull, 1986), and (c) eliminate potential errors or omissions at data entry. Upon accessing the questionnaire, the first screen provided information about the study, ensured confidentiality, and gained a student's assent. After agreeing to this the student was then taken to the main questionnaire page. If a student skipped questions submission was disallowed until all questions had been answered. In situations where a school did not have access to, had a limited number of, or could not get students to a computer, a manual version of the questionnaire was provided. In most cases students completed manual questionnaires during school time and completed forms were collated by the school and collected by the first author for analysis. Data were collected from three schools using this method ($n = 598$).

Results

Missing Data

Data recorded electronically had no missing values ($n = 3315$). Two approaches were taken to missing data collected via the manual version of the SAMHS ($n = 598$); (a) if one or more of the measures were left completely blank the entire data set for that individual was excluded (8% of manual questionnaires); and (b) if isolated missing values existed mean imputation was used.

Factor Analysis

A factor analysis was conducted to confirm the existence of the two separate and related factors. The eight items of the AHS were subjected to a principal

components analysis with a promax rotation, consistent with the original validation method (Snyder et al., 1991). An initial assessment of the data indicated it was fit for analysis, the Kaiser-Meyer-Olkin value was .88 and the Bartlett's test of Sphericity reached statistical significance ($p < .01$). An inspection of the scree plot revealed that a two-factor solution needed to be retained for investigation (Cattell, 1966). The two-factor solution explained a total of 58.60 percent of the variance, with component 1 contributing 46.78 percent (Agency items) and component 2 contributing 11.95 percent (Pathways items). Thus, the interpretation of the AHS in the current sample was consistent with previous research (Snyder et al., 1991), and supported the use of Pathways and Agency items as separate scales.

Preliminary Analyses

Data were analysed using SPSS version 13 (SPSS, Chicago, IL, USA). Preliminary assumption testing indicated that no serious violations existed. The only significant differences between the scores of participants who completed the on-line or the manual version of the questionnaire were in Pathways scores at 14 years ($t(150) = -2.24, p = .027$) and hope, Pathways, and Agency scores at 16 years ($t(327) = -2.62, p = .009$; $t(686) = -1.99, p = .047$; $t(686) = -2.31, p = .021$). However, the effect sizes for these differences were very small ($r^2 = .005, .009, .005$, and $.007$ respectively) so online data and manually collected data were merged into one data set for all further analyses. An inspection of the sample means indicated that all scores on the AHS rose from the age of 13 years to 16 years, dropped at 17 years (with the exception of male hope and Pathways scores), and were consistently lower in regional compared to metropolitan areas (see Figures 18, 19, and 20).

Age, Gender, and Region

To assess whether total Hope and subscale scores varied by age, gender, or region, a three-way multivariate analysis of variance was conducted. Three dependent variables (Hope, Pathways, and Agency) and three independent variables (age, gender, and region) were used. There was a statistically significant difference in total Hope scores across age [$F(8, 7784) = 5.64, p < .001$; Wilks Lambda = .99; $\eta_p^2 = .006$] and between region [$F(2, 3892) = 3.92, p < .05$; Wilks Lambda = .99; $\eta_p^2 = .002$]. Differences for gender, the interaction between age and gender, age and region, gender and region, and the interaction between age, gender, and region were found to be non-significant. When Hope, Pathways, and Agency scores were considered separately, only a significant difference in Pathways scores across age ($F(4, 3893) = 6.76, p < .001, \eta_p^2 = .007$) and between regions ($F(1, 3893) = 6.86, p = .009, \eta_p^2 = .002$) existed using a Bonferroni adjusted alpha level of .017.

Post-hoc comparisons indicated that the mean Pathways score for a 13-year-old ($M = 22.47$) differed significantly from that of a 15-year-old ($M = 23.31$), 16-year-old ($M = 23.48$), and 17-year-old ($M = 23.27$), and the mean Pathways score of a 14-year-old ($M = 22.87$) differed significantly from that of a 16-year-old ($M = 23.48$). No other significant differences in Pathways scores between ages or between regions at various ages were found, but because a visual inspection of the means indicated that a distinct gender difference appeared to exist in Pathways scores after the age of 15 years, an independent samples *t*-test was conducted to compare Pathways scores of males and females at 16 and 17 years. Results indicated that a significant gender difference existed at 17 years (males:

$M = 23.81, SD = 3.76$; females: $M = 22.84, SD = 4.38$) ($t = (381) = 2.30, p = .022, \eta^2 = .013$), but not at 16 years.

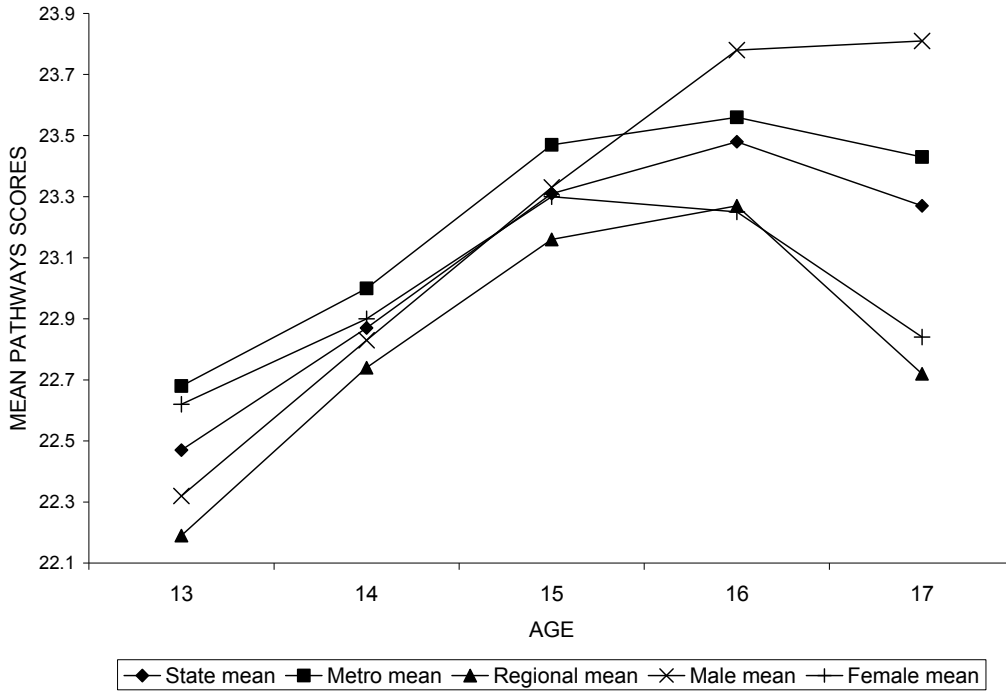


Figure 18: Mean Hope scores across age

Normative Scores

As one of the purposes of the current study was to provide normative data that was specific to age, gender, and geographical location for the Hope Scale in Australian adolescents (13 to 17 years), descriptive data for total Hope and subscale scores are presented in Table 14.

Discussion

The Hope Scale (Snyder et al., 1991) is a promising instrument to help identify adolescents who lack the valuable cognitive strategies needed for

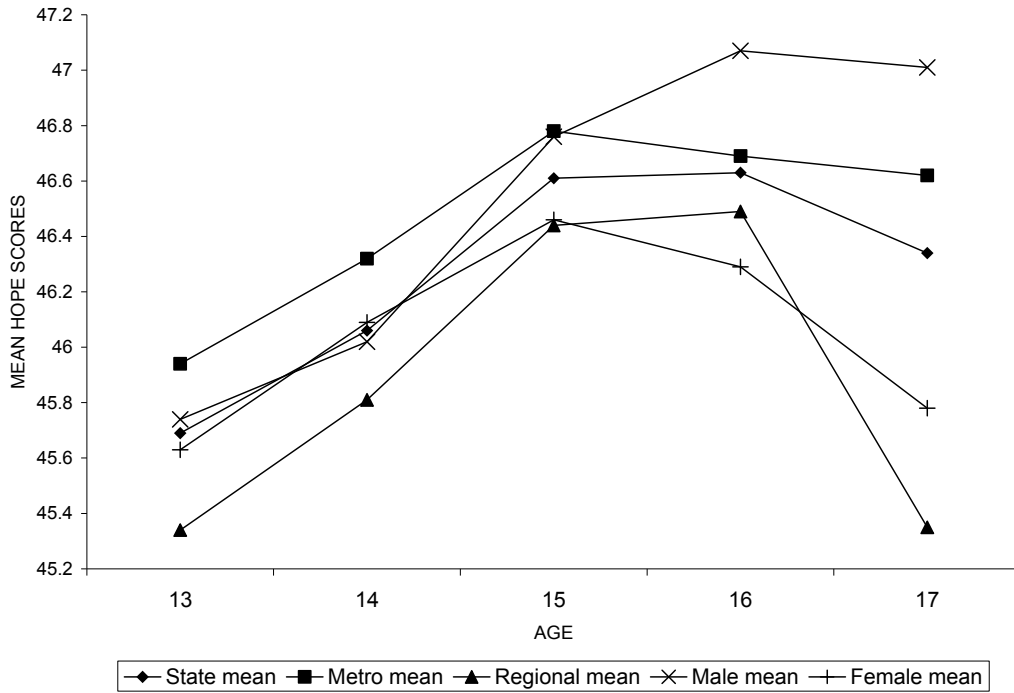


Figure 19: Mean Pathways scores across age

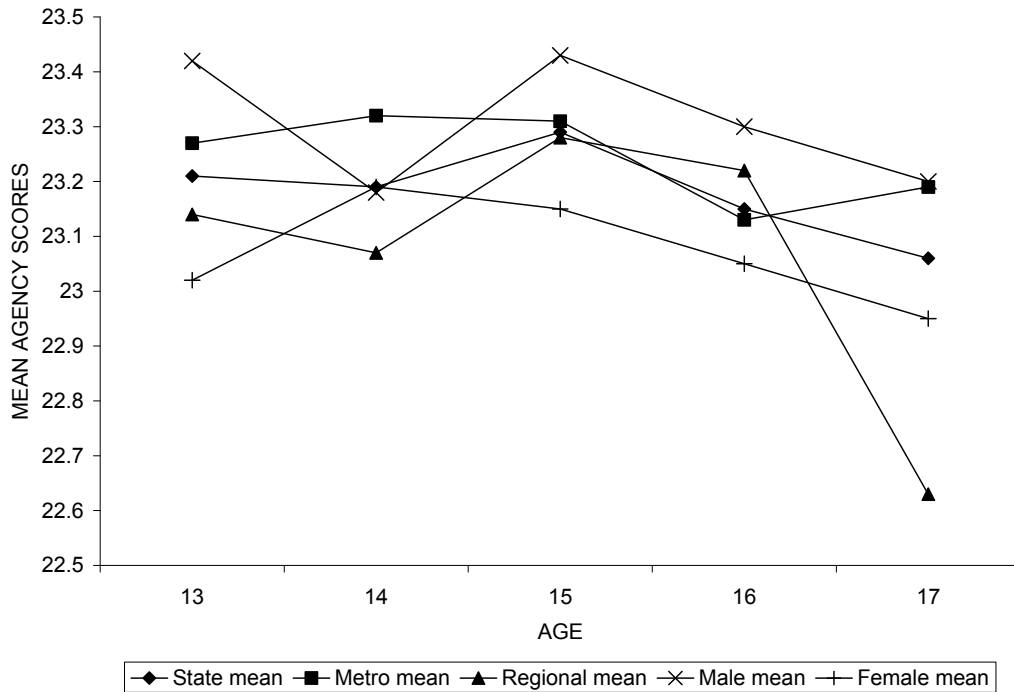


Figure 20: Mean Agency scores across age

Table 14
Means and Standard Deviations of Scores across Age, Gender, and Region.

		Male <i>n</i> = 1863			Female <i>n</i> = 2050			Total <i>N</i> = 3913		
Age	Region	Pathways	Agency	Hope	Pathways	Agency	Hope	Pathways	Agency	Hope
13 <i>n</i> =1039	Metro	22.63 (4.77)	23.60 (5.16)	46.23 (8.90)	22.71 (4.61)	22.94 (5.01)	45.65 (8.47)	22.68 (4.69)	23.27 (5.09)	45.94 (8.68)
	Regional	21.86 (4.74)	23.17 (5.41)	45.03 (9.16)	22.49 (4.47)	23.12 (5.21)	45.61 (8.77)	22.19 (4.60)	23.14 (5.29)	45.34 (8.95)
	Total	22.32 (4.77)	23.42 (5.26)	45.74 (9.02)	22.62 (4.55)	23.02 (5.09)	45.63 (8.59)	22.47 (4.66)	23.21 (5.18)	45.69 (8.80)
14 <i>n</i> =971	Metro	23.04 (5.00)	23.28 (5.57)	46.31 (9.58)	22.97 (4.67)	23.37 (5.64)	46.33 (9.33)	23.00 (4.85)	23.32 (5.60)	46.32 (9.46)
	Regional	22.61 (4.78)	23.08 (5.35)	45.68 (9.25)	22.85 (4.39)	23.06 (5.00)	45.91 (8.57)	22.74 (4.56)	23.07 (5.15)	45.81 (8.87)
	Total	22.83 (4.90)	23.18 (5.46)	46.02 (9.42)	22.90 (4.51)	23.19 (5.28)	46.09 (8.89)	22.87 (4.70)	23.19 (5.37)	46.06 (9.15)
15 <i>n</i> =832	Metro	23.58 (4.14)	23.51 (4.51)	47.09 (7.63)	23.32 (3.86)	23.02 (4.76)	46.35 (7.76)	23.47 (4.02)	23.31 (4.62)	46.78 (7.68)
	Regional	22.99 (4.47)	23.32 (4.84)	46.31 (8.54)	23.28 (4.00)	23.24 (4.55)	46.53 (7.76)	23.16 (4.20)	23.28 (4.67)	46.44 (8.09)
	Total	23.33 (4.29)	23.43 (4.65)	46.76 (8.03)	23.30 (3.94)	23.15 (4.63)	46.46 (7.75)	23.31 (4.11)	23.29 (4.64)	46.61 (7.89)
16 <i>n</i> =688	Metro	23.93 (3.87)	23.22 (4.66)	47.15 (7.55)	23.27 (4.16)	23.06 (4.82)	46.33 (8.17)	23.56 (4.05)	23.13 (4.75)	46.69 (7.91)
	Regional	23.39 (4.33)	23.49 (4.33)	46.88 (7.74)	23.19 (3.68)	23.03 (4.59)	46.21 (7.37)	23.27 (3.96)	23.22 (4.48)	46.49 (7.51)
	Total	23.78 (4.01)	23.30 (4.56)	47.07 (7.59)	23.25 (4.02)	23.05 (4.75)	46.29 (7.93)	23.48 (4.02)	23.15 (4.67)	46.63 (7.79)
17 <i>n</i> =383	Metro	23.98 (3.56)	23.21 (4.71)	47.18 (6.92)	23.01 (4.54)	23.19 (4.77)	46.19 (8.72)	23.43 (4.16)	23.19 (4.73)	46.62 (7.99)
	Regional	23.27 (4.29)	23.21 (4.62)	46.48 (7.60)	22.20 (3.73)	22.06 (4.65)	44.27 (7.68)	22.72 (4.03)	22.63 (4.65)	45.35 (7.68)
	Total	23.81 (3.76)	23.20 (4.68)	47.01 (7.08)	22.84 (4.38)	22.95 (4.75)	45.78 (8.53)	23.27 (4.14)	23.06 (4.71)	46.34 (7.93)

Note. The range for the Pathways and Agency sub-scales is 4-32; the range for the total Hope scale is 8-64

successful hopeful thinking. The purpose of the current study was to determine whether hope scores, as measured by the Hope Scale and component sub-scale scores, differed with age for Australian adolescents aged 13 to 17 years, and to establish normative data broken down by age, gender, and geographical location. A total of 3913 participants (13-17 years) from secondary schools across metropolitan and regional South Australia were recruited and statistically significant differences were found in adolescents' total Hope scores across age and between regions. But the effect sizes of these differences were relatively small and, when sub-scale scores were considered separately, statistically significant differences appeared only in Pathways scores across age, region, and gender, with Agency scores appearing relatively stable.

The greater variability in an adolescent's Pathways compared to Agency scores may suggest its greater influence on hopeful thinking at this time. In other words, the successful, or unsuccessful, development of the ability to perceive routes to achieve goals may be more important to an adolescent's overall hope, and may be more vulnerable to the developmental challenges of the time than the ability to maintain the motivation to achieve goals. Furthermore, the visible gender difference in Pathways scores after 15 years, the statistically significant difference at 17 years (e.g., male scores continued to rise while female scores dropped), and the consistently lower scores reported by those living in regional compared to metropolitan areas suggests a possible disparity in an adolescent's capability to use this type of thinking. A further analysis of the mechanisms behind these results is beyond the scope of the current paper, but the implications of an ability or inability to employ Pathways or Agency thinking, depending on an adolescent's situation or circumstances, are indicated by a recent Australian study that found

Agency and Pathways items differed in their ability predict positive outcomes and affect (Ciarrochi et al., 2007). As a result, future investigations need to focus on the relationship between Pathways and Agency thinking, indicators of positive mental health, and the social, developmental, and geographical influences that affect these to ensure health promotion strategies are appropriately tailored.

Implications for Practice

The provision of Australian normative scores for the Hope Scale enables it to be used as a quick resource to help identify adolescents who differ from the developmental norm in terms of their hopeful thinking and who may require assistance to obtain or maintain mental health and offset the development of mental illness. In addition, the identification of possible differences in Pathways thinking across age, gender, and geographical region suggests its malleable nature at this time. Thus, in light of the current results, it is vital to ensure that adolescents, and in particular 16 to 17 year old females living in regional areas, are taught the skills needed to actively set goals, maintain the motivation for their pursuit and, most importantly, conceptualise the routes to achieve them and overcome any obstacles caused by developmental, environmental, geographical, or social challenges. For example, the therapeutic technique of 'stepping' might be incorporated into the school curriculum to teach adolescents how to set clear, specific, and workable goals, and plan activities to achieve these in incremental steps so that the success received at each step models successful Pathways thinking (Snyder & Taylor, 2000).

Limitations

The current sample was drawn from government and non-government schools throughout South Australia, but because South Australia represents only 7.4 percent of the Australian population under 24 years (ABS, 2007), and the number of participants in their final year of school (i.e., 17 years) was lower than other ages, the sample may not have been representative of all Australian adolescents. Furthermore, the response rate of schools, or of those within schools, potentially reflected a self-selection bias. But because no data could be collected on the characteristics of those who did not participate we are unable to report whether they differed significantly from those who did. Finally, due to the self-report nature of the Hope Scale, responses may not have accurately reflected an adolescent's thinking, because self-report instruments are reported to be more susceptible to attributional errors like social desirability and self-awareness than other measures (Groth-Marnat, 1997).

Future Research

Future research is needed to expand the current Australian normative scores into late adolescence and beyond to examine what happens to hopeful thinking during the transition into young adulthood, and more specifically to examine the gender difference in Pathways thinking once an individual leaves secondary school. Research such as this needs to be based on samples obtained from the general population rather than a university or inpatient setting in order to provide a more accurate view of an individual's transition from adolescence into adulthood. Finally, future research needs to investigate what unique environmental or social

factors affect hopeful thinking beyond the age of 15 years to help develop and tailor effective preventative interventions to offset the development of mental health problems at this time.

Conclusion

The current study provides normative data for the Hope Scale (Snyder et al., 1991) in Australian adolescents (13-17 years). Statistically significant differences were found in total Hope scores across age and region, and Pathways scores across age and region. Moreover, a gender difference was found in Pathways scores at 17 years. Practically, the preventative benefits that stem from the establishment of these normative scores include (a) the ability to identify adolescents who have not successfully developed, or are not successfully employing Pathways or Agency thinking; and (b) the identification of the ages, gender, or populations in which developmental variations from the norm occur to help guide preventative interventions.

CHAPTER NINE: GENERAL CONCLUSION

Overview

The aim of this thesis was to contribute to knowledge in the area of mental health, from a positive psychological perspective, and to extend the platform from which positive mental health strategies can be developed and launched to meet the mental health needs of young Australians. Two systematic reviews of the literature and three quantitative studies were conducted to produce five papers. Results suggested that a focus on positive strengths, such as hope, plays an important role in the mental health of young Australians and should be an important part of strategies designed to promote mental health. Before making some general conclusions, a brief review of each study is provided.

Review of Studies

Systematic Reviews

Paper one (*study one*) was a systematic review of quantitative studies that (a) examined if strategies that used Cognitive Behavioural Therapy (CBT) to prevent the onset of depression in young people were effective, (b) examined if strategies that included multiple hopeful elements were more effective than strategies that included fewer, and (c) made recommendations about the content of strategies to promote mental health. A meta-analysis was conducted on those studies that fit the criteria specified and the weighted or standardised mean differences were used to estimate the amount that CBT, with or without elements of hope, changed a young person's depression scores at follow-up. Results

indicated that CBT was effective at maintaining self-reported levels of depression below what was considered clinically significant up to 24 months, but was not effective at reducing levels below that of a control, no treatment, or usual care group unless it contained multiple hopeful elements and/or was assessed by age-appropriate measures.

Paper two (*study two*) was a systematic review of qualitative studies that used a young person's voice to describe their experience of chronic illness. Data were extracted from those studies that fit the criteria specified and findings from these studies were grouped, categorised, and meta-synthesis then conducted to produce evidence-based recommendations to help develop and tailor the content of mental health strategies. Five synthesised findings were produced that in turn indicated five specific areas that mental health strategies targeted at young people with chronic illness need to focus. These areas are (a) bolster a young person's sense of self, (b) normalise their experience of chronic illness, (c) understand, acknowledge, and foster its positive impact, (d) provide information and knowledge about their illness and support the development of supportive relationships, and (e) help them to come to terms with (accept) their situation and develop positive and future-orientated coping strategies.

Quantitative Studies

The next three studies were quantitative and used data that were drawn from the South Australian Youth Mental Health Survey (SAYMHS) ($N = 3913$; 13-17 years) to (a) obtain information about a young person's mental health that was not based on the absence of mental illness, (b) examine if flourishing in life (i.e., the optimum state of functioning) was associated with less health-risk and more

health-promoting behaviour, (c) obtain evidence that a focus on hope may be a better way to promote mental health than a focus on mental illness, and (d) provide a way in which young Australians who may need assistance to reach and sustain a state of flourishing in life can be identified based on the absence of strengths (i.e., Hope scores) rather than the presence of mental illness.

Paper three (*study three*) described the prevalence of mental health in young Australians according to the states outlined in the Complete State Model (CSM) of mental health (Keyes & Lopez, 2002) and the relationship of these to health-risk and health-promoting behaviour. Scores from a number of positive and negative indicators of functioning were combined to classify young people as flourishing, languishing, struggling, or floundering in life, and non-parametric statistics were used to examine the relationship of these states to health-risk and health-promoting behaviour. Results indicated that in contrast to the implication that the majority of young Australians have 'good' mental health, less than half were flourishing in life and this optimum state of functioning was associated with more health-promoting and less health-risk behaviour.

Paper four (*study four*) conceptualised mental health as a combination of positive indicators of functioning and provided evidence that hope predicted mental health in young people better than mental illness did. Data on a number of positive and negative indicators of functioning were drawn from the SAYMHS and Confirmatory Factor Analysis used to test competing models. Models were tested to confirm the independence of mental health and mental illness, to examine the relationship between hope and mental health and mental illness and mental health, and to test the individual predictive nature of hope's components. The sample was then split according to gender to determine if the relationships held

constant for males and females. Results indicated that hope was a better predictor of mental health than mental illness, and Agency was a better predictor of mental health than Pathways. No gender differences existed.

Paper five (*study five*) established normative scores for the Adult Hope Scale (AHS) (Snyder et al., 1991) and indicated that differences existed in total Hope scores between young Australians. Data were drawn from the SAYMHS and normative data provided for the AHS specific to age, gender, and region. Results indicated that significant differences were found in total Hope scores across age and region and in Pathways scores across age, region, and gender. However, the effect sizes of these differences were small.

What do these Results Mean for Mental Health Promotion in Australia?

The research undertaken for this thesis was based on the premise that, if a young person was not flourishing in life, a focus on developing the ability to hope, rather than on preventing or treating the symptoms of mental illness, is a better way to promote a sustainable mental health. However, the independence, limited scope, and brevity required by journals means that a discussion on the utility of converging the related but at times distinct focuses of positive psychology (i.e., hedonic well-being) and positive mental health (i.e., eudaimonic well-being), and the proposed role of hope in mental health has not occurred. A model outlining the proposed role of hope in mental health that combines theories by Keyes and Lopez (2002), Snyder et al. (1991), and Fredrickson (1998) is provided in Figure 21. The model illustrates how the successful and continued ability to hope may be the vital mechanism that activates a positive cycle of functioning which then

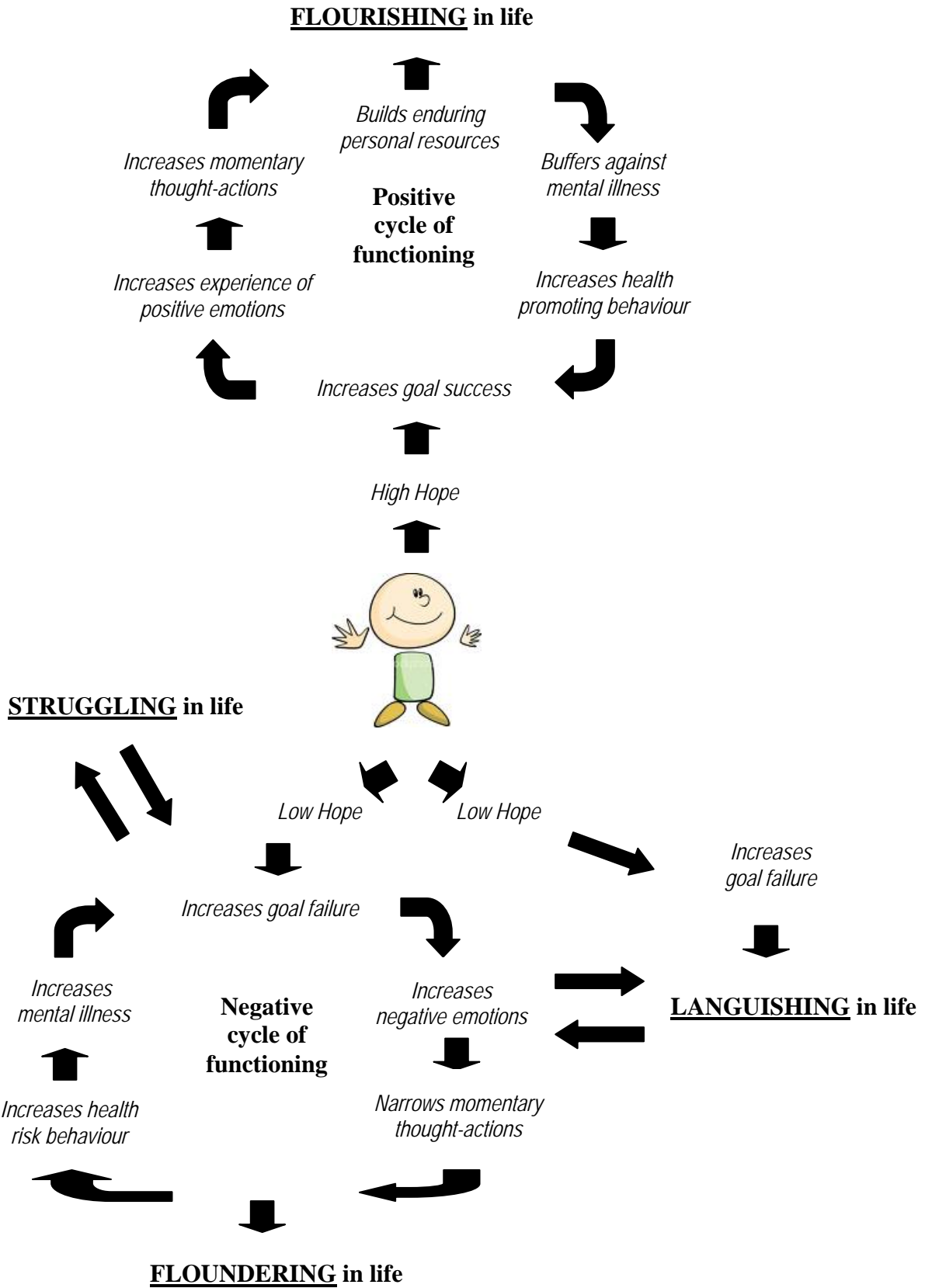


Figure 21: The role of hope in mental health

ultimately leads to a sustainable state of flourishing in life. Thus, as hopeful strategies can be easily incorporated into preventative or therapeutic CBT, and hope levels are briefly and reliably measured by a tool that is freely available, developing the ability to successfully hope may be a simple and useful way that clinicians can help to propel young people towards a state of flourishing in life. The utility of combining the hedonic and eudaimonic approaches to well-being, and the role of hope in mental health are discussed below before the practical applications of the results in this thesis are outlined.

Utility of Combining a Hedonic and Eudaimonic Approach to Well-being

Two related but increasingly disparate fields of investigation have dominated research on well-being. The hedonic approach, traditionally aligned with positive psychology, conceptualises well-being as a state with high levels of positive affect, low levels of negative affect, and a high degree of life satisfaction (i.e., subjective or short-term well-being) (Boskovic & Jengic, 2008). The eudaimonic approach, traditionally aligned with positive mental health, conceptualises well-being as the processes that lead to the sustained fulfilment and/or realisation of an individual's full potential (i.e., psychological or long-term well-being) (Boskovic & Jengic, 2008; Keyes, Ryff, & Shmotkin, 2002). Ryan and Deci (2001), however, suggest that rather than adopting either of these approaches in isolation, well-being is best conceptualised as incorporating elements of each. Consistent with this, Keyes, Ryff and Shmotkin (2002) have empirically confirmed that subjective well-being and psychological well-being *are* related and *are not* mutually exclusive concepts. With the research of Ryan and Deci (2001) and Keyes, Ryff and Shmotkin (2002) in mind, this thesis suggests that 'feeling good' in the short-term (i.e., via increased

levels of hope) may ultimately build the psychological resources needed to 'live well' in the long-term, and provide Australian clinicians with a possible mechanism to increase the well-being / mental health of young Australians.

The Role of Hope in Mental Health

It is suggested that the ability to successfully hope provides the experiences that are capable of shifting young Australians from poorer states of mental health towards a sustainable state of flourishing in life. High levels of hope, according to the model, result in the activation of a positive upward spiral in which increases in goal success lead to increases in the experience of positive emotion (e.g., happiness), which in turn increases momentary thought-actions and builds enduring personal resources (e.g., resilience), buffers against the onset of mental illness (e.g., depression), activates health-promoting behaviour (e.g., physical exercise), and ultimately leads to a state of flourishing in life. However, low levels of hope may lead to a state of languishing, struggling, or floundering in life. Low levels of hope, according to the model, may or may not result in the activation of a negative downward spiral in which increases in the experience of negative emotion (e.g., sadness) restricts momentary thought-actions, increases engagement in health-risk behaviour (e.g., binge drinking or risky sex), and leads to ever worsening negative moods (e.g., depression) that ultimately lead to a state of floundering in life. Without the activation of a negative downward spiral, an inability to successfully hope may leave an individual languishing in life and susceptible to the onset of mental illness. Languishing in life, according to Keyes and Lopez (2002), is a state in which an individual is susceptible to the onset of mental illness and a likely transition to a state of floundering in life because of the

absence of positive functioning. However, if a negative downward spiral is activated while an individual still experiences some symptoms of positive functioning (i.e., high social well-being), they may be left struggling in life and unable to make the transition towards a state of flourishing in life.

Practical Applications of Results

It was found that an explicit focus on hope increased the effectiveness of CBT to prevent the onset of depression in young people, hope predicted mental health better than mental illness did, and that flourishing in life was associated with more health-promoting and less health-risk behaviour. Therefore, as outlined in Figure 21, it may be that a focus on hope should be an important element of any mental health strategy as it has the ability to activate a positive cycle of functioning that propels an individual towards a state of flourishing in life and prevents the onset of mental illness. Research has indicated that around 70 percent of patients relapse within the first 6 months following therapy to treat the symptoms of major depression (Ramana et al., 1995). According to Keyes and Lopez (2002), the limited effectiveness of such therapies may be due to a limited focus (i.e., mental illness not mental health) that may be effective at reducing the symptoms of mental illness in the short-term, but leave individuals languishing in life and susceptible to their return. In regard to the programs and initiatives outlined in the introduction, this may mean that without an explicit focus on building psychological strengths, such as hope, the programs and initiatives that have been employed in Australia to promote mental health in young people may not include the optimal strategies needed to do so. Accordingly, the current results indicate that a focus on hope may be what is missing in these programs and required to increase their

effectiveness, promote a state of flourishing in life, and reduce the burden of mental illness.

The current results indicate that the prevalence of mental health in young people in Australia has been overestimated, and are the first to describe mental health in Australian youth according to the states outlined by the CSM of mental health (Keyes & Lopez, 2002). Indirectly, the disparity between the current results and previous 'narrow' estimates of mental health may indicate that the previous information is inappropriate to guide the development and targeting of strategies to promote mental health in Australia. In contrast, the information on mental health provided by the current results may be more appropriate as it offers a more comprehensive picture of mental health that incorporates both positive and negative symptoms of functioning. The current results also indicate that a 'one size fits all' approach to mental health would not be appropriate in Australia. Age, gender, and regional variations were evident in (a) the prevalence of all four mental health states, (b) the engagement in health promoting and health-risk behaviour, and (c) the development or employment of hopeful thinking. Furthermore, the predictive nature of hope's components (Agency and Pathways) to mental health was not equal. Thus, while the current results provide the foundation from which positive mental health strategies can be developed in Australia, these strategies need to be tailored and further research undertaken to explore the relationship between hope and mental health.

Current programs employed in Australia to 'promote' mental health in young people, along with the Australian National Action Plan on Mental Health (2006), employ an almost exclusive reliance on negative measures of functioning to indicate mental health. While this is consistent with the traditional assumption that

seems to underlie mental health in Australia (i.e., the absence of mental illness equates to mental health), it under-values the importance of psychological strengths and, in isolation, may fail to identify those young Australians who require assistance to flourish despite the absence of mental illness. The current results provide information about mental health in a young Australian population in an attempt to reduce this reliance on negative measures of functioning to indicate mental health, provide a more comprehensive picture of mental health, and increase the awareness and use of positive measures of functioning to identify young people who may need assistance to reach and sustain a state of flourishing in life. Specifically, an example of how multiple, positive, and freely available psychological measures can be combined to diagnose people as flourishing, languishing, struggling, or floundering in life was provided, along with normative data for the AHS (Snyder et al., 1991) to help identify young people who differ from the developmental norm according to their Hope scores. It is hoped that with the publication of the five papers that form the body of this thesis, Australian clinicians will consider administering the AHS, conceptualise mental health positively, incorporate and promote psychological strengths, and focus on promoting a state of flourishing in life rather than just preventing or alleviating mental illness.

The recommendations about what is important to a young person when they face chronic illness will help to inform the content of strategies to promote mental health in this population. Woodgate (1999) suggests that while young people with chronic illness are at an increased risk of developing mental illness, the experience of chronic illness itself does not guarantee this. In other words, the onset of mental illness in this population may be due to an absence of

psychological strengths and positive resources rather than the presence of chronic illness itself. Relating this to the role of hope in mental health, as outlined in Figure 21, and given that the experience of negative emotions is inevitable when faced with chronic illness, an inability to hope may leave young people with chronic illness to struggle or flounder in life. The ability to successfully hope may therefore be vital to a young person with chronic illness in order to activate and sustain a positive cycle of functioning and build the positive resources to buffer against the despair and hopelessness associated with a state of floundering in life.

Issues to be Overcome

The present thesis suffered from a range of empirical problems common to many such studies, as well some that were unique. Most of these issues have already been outlined in the five papers. However, some of the issues that relate to the SAYMHS and the positive approach used warrant further discussion.

Only students from the government and non-government schools in South Australia that agreed to participate were included in the SAYMHS. Hence, albeit large, the sample may not have been representative of all young people in South Australia, let alone from other states within Australia or other countries. Furthermore, the sample obtained may not be representative of those young people who would benefit the most from strategies to promote a state of flourishing in life, as these young people may not have been at school on the day the SAYMHS was conducted. In the year in which the SAYMHS was undertaken (2007) the age at which young people could legally leave school in South Australia was 15 years. Thus, it may have been the case that older adolescents may have already dropped out of school or were absent on that particular day for various

reasons: including but not limited to family conflict, bullying or harassment, teen pregnancy, physical or mental health issues, or a need to look after family members. As a result, data may not have been truly representative of all people at the schools that took part and may in fact only represent a subset of the young Australian population: i.e., only young people at schools, only young people whose schools were supportive of the research, or only young people whose teachers allowed them to participate. While every effort was made to obtain a representative sample, future research will have to find ways to sample young people in and outside of the school system to obtain accurate baseline information on mental health in Australian youth.

The need to make the SAYMHS as brief and attractive to schools as possible while still able to obtain worthwhile information meant that only the minimum number of indicators needed to statistically categorise young people into the mental health states outlined by the CSM of mental health (Keyes & Lopez, 2002), and define latent variables, were used. However, the indicators chosen to do this may not have accurately reflected a young person's true functioning. For example, in the absence of a diagnosis by a clinical psychologist, and given the group setting in which the survey was completed, responses were open to common attributional errors, and the use of only three indicators to define latent variables (*paper five*) is suggested to be the absolute minimum acceptable (Garson, 2006; Groth-Marnat, 1997). If funds permit, future research would benefit from the inclusion of extra indicators of psychological *and* psychical functioning to increase the accuracy of classification and variables available to define constructs, and the diagnosis of clinical psychologist to check the validity of the classification system used. Future research would also benefit from including more defined choices to

questions about health-promoting and health-risk behaviour. For example, in the SAYMHS young people chose between the categories of 'no', 'tried it once or twice', 'socially', or 'regularly' when asked if they smoke or drank alcohol. In hindsight, the use of these category descriptors told little about the frequency of participation, did not produce results that were comparable to similar research, and did not facilitate complex statistical analysis. However, as the SAYMHS was developed at the beginning of the candidature, had to include a fairly innocuous content in order to obtain permission from the ethical bodies from which it was sought, and had to be practical given the geographical distance between schools (850 km between sites in the extremes of the state), the format and content of the SAYMHS was deemed acceptable.

As mentioned in paper four (*study four*), when conceptualised from a positive perspective the percentage of young Australians with 'good' mental health plummets from 82 to 42 percent, with more than half of those sampled engaging in some kind of health-risk behaviour. This means that even though the health issue is constant, professionals may be reluctant to move towards a more comprehensive and positive conceptualisation because it increases the number of young people with 'poor' mental health and makes the task of promoting mental health seem bigger and potentially even further beyond the capabilities of existing resources. Moreover, questions may be asked as to whether a change in focus towards psychological strengths' is even ethical given the enormous financial and emotional burden of mental illness. As Seligman quips (2008) "surely suffering trumps happiness, both in priority for brains and funding" (p.5). In contrast, the current results contribute to the growing body of literature that indicates a focus on positive strengths, such as hope, is an appropriate and better way to alleviate the

emotional and financial burden of mental illness. Convincing organisations and governments of this however will not be easy. It is hoped that the information provided in this thesis will assist in this worthwhile endeavour and add to the evidence that mental health strategies are more effective when they focus on psychological strengths rather than the symptoms of mental illness.

Future Directions

A number of future directions are suggested. It is important to conduct further investigations into the role that hope plays in a young person's mental health, as outlined in Figure 21. This may involve the development and trial of studies that (a) examine the individual components of the proposed model, (b) use Confirmatory Factor Analysis to examine the model or the relationship between variables if hope is substituted for other psychological strengths, and (c) the development and trial of a hope-focused strategy to promote mental health in young Australians. In regard to the latter, the AHS (Snyder et al., 1991), in conjunction with the newly developed Australian normative scores, may be used to identify young Australians who report low hope scores, relative to the developmental norm, and investigate the effectiveness of hope-focused individual or group therapy to increase hope and propel young people towards a state of flourishing in life. A focus on hope in such therapy might be initiated by the questions outlined by Larsen, Edey, and Lemay (2007) and the content shaped by Hope Theory (Snyder et al., 1991).

Future research is needed to investigate why younger adolescents (i.e., <15 years) do better in terms of positive mental health than older adolescents (i.e., >15 years), and expand the normative scores for the AHS (Snyder et al., 1991) to examine what happens to hope as an individual makes the transition from

adolescence into young adulthood. Specifically, (a) paper three indicated that the prevalence of flourishing was lower in older adolescents while the prevalence of floundering higher, a finding that is consistent with similar research that used an American sample (Keyes, 2006); (b) paper four indicated that Agency plays a larger role in mental health than Pathways; and (c) paper five highlighted that a potential gender and/or regional disparity exists in the development of a young person's ability to employ Pathways thinking. Future research that merges the areas of positive psychology and positive mental health is therefore needed to investigate the relationship between Pathways and Agency thinking, and other indicators of positive mental health, and the social, psychological, or geographical differences that may affect eudaimonic well-being in young people so that mental health strategies can be tailored appropriately.

Concluding Statement

Seligman (2008) states that promoting an individual's psychological strengths, such as positive emotion or hope, may be the best weapon against mental illness. The present thesis embraces this perspective and represents a first step to complement the previous work in this area and extend the platform in Australia from which positively focused strategies can be developed and launched to promote mental health in young people. Data from one of the largest samples of Australian youth ever recruited were examined and two systematic reviews of the literature undertaken to produce the five papers presented. It is hoped that the current thesis helps to re-direct the focus of mental health in Australia by highlighting the importance of positive symptoms of functioning and that these

must trump the negative as a priority for strategies to promote a sustainable mental health and reduce the burden of mental illness.

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Appendix 3

Questionnaire – On-line survey

Demographic Questions (with options available)

1. What is your age? (12, 13, 14, 15, 16, 17, 18)
2. Do you have any siblings? If so how many? (none, 1, 2, 3, 4, 5+)
3. What is your gender? (Male, Female)
4. Do you smoke? (No, tried it once or twice, socially, regularly)
5. Do you drink alcohol? (No, tried it once or twice, socially, regularly)
6. Please indicate whether you are currently employed? (no, casually, part-time)
7. What state do you live in currently (SA, VIC, NSW, QLD, NT, WA, TAS)
8. Please indicate whether you are currently employed? (No, casually, part-time)
9. Are you a member of a sports group? (no, school group, community group, member of both)
10. Are you a member of a volunteer / charitable organisation? (no, yes)
11. Which of the following best describes your main living situation, i.e., where you live most of the time? (live with both parents, live with 1 parent only, live with a blended / step family, move between 2 households, board with family member, board with school, share with roommate)
12. How many family members live with you, excluding you, at home? (1, 2, 3, 4, 5, 6, 7, 8 +)
13. Is English the main language spoken at home? (yes, no)
14. On average, how much exercise do you do each week? (None, 1-5 hrs, 5-10 hrs, 10 hrs+)
15. On average, how many hours of sleep do you get each night? (5-6 hrs, 7-8 hrs, 9-10 hrs, 11-12 hrs, 12 hrs+)
16. Do you currently have a partner (e.g. girlfriend, boyfriend) (Yes, No)
17. Are you a member of a church or religious group? (Yes, No)
18. Have you been diagnosed with a chronic illness (e.g. cancer)? (Yes, No)

Main Questions

For the 12 Hope related questions participants are asked to indicate the extent to which they agree with each statement generally.

"Definitely False", "Mostly False", "Somewhat True", "Slightly False",
"Slightly True", "Somewhat True", "Mostly True", "Definitely True"

19. I think of many ways to get out of a difficult situation
20. I energetically pursue my goals
21. I feel tired most of the time
22. There are lots of ways around any problem
23. I am easily beaten in an argument
24. I can think of many ways to get the things in life that are important to me
25. I worry about my health
26. Even when others get discouraged, I know I can find a way to solve the problem
27. My past experiences have prepared me well for my future

- 28. I have been pretty successful in life so far
- 29. I usually find myself worrying about something
- 30. I meet the goals I set for myself

For the 5 satisfaction with life questions participants are asked to indicate their agreement with each item.

“Strongly Disagree”, “Agree”, “Slightly Agree”, “Neither Agree or Disagree”,
“Slightly Agree”, “Agree”, “Strongly Agree”

- 31. In most ways my life is close to my ideal
- 32. The conditions of my life are excellent
- 33. I am satisfied with my life
- 34. So far I have gotten the important things I want in life
- 35. If I could live my life over, I would change almost nothing

For the 33 psychological and social well-being questions participants are asked to indicate which answer best describes their present agreement or disagreement with each statement.

“Strongly Disagree”, “Disagree”, “Slightly Disagree”,
“Slightly Agree”, “Agree”, “Strongly Agree”

- 36. I tend to be influenced by people with strong opinions
- 37. In general, I feel I am in charge of the situation in which I live
- 38. In many ways, I feel disappointed about my achievements in life
- 39. I think it is important to have new experiences that challenge how you think about yourself and the world
- 40. Maintaining close relationships has been difficult and frustrating for me
- 41. I live life one day at a time and don't really think about the future
- 42. When I look at the story of my life, I am pleased with how things have turned out
- 43. I sometimes feel as if I've done all there is to do in life
- 44. I have confidence in my own opinions, even if they are contrary to the general consensus
- 45. I have not experienced many warm and trusting relationships with others
- 46. The demands of everyday life often get me down
- 47. For me, life has been a continuous process of learning, changing, and growth
- 48. People would describe me as a giving person, willing to share my time with others
- 49. I gave up trying to make big improvements or changes in my life a long time ago
- 50. Some people wander aimlessly through life, but I am not one of them
- 51. I like most aspects of my personality
- 52. I judge myself by what I think is important, not by what others think
- 53. I am quite good at managing the responsibilities of my daily life
- 54. I don't belong to anything I'd call a community
- 55. People who do a favour expect something in return
- 56. Society isn't improving for people like me
- 57. The world is too complex for me
- 58. I believe that people are kind
- 59. I feel close to other people in my community
- 60. I have something valuable to give to the world

- 61. My daily activities do not produce anything worthwhile for my community
- 62. The world is becoming a better place for everyone
- 63. Society has stopped making progress
- 64. My community is a source of comfort
- 65. I cannot make sense of what's going on in the world
- 66. I have nothing important to contribute to society
- 67. People do not care about other people's problems
- 68. I find it easy to predict what will happen next in society

For the 21 depression, anxiety, stress questions participants are asked to indicate the how much each statement applied to them over the past week.

"Didn't apply to me at all", "Applied to me some of the time",
"Applied to me a good part of the time", "Applied to me most of the time"

- 69. I found it hard to wind down
- 70. I was aware of dryness of my mouth
- 71. I couldn't seem to experience any positive feeling at all
- 72. I experienced breathing difficulty (e.g. rapid breathing, breathlessness in the absence of exercise)
- 73. I found it difficult to work up the initiative to do things
- 74. I tended to over-react to situations
- 75. I experienced trembling (e.g. in the hands)
- 76. I felt that I was using a lot of nervous energy
- 77. I was worried about situations in which I might panic and make a fool of myself
- 78. I felt I had nothing to look forward to
- 79. I found myself getting agitated
- 80. I found it difficult to relax
- 81. I felt down-hearted and blue
- 82. I was intolerant of anything that kept me from getting on with what I was doing
- 83. I felt I was close to panic
- 84. I was unable to become enthusiastic about anything
- 85. I felt I wasn't worth much as a person
- 86. I felt that I was rather touchy
- 87. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart increase, missing a beat)
- 88. I felt scared without any good reason
- 89. I felt that life was meaningless

Once you are happy with the responses you have made to each of the items above click the box at the bottom of the questionnaire to say you have finished the questionnaire.

Thank you for your time

Appendix 4

Information sent in initial email to schools

Ethical Approval Form (Department of Education and Children's Services)



Government of South Australia

Department of Education and
Children's Services

Office of Strategic
Policy & Planning
Education Centre
Level 8/31 Flinders
Street Adelaide 5000
South Australia
GPO Box 1152
Adelaide 5001
Tel: 8226 0119
Fax: 8226 8890

DECS CS/06/0110.6

25 July 2006

Mr Anthony Venning
University of Adelaide
School of Psychology
ADELAIDE SA 5001

Dear Anthony

Thank you for your letter requesting approval for your project "*A buffer for mental illness: the relationship between hope and subjective well-being*".

Your project has been reviewed by a senior DECS consultant with respect to protection from harm, informed consent, confidentiality and suitability of arrangements. Subsequently, and following discussions between yourself and Ms Debra Kay (DECS), I am pleased to advise you that after careful consideration your project has been **approved**.

Please supply the department with an electronic copy of the final report, which will be circulated to interested staff and then made available to DECS educators for future reference.

I wish you well with your project.

Lexie Mincham
MANAGER, POLICY AND RESEARCH
INTER-GOVERNMENT RELATIONS

Ethical Approval Form (Human Research Ethics Subcommittee)



School of Psychology

The University of Adelaide
Adelaide, South Australia, 5005
Telephone + 61 8 8303 5893
FAX: + 61 8 8303 3770

Human Research Ethics Subcommittee

Approval sheet

Date: 14/7/06

Dear LISA

The members of the subcommittee have considered your application:

Code Number: 06/09 [A better aspect mental illness: Learn + wellbeing]

With [Student Name, if applicable]: ANITA VERNICK

I am writing to confirm that approval has been granted for this project to proceed.

Dr. Paul Delfabbro
Acting Convener of the Human Research Ethics Subcommittee
School of Psychology
Ph. 8 303 5744
Paul.delfabbro@psychology.adelaide.edu.au

The Relationship between Goals and Happiness: Information for Participants



Dear Parent or Guardian

My name is Anthony Venning, a Doctor of Philosophy student at the University of Adelaide. I am writing to request your child's participation in the research on how children and young adults set and achieve goals and how this relates to their happiness. The research will involve your child logging on to the University of Adelaide's web-site and completing a short questionnaire. For your information, instructions on completing the questionnaire and the questionnaire itself can be found at www.psychology.adelaide.edu.au/expts/goals.html.

Below I have tried to answer some questions that you may have about this research.

1. **Will my child's responses be confidential?**

Yes, your child's responses will be confidential. Only general information will be gathered (e.g., sex and age) and no specific or identifying information.

2. **Can my child refuse to participate or withdraw at any time?**

Yes, your child can refuse to participate. Participation is voluntary and your child is free to withdraw at any time (i.e., by not starting or choosing to not submit the completed questionnaire). The questionnaire will be completed as part of a class exercise and if you request, or your child chooses not to fill in the questionnaire, it will not affect their assessment for that class in any way.

3. **How will the information be used?**

The information will be used to help us understand the relationship between goals and happiness. The information your child provides could be used with information from other young people in reports or papers, but at no stage will your child be able to be identified.

4. **How do I give my consent?**

You need to complete the attached consent form, to be signed by yourself, and return it (via your child) to their class teacher.

We do not expect the questionnaire to be upsetting or cause distress in any way, as it simply asks your child to select how he or she generally feels in response to certain questions or situations. For example, I generally feel happy in the morning "*all of the time*", "*most of the time*" "*some of the time*", "*none of the time*". This research has been approved by the School of Psychology's Ethics Committee and the Department of Education and Children's Services. Should you require additional information regarding this research please contact your child's teacher who will pass on my contact details.

Sincerely
Anthony John Venning



THE UNIVERSITY OF ADELAIDE HUMAN RESEARCH ETHICS COMMITTEE
STANDARD CONSENT FORM FOR PEOPLE
WHO ARE PARTICIPANTS IN A RESEARCH PROJECT

1 I,(print name)
consent to allow(print child's name)
to take part in the research entitled:

 'THE RELATIONSHIP BETWEEN GOALS AND HAPPINESS'

2 I acknowledge that I have read the attached information sheet entitled
 'The Relationship between Goals and Happiness: Information for Participants'

3 I understand that my child is free to withdraw from the project at any time and
this will not affect their assessment in class in any way.

4 I understand that while information gained in the study may be published,
my child will not be identified in any way.

5 I acknowledge that consent for my child to participate is freely given.

6 I am aware that I should retain a copy of the Information Sheet and Consent
form for future reference.

Signature

.....

WHEN COMPLETED, THIS FORM IS TO BE RETURNED TO SCHOOL
AND HANDED TO YOUR CHILDS CLASS TEACHER.

THANK YOU FOR YOU CONSIDERATION.



The Relationship between Goals and Happiness: Information for Schools:

Below, I have outlined the importance of this research, its benefits to you, and some suggestions as to how it could be integrated into a lesson plan. These suggestions are by no means exhaustive and I would welcome the opportunity to discuss these further or provide assistance should you require any.

Background

The incidence of psychological disturbance in young Australians is increasing. According to the National Survey of Mental Health and Well-being: Child and Adolescent Component (Sawyer et al., 2000), half a million Australians aged 4-17 years report serious emotional and behavioural difficulties, are at high risk of mental health problems, and report high rates of suicidal thoughts and other health-risk behaviours (i.e. smoking, drinking, and drug use). Undoubtedly, something needs to be done to address this issue and prevent not only the personal cost, but also the economic, family, and physical toll which mental illness exacts. Typical approaches to this issue have been to treat an individual's emergent psychological distress, but there is now increasing recognition of the importance of promoting psychological strengths.

This research operates within a positive psychological framework, which basically means that its focus is on the prevention of mental illness by the promotion of human strengths (i.e., hope). Thus, it is suggested that a young person's ability to successfully hope acts as a 'buffer' against mental illness. Accordingly, it is suggested that engendering hopeful thinking in young Australians at risk of future psychological or social difficulties may be one way to reduce the incidence of mental illness and promote mental health. However, before such a hope-based intervention can be developed and justified, several things need to be investigated: (1) it needs to be established whether a relationship exists between hope and well-being, and (2) the 'normalised' scores of the standardised questionnaires used need to accurately reflect the Australian population. Thus, the current research corresponds with this and seeks to:

Establish Australian normative scores for the Hope Scale (Snyder et al., 1991). Normative scores based on an Australian population will provide clinicians, counsellors, teachers, and parents with a useful and easily applied tool to help identify children who may lack the cognitive skills to offset the development of mental illness,

Examine the relationship between indicators of mental health (hope and subjective wellbeing) and mental illness (depression, anxiety, stress). This would enable us to ask if 'hope' is a better predictor of mental health than the absence of mental illness.

Why this research is important?

To place this research in the context of a school environment, we have drawn on the Adelaide Declaration on National Goals for Schooling in the 21st Century (1999). This document states that schooling should foster the talents and capabilities of students by focusing on their capacities to problem solve, increasing their self-confidence, improving their understanding of the options and pathways to future vocations, and instilling the skills needed to create and sustain a satisfying lifestyle. In short, it could be argued that this declaration states that schooling should foster an individual's ability to hope. However, regrettably, all too often adolescents seem to lose hope and succumb to psychological distress due to the challenges of modern society. In order to prevent this it is important to provide the skills needed to promote the emotional, psychological, and social well-being to enable adolescents to deal with these challenges and maintain high hope.

Furthermore, in response to the paper "Well-Being is Essential to Learning" (DECS 2005), DECS has produced a "Learner Well-Being Framework" (2006) that is currently being used across 52 sites. This framework adopts a positive approach to well-being, similar to that adopted with the proposed research, with one of its main objectives the investigation of the relationship between mental health and wellbeing. The focus of this program includes (1) well-being, (2) research into early intervention, and (3) the promotion of a means to measure well-being. Thus, the proposed research fits well with this in that it seeks to investigate (1) if hopeful thinking predicts well-being more than the absence of mental illness, (2) avenues to improve well-being and prevent mental illness, and (3) establish normative scores for the Hope Scale (Snyder et al, 1991), which can then be used as an indicator of well-being.

What are the age groups targeted?

The current research seeks to include the perspectives of young people enrolled in years 8 through 12 (i.e., individuals potentially aged between 12-19 years) across a variety of schools throughout the Adelaide metropolitan area.

What is the benefit to teachers and schools?

In the long term:

It is suggested that an understanding of the relationship between hope and well-being, and the establishment of Australian normative scores for the Hope Scale (Snyder et al., 1991), would mean that young Australians who lack the valuable cognitive strategies needed to offset the development of a mental illness could be identified easily. However, use of the Hope Scale (Snyder et al., 1991) is not intended to substitute for or replace a more formal diagnosis by a psychologist. Rather, it would help identify individuals who may require additional attention or support in developing goals, visualising ways to obtain them, and maintaining the energy to achieve them. Furthermore, an examination of the relationship between

indicators of mental health and mental illness would direct research towards areas that need attention and assist in the development of additional means to help promote mental health in young Australians.

In the classroom 'right now':

The topic of well-being (emotional, psychological, and social) or hope could be used to stimulate a discussion on the importance of building and maintaining personal strategies to deal with the challenges of adolescence (e.g., peer pressure, drugs), prevent the onset of illness (mental and physical), and sustain well-being. For example, the subject can be included as part of a health class, religious lesson, social studies class, or physical education class. Another opportunity may arise from a discussion on the dangers of illegal substances and the personal resources (hope or resilience) needed to resist these. I would be more than happy to assist in the preparation of any such lesson by providing information on the psychological constructs behind these if required.

What does the questionnaire consist of?

The questionnaire is accessed via the University of Adelaide, School of Psychology's web Site (www.psychology.adelaide.edu.au/expts/goals.html) and contains 89 questions, taking approx 10 minutes to complete. There are 18 demographic, 12 hope, 5 life satisfaction, 18 psychological wellbeing, 15 psychosocial wellbeing, and 21 questions related to depression, anxiety and stress. Respondents choose their answers by 'clicking' on radio buttons using a mouse. The program allows only one answer for each question and the questionnaire is submitted by 'clicking' on the submit button after all questions have been answered. Below is some information on each of the five questionnaires that are included;

The Adult Hope Scale (AHS).

The AHS is a 12 item self report inventory designed to access an individual's level of hope within a goal-setting framework. Four items reflect Agency, four Pathways, and four are distracters. A total Hope score is then achieved by summing the scores on the Agency and Pathways subscales. Scored on a Likert scale to indicate how well the statement describes the individual, scores range from 8 (*low hope*) to 64 (*high hope*). The AHS is being used in place of the Child Hope (CHS) Scale as the CHS is designed only for children between 7-16 years, and the current research targets secondary school children (years 8 –12) with a potential age range from 12 to 19 years. The wording of the AHS is very similar to that of the CHS. However, as the AHS was developed in America and some of the terminology could be potentially misinterpreted by Australian's, it was shown to a focus group of adolescents in order to investigate their understanding of the questions. As a result, two questions have been slightly re-worded to increase its interpretability.

Satisfaction with Life Scale (SLS).

The SLS is a 5 item self report inventory scored on a 7 point Likert Scale. Higher scores indicate more satisfaction while lower scores indicate less satisfaction.

Depression Anxiety Stress Scale (DASS-21).

The DASS-21 is a 21 item self report inventory. The DASS-21 is comprised of three self-report scales designed to measure the negative emotional states of depression, anxiety and stress. It is scored on a Likert scale to indicate the extent to which the respondent experienced each state over the past week. Higher scores on each subscale indicate higher levels of depression, anxiety or stress.

The Psychological Well-being Scale (PWS).

The PWS is an 18 item self report inventory. The 18 items on the PWB represent six dimensions of psychological wellbeing (self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, positive relations with others) and are scored on a 6 point Likert scale. Higher scores on all subscales represents' higher psychological wellbeing.

The Social Well-being Scale (SWB).

The SWB is a 15 item self report inventory. The 15 items on the SWB represent five dimensions of psychosocial wellbeing (social acceptance, social actualization, social contribution, social coherence, and social integration) and are scored on a 6 point Likert scale. Higher scores on all subscales represent higher psychosocial wellbeing.

As a teacher, what is being asked of you?

The research has been designed to minimise the disruption to you and the amount of extra time required of you. However, your assistance to facilitate the research in the following areas is asked;

To decide on how this research is to be integrated into your lesson plan. While I offer some suggestions below, these are only suggestions. You have the experience and therefore know best. However, I will gladly offer any assistance if required.

To distribute and collect the signed parental consent forms. As parental consent is needed for individuals under the age of 18, you will be provided with parental information and consent forms that need to be distributed to your students to take home. Then, upon return of these signed forms, they need to be collected and placed into a box that I will collect or a reply paid envelope which will be provided.

To ensure, as much as possible, that each child completes the questionnaire individually. I realise that it is unreasonable to ask or expect each child to complete the questionnaire in silence, particularly in a group environment. However, it would be appreciated if you would encourage individual completion as much as possible.

Suggestions for administering the questionnaire

This is totally up to the school and the teachers of course. However, some schools have indicated that they will be incorporating the questionnaire in pastoral care lessons, health lessons, computer classes, or psychology classes etc.

What will be required if children ask for support?

The questionnaire contains fairly innocuous questions. Thus, we do not expect that it will be upsetting or cause distress in any way. The questions simply ask students to select how they generally feel (or have felt over the last week) in response to certain questions or situations. For example, I generally feel happy in the morning "*all of the time*", "*most of the time*" "*some of the time*", "*none of the time*". However, if a student asks or wants further information, I have provided a brief explanation of each measure above. DECS have asked that students be directed to their class teacher if they have any questions. However, if you prefer you can contact me directly via the contact information below and I would be more than happy to provide you with any needed information.

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