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Invited Review

School-based Prevention of Depression and Anxiety in Australia:

Current State and Future Directions

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Abstract

Depression and anxiety constitute an enormous public health burden in Australia, and as such primary prevention is an important focus for school-based prevention efforts. The focus of the current literature review is school-based prevention programs for depression and anxiety in Australia. Most prevention studies to date would be better characterised as early-intervention treatment studies rather than prevention approaches. Although there are some promising results for early intervention, particularly in the anxiety literature, there is not yet enough evidence to recommend the implementation of any single prevention program. Future research of universal prevention programs is required, and a focus on transdiagnostic factors informed by comorbidity studies and the tripartite model may inform future development of such programs.

<u>Overview</u>

A recent national survey estimated that approximately 20% of Australians will experience a mental illness in a 12-month period (Australian Bureau of Statistics [ABS], 2007), and mental health problems now represent the single largest broad-group cause of disability in Australia (Begg, et al., 2007). Internationally, among middle- and high-income countries, unipolar depressive disorders alone represent the highest cause of disease burden: more than ischaemic heart disease, cerebrovascular disease, and road traffic accidents (World Health Organisation [WHO], 2008). Australian annual health expenditure on mental disorders is expected to grow from $5.1 billion in 2003 to $12.1 billion in 2033 (Goss, 2008).

Adolescence is recognised as a period of vulnerability for the onset of mental health problems (Hankin, et al., 1998). The incidence of mental health difficulties in adolescence is also known to increase vulnerability to future episodes (Fergusson, Horwood, Ridder, & Beautrais, 2005; Lewinsohn, Rohde, Klein, & Seeley, 1999; Pine, Cohen, Gurley, Brook, & Ma, 1998). Even 'sub-threshold' cases of depression, whereby an adolescent experiences depressive symptoms but does not meet diagnostic criteria, pose significantly increased risk for later depressive symptoms, diagnosis of major depression, and suicidal ideation and attempts (Fergusson, Horwood, Ridder, & Beautrais, 2005).

Despite the high prevalence and costs of mental illness, and the recognition of efficacious treatments such as cognitive-behaviour therapy (Butler, Chapman, Forman, & Beck, 2006), the majority of sufferers do not end up receiving appropriate treatment. A comprehensive survey of the mental health of children and adolescents in Australia revealed that only around a third of children aged 4-17 years who were deemed to have a serious mental health problem actually attended a mental health

service in the previous six months (Sawyer, et al., 2001). Yet, Australian prevalence rates for adolescent anxiety and depression – two of the most common mental health problems - stand at around 14% and 13%, respectively (Boyd, Kostanski, Gullone, Ollendick, & Shek, 2000), leaving many young people without the assistance they require. Recent data released by the Australian Bureau of Statistics (ABS) reported a twelve month prevalence rate of 26% for mental disorders in youth (16-24 years) with less than a quarter receiving timely and appropriate treatment, representing an apparent decline in the identification, referral, or uptake of services. Young people also had the lowest rates of service utilisation of any age group (ABS, 2007). The prevalence, burden, and under-treatment of mental health problems strongly indicate that prevention of depression and anxiety be an imperative on the Australian public health agenda.

The current review will therefore define terminology related to prevention and discuss different approaches to evaluation of such programs, before examining school-based efforts to prevent adolescent depression and anxiety with a focus on work in Australia while making reference to international findings. It will then examine future directions for prevention, including an outline of a theoretical rationale informed by the tripartite model of anxiety and depression which recommends a 'transdiagnostic' approach to future prevention efforts.

Prevention in Australia

Types of Preventive Interventions

Preventive interventions have been broadly classified into three different types: universal, selective, and indicated. Universal prevention programs apply to all the individuals in a cohort and do not discern inclusion based on risk factors or

pathology. Selective interventions are targeted at those individuals who are identified as 'at risk' and are therefore considered to be likely beneficiaries from a prevention program. Indicated prevention programs are those provided to individuals who have been identified as symptomatic, but who may not meet diagnostic criteria for a particular disorder.

The Conceptual Distinction between Treatment and Prevention

Several authors have cited the need to distinguish between prevention studies that would be more accurately described as demonstrating *"treatment effects"* (improvement in symptom levels or diagnostic status relative to controls in pre- to post-intervention analyses), rather than a true reduction in prospective risk, a *"prevention effect"* (Gillham, Shatté, & Freres, 2000; Horowitz & Garber, 2006). A prevention effect may be deemed to have occurred if a control group manifests increased symptom levels or an increased incidence of diagnoses relative to the intervention group over time (Gillham, et al., 2000), as shown in **Figure 1**. As Horowitz and Garber (2006) explain in their review on the prevention of adolescent depression, intervention effect sizes alone cannot distinguish between treatment or prevention efficacy: an identical effect size could reflect symptom improvement relative to controls (a treatment effect, as shown in **Figure 2**) or it could reflect an intervention group's symptom levels remaining stable whilst the control group's symptoms have increased over time (prevention). They conclude that most studies in the depression and anxiety prevention literature "are more accurately described as treatment rather than prevention" (p. 401).

Given that treatment effects (i.e., reduction in mean symptoms levels) have been examined in much of the existing literature on prevention, this precludes the claim that the intervention prevented an expected occurrence of symptoms or

disorder. For example, in assessing a high-risk sub-group of their adolescent sample, Spence and colleagues found their intervention group significantly declined from pre- to post-intervention with respect to depression, with the mean symptom levels at post-intervention in the normal range on their depression measure (Spence, Sheffield, & Donovan, 2003). Their control group also decreased in symptom scores but to a significantly lesser degree. The control group continued to decrease over the 12-month follow-up period, while the intervention group increased. Consistent with the definitions provided above, the authors did not claim this as a prevention effect, and reported no significant group differences when they conducted survival analyses.

Several reviews of prevention research have cited effect sizes as indicators of intervention efficacy without adequately making this crucial distinction (Calear & Christensen, 2010; Neil & Christensen, 2007; Stice, Shaw, Bohon, Marti, & Rohde, 2009). Others have called on this issue to be addressed (Sutton, 2007). While it is acknowledged that reduction in symptoms of sub-diagnostic cases is considered to be on the prevention 'spectrum' (Munoz, Mrazek, & Haggerty, 1996), this review will define preventive efficacy as being a demonstration of *a significantly lower prospective incidence of symptoms and/or diagnoses over a follow-up period*. In other words, preventive efficacy is demonstrated via the *absence of an increase in symptoms*.

Defining outcome – means versus cases

The majority of preventive interventions that have demonstrated larger effect sizes are from indicated trials (e.g., Stice, et al., 2009). However, in indicated prevention trials, the control group will also tend to improve as a function of the statistical phenomenon known as regression toward the mean (Barnett, van der Pols, & Dobson, 2005), making it less likely a prevention effect will be detected by means

comparisons. Providing group means presents only an average response of all the individuals in each group, and does not adequately reflect the experience of each individual in terms of 'caseness' or diagnostic status. Where diagnostic assessment is not possible, it is advisable to have a pre-established clinical cut-off for symptom scores which represents likely diagnosis or clinically significant impairment. Shochet and colleagues (2001) identified appropriate clinical criteria on two of their primary outcome measures in their universal depression prevention study involving 260 adolescents. By tracking the clinical status across their post-intervention and follow-up time points, they were able to determine which of the participants who were deemed to have 'healthy' status at pre-intervention moved into the 'sub-clinical' or 'clinical' ranges of symptoms. At 10-month follow-up, significantly fewer (1.2%) of previously healthy adolescents from the intervention group had developed symptoms of clinical or sub-clinical concern, compared with the control group (10.1%). The Shochet study provides one example of only a few Australian studies to demonstrate a prevention effect. Its presentation of outcome data is helpful and easy to understand, with similarities to survival analysis.

Survival analysis represents the ideal mode of detecting prevention effects. It follows individuals in both the intervention and control groups over an extended follow-up. Both groups initially consist of individuals in the 'normal' or 'sub-diagnostic' range of symptoms – as we would expect in a universal school-based intervention – who are tracked for their 'survival' over time. That is, the number who continue without developing a disorder. As the measurement in this instance seeks to detect movement of scores away from the mean (i.e., symptom levels worsening from normal or sub-diagnostic symptom levels), it can represent a truer indication of intervention effectiveness as it is not vulnerable to the statistical phenomenon of

regression toward the mean. Clarke and colleagues (1995) presented the results of their successful American prevention trial with the use of survival analyses, showing the results in terms of the cumulative proportion of non-depressed adolescents. Their intervention revealed significantly fewer cases of major depression or dysthymia (14.5% vs 25.7%) for the experimental versus control conditions, respectively.

The Prevention of Depression

Table 1 summarises published school-based depression prevention programs in Australia, and notes whether the main findings would be best described as having a treatment effect, a prevention effect, or no effect. Of the 19 studies identified, only 2 were deemed to have demonstrated a significant prevention effect, and 8 represent a treatment effect. Many of the studies did not utilise survival analyses or a similar method of tracking caseness over an adequate follow-up period or failed to demonstrate an expected increase in pathology in the control group. About half of the studies found no effect for their intervention, regardless of analytical methods.

Further to the Shochet study detailed above (Shochet, et al., 2001), Quayle and colleagues have published the only other Australian study to evidence a true prevention effect. An adaptation of the Penn Prevention Program (Jaycox, Reivich, Gillham, & Seligman, 1994) was implemented in a small sample of pre-adolescent girls from a Western Australian school. The authors found that while the intervention and control groups did not significantly differ on depression levels post-intervention, the proceeding 6-month period saw the control group mean depression score increase while the intervention group mean decreased, with a significant difference between the two groups.

Of the significant treatment effects found across the Australian depression prevention literature, the commonality is cognitive-behavioural content. Some

programs included additional components such as problem solving (e.g., Spence et al., 2003) or social skills (e.g., Roberts et al., 2010), yet all made reference to significant aspects of their content being based on CBT principles.

The Prevention of Anxiety

Table 2 likewise summarises the anxiety prevention programs in Australian schools. Of nine studies identified, only 2 were deemed to have demonstrated a significant prevention effect with the majority evidencing pre- to post-treatment effects. The first of these studies to show a prevention effect was conducted by Dadds and colleagues (Dadds et al., 1999; Dadds, Spence, Holland, Barrett, & Laurens, 1997), using an indicated CBT-based prevention program for 128 children aged 7 – 14 years in a sample of Australian schools. Children were selected after being nominated by teachers as being anxious or by clinically significant anxiety assessment scores but did not necessarily meet diagnostic criteria for an anxiety disorder. The participating children were then randomly assigned to either the intervention group (10 weekly CBT-based sessions plus 3 parent sessions) or to a monitoring control group. Dadds and colleagues demonstrated a significant reduction in the number of diagnosable anxiety cases post-intervention (a treatment effect), and that these gains were maintained over time relative to increasing diagnostic rates in the control group. In terms of preventive efficacy, the focus of interest comes from the proportion of children not meeting diagnostic criteria pre-intervention who maintained their diagnosis-free status: at post-intervention there was no significant difference between the intervention or monitoring group, however at 6-month follow-up 54% of these children in the monitoring group had developed an anxiety disorder, whereas only 16% of the intervention group had.

Lowry-Webster and colleagues (Lowry-Webster, Barrett, & Dadds, 2001; Lowry-Webster, Barrett, & Lock, 2003) conducted a 12-month follow-up to their universal anxiety prevention program in seven schools in Queensland, where 594 children were randomly assigned to receive the FRIENDS CBT-based program or a control group on a school-by-school basis. Further to the significant pre- to post-treatment effects reported, a significant prevention effect was also found: Of those children deemed not 'at risk' for an anxiety disorder diagnosis at post-intervention, 7.6% from the control group moved into the 'at risk' category at 12-month follow-up, compared to only 1.5% in the intervention group, a difference that was significant at the .01 alpha level.

As with the programs targeting depression, the significant treatment effects found in the anxiety literature also feature cognitive-behavioural content. The majority were attributable to the FRIENDS program, with one a variant of the Penn Prevention Program. It is noteworthy that 47% of the programs for prevention of depression showed no effect, but the commensurate number for the anxiety programs was 11%.

Summary

The clearest conclusion to be drawn from the extant Australian literature and international reviews is that the overwhelming majority of studies have not demonstrated prevention effects. This is either due to methodological flaws in design and analysis or the use of interventions which do not prevent the future onset of depression or anxiety. There is thus currently no consensus on 'best practice' for preventing depression and anxiety as too many ambiguities persist.

The treatment effects noted represent promising evidence for early intervention in adolescent mental health. The development of reliable treatments for

sub-diagnostic cases of depression and anxiety will go a long way to ameliorating much "hidden" psychopathology, and reducing later risk. Thus far, the anxiety literature has demonstrated somewhat more consistent and promising results. Multi-site effectiveness trials would assist in establishing consensus for the best approach for both disorders. Although cognitive-behavioural content was a common feature of the studies demonstrating treatment effects, not all CBT-based programs yielded significant results.

<div style="text-align:center">Future Directions for Prevention in Australia</div>

The remainder of this review will focus on the rationale for focusing future research efforts on universal, transdiagnostic approaches.

The Argument for Universal Prevention

Universal prevention approaches have been criticised for the large sample sizes required to detect relatively small effects (Muñoz, Cuijpers, Smit, Barrera, & Leykin, 2010). Despite the expense and effort in implementing a large universal study in Australia involving more than 5000 secondary school students (*BeyondBlue)* no significant effects for depression were found (Sawyer, et al., in press; Sawyer, et al., 2010), albeit teachers in schools which implemented the program rated a significantly greater improvement in the school environment than teachers whose schools did not implement the program. It has been recognised, based on effect-size analyses, that programs are more likely to show significant impact if they target females and at-risk or symptomatic youth (e.g., Stice, et al., 2009).

Whilst universal prevention programs have not yet demonstrated reliable effectiveness for depression and anxiety; there are six important reasons why universal programs should be prioritised on the prevention research agenda. First,

problematic with the "at risk" approach is that depression affects many male and female adolescents who frequently cannot be identified as being 'at risk'. This has been demonstrated in studies where control-group participants who were initially classified as 'healthy' are found to shift into the 'subclinical' or 'clinical' range of symptoms (e.g., Shochet, et al., 2001). Programs designed around these recommendations would therefore exclude universal approaches which are important in prevention endeavours.

Second, there are important ethical considerations around the identification of at-risk children who may then be stigmatised by their peers (Shochet, et al., 2001). Third, choosing indicated interventions over universal approaches has been argued on the basis of cost-effectiveness. Contrasting the estimated point-prevalence of adolescent depression (0.85 to 8.4% (Shochet, et al., 2001)) with the estimated lifetime prevalence of adolescent depression (15%-20%;(Birmaher, et al., 1996)) suggests that in any given time period, only a minority of vulnerable adolescents may actually be exhibiting symptoms. Thus, indicated programs – unless they cover the entirety of adolescence - are exclusionary and leave vulnerable adolescents to the likely outcome of needing costly remedial intervention after experiencing the distress of clinical depression.

Fourth, of the many adolescents who do experience clinical depression (whether identified as being at-risk or not) the majority do not end up receiving treatment (Sawyer, et al., 2001). Whilst it could be argued that an effective universal prevention program would be redundant for the many adolescents who would not go on to develop depression even without intervention, such a program would capture those adolescents who would otherwise develop depression and not receive appropriate treatment.

Fifth, a universal prevention program may relieve the distress and impairment of sub-threshold depression that might otherwise go unnoticed and/or untreated. Children and adolescents with sub-threshold depression still burden the health care system and their families (Angold, Costello, Farmer, Burns, & Erkanli, 1999; Angold, et al., 1998), and are considered at higher risk of future disorder and related problems (Fergusson, et al., 2005).

Sixth, indicated programs have often been recommended in research for the greater likelihood of detecting statistically significant changes in symptoms (Muñoz, et al., 2010), however control groups in such studies are likely to regress toward the mean over time and thus inhibit the detection of prevention effects.

That universal programs have yet to be proven consistently efficacious is not reason enough to exclude them from the research agenda. In light of the many sound reasons noted above, it is suggested that universal programs should be vigorously pursued as the ideal mode of preventive intervention.

A Transdiagnostic Approach to Universal Prevention

Rather than simply transferring treatment knowledge into a preventive context, prevention programs would be well informed by what is known about mechanisms purported to play a role in the development of psychopathology. The high degree of co-morbidity between various disorders suggests shared mechanisms, and in fact co-morbidity has come to represent the norm in terms of current prevalence of DSM diagnoses (Brown, Campbell, Lehman, Grisham, & Mancill, 2001; Jacobi, et al., 2004; Mineka, Watson, & Clark, 1998). Anxiety disorders, depressive disorders, and others have been demonstrated to commonly co-occur (Clark & Watson, 1991; Hudson, Hiripi, Pope Jr, & Kessler, 2007; Kaye, Bulik, Thornton, Barbarich, & Masters, 2004) and there also exists a high degree of overlap in symptoms of anxiety

and depression (Clark, Watson, & Reynolds, 1995; Dobson, 1985). Furthermore, some treatment studies have noted non-specific treatment effects, whereby treatment for one disorder results in reduced symptoms of another, co-morbid condition (Newman, Przeworski, Fisher, & Borkovec, 2010; Tsao, Mystkowski, Zucker, & Craske, 2005)

Kreuger (2002) suggests that co-morbidity rates in psychiatric populations reflect more than simply the chance co-occurrence of exclusive disorders, but rather that psychiatric disorders are *correlated,* and proposes that "specific mental disorders described in DSM may be conceived of as *facets* (i.e., correlated subcomponents) of broad, underlying dimensions of psychopathological variation". One of the most influential theories pertaining to the shared dimensions underlying psychiatric morbidity is the tripartite model proposed by Clark and Watson (1991). They identified negative affect (NA) as a construct common to both depression and anxiety, and suggested that anxiety is differentiated from depression primarily by the presence of anxious arousal in addition to NA. By contrast, depression is defined by NA and low levels of positive affect (Clark & Watson, 1991). This model has gained considerable support in the literature, including a study by Kring and colleagues (2007) which aimed to test if the tripartite model explains changes in affect during the treatment of depression and anxiety. Consistent with the model, they found NA to be associated with depression and anxiety, but that positive affect was more strongly related to depression than anxiety and conversely anxious arousal was more strongly associated with anxiety than depression. In terms of treatment outcome, nearly two-thirds of the variance in anxiety change could be accounted for by changes in depression and NA, and over three-quarters of the variance in depression change was accounted for by changes in anxiety and NA. A recent study found strong support for

the tripartite structure of depression and anxiety in Australia adolescents (Tully, Zajac, & Venning, 2009).

It has been suggested that a transdiagnostic approach to preventing depression and anxiety would enhance the efficacy, generalizability, and cost-effectiveness of prevention programs (Dozois, Seeds, & Collins, 2009). Therefore common cognitive processes that impact on NA could be identified such as dichotomous thinking, coping styles (avoidant coping), parental psychopathology, or perfectionism, thus providing clues for informing the design or future prevention programs. Given many of the most promising prevention programs to date are informed by CBT principles, the prevention field may be inspired by the recent progress of transdiagnostic treatment approaches to CBT which aim to identify and harness universal principles (Mansell, Harvey, Watkins, & Shafran, 2009; Riley, Lee, Cooper, Fairburn, & Shafran, 2007), and have been used with some success with adolescents (Trosper, Buzzella, Bennett, & Ehrenreich, 2009). The identification of putative 'higher-order' aetiological mechanisms, that appear to precede the onset of multiple forms of psychopathology (Chang & Rand, 2000) may provide the much-needed needed step forward in the prevention of depression and anxiety in Australia.

Summary and Conclusions

The Australian literature has mirrored that of published international research in that it has been lacking the conceptual distinction between prevention and early-intervention treatment, and results overall have been mixed. While treatment effects can more reliably be achieved with respect to depression and anxiety in young people, the Australian literature for school-based programs aimed at preventing depression and anxiety has not yet provided clear recommendations for effective prevention

approaches. Despite this, there are good reasons to persist with identifying effective universal prevention approaches as they provide an inclusive and non-stigmatising option, and prevalence data suggests selective and indicated programs miss many of those who might benefit from participation. Aiming interventions at transdiagnostic aetiological processes, rather than symptoms of specific disorders, may provide a more efficient use of resources.

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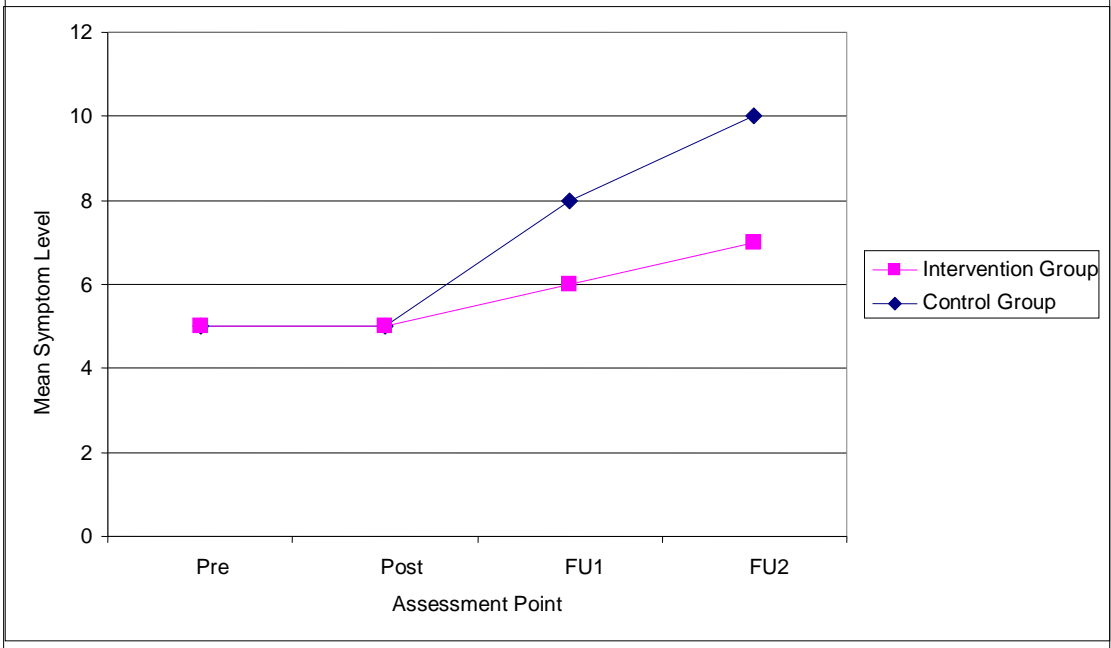
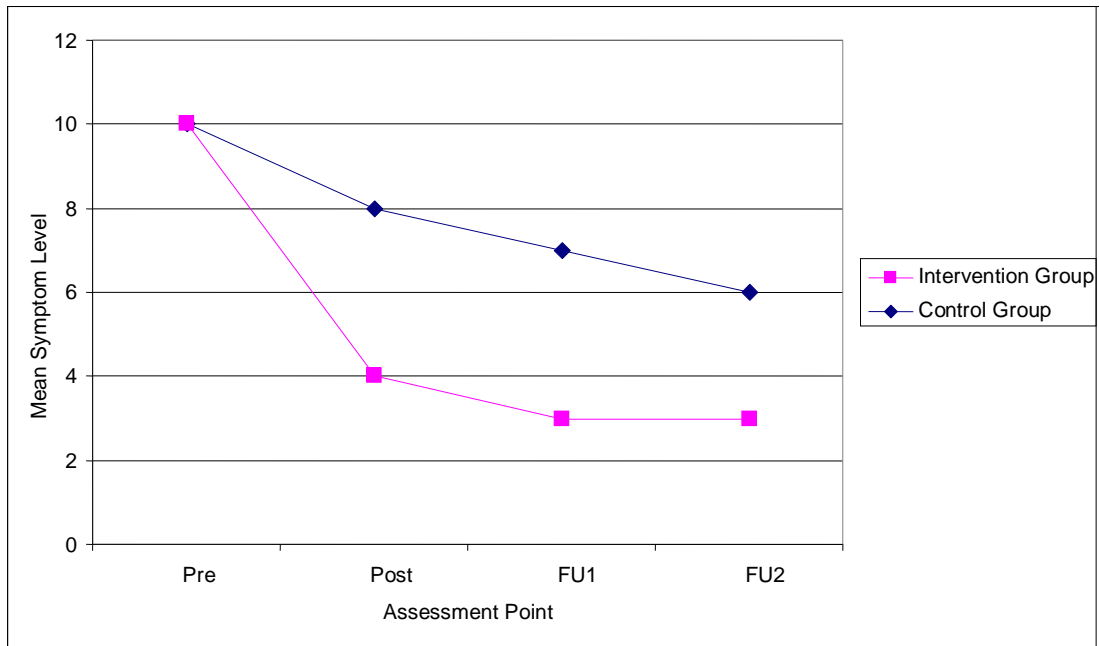Figure 1. A group means comparison demonstrating a prevention effect.

Figure 2. A group means comparison demonstrating a treatment-type effect.

Table 1. A summary of published Australian school-based depression prevention interventions.

Author(s)	Universal, Selective or Indicated?	Mean Age in Years (N)	Program Features	Effect	Primary Outcome Measure
Lowry-Webster et al. (2001)* Lowry-Webster et al. (2003)*	Universal	10-13yrs (594)	*Friends* program (CBT)	T[+]	CDI
Quayle and colleagues (2001)	Selective	11-12 (47)	Adaptation of the Penn Prevention Program (Cognitive and life skills)	P	CDI
Rooney et al. (2006)	Universal	9.08 (120)	The *Positive Thinking Program* (an adaptation of the Penn Prevention Program)	T	CDI
Sawyer et al. (2009), Sawyer et al. (in press)	Universal	13.1 (5634)	*BeyondBlue* initiative. 4 components: curriculum intervention, supportive environments, pathways for care, community forums.	N	CES-D
Roberts, Kane, Thomson, Bishop, & Hart (2003)* Roberts, Kane, Bishop, Matthews, & Thomson (2004)*	Indicated	11.89 (189)	Adaptation of the Penn Prevention Program	N	CDI
Shochet et al. (2001)	Universal	13.49 (260)	Resourceful Adolescent Program (RAP) incorporated cognitive-behavioural components with plus interpersonal and family risk and protective factors.	P	CDI & BHS

Shochet & Ham (2004)	Universal	Year 8 students (2664)	RAP (NHMRC effectiveness trial)	T	CDI
Lock & Barrett (2003)* Barrett, Farrell, Ollendick, & Dadds (2006)*	Universal	2 cohorts: 10-11 years & 13 to 14 years) (669)	The FRIENDS program (CBT-based treatment & preventive intervention)	T	CDI
Spence et al. (2003) Spence, Sheffield, & Donovan (2005)	Universal	12.82 (1500)	The Problem Solving for Life program (PSFL) (cognitive restructuring and problem-solving skills training)	T	BDI
Pattison & Lynd-Stevenson (2001)	Universal	10.44 (66)	The Penn Prevention Program.	N	CDI
Roberts et al. (2010)*	Selected	11.99 (496)	The Aussie Optimism Program (Social life skills and optimistic thinking skills)	N	CDI
Swannell, Hand, & Martin (2009)	Universal	13 (417)	The Aussie Optimism Program	N	CES-D
Hannan, Rapee, & Hudson (2000)	Indicated	10.9 (19)	The Adolescents Coping with Emotions (ACE) program (cognitive-behavioural and interpersonal skills)	T	CDI

Kowalenko et al. (2005)	Indicated	14.58 (143)	The ACE Program	T	CDI
Sheffield et al. (2006)	Universal, indicated	14.34 (2479)	PSFL	N	CDI & CES-D
Barrett, Lock, & Farrell (2005)*	Universal	(693)	The FRIENDS program	N	CDI
Harnett & Dadds (2004)	Universal	13.58 (212)	RAP	N	RADS
O'Kearney, Gibson, Christensen, & Griffiths (2006)	Universal	15-16 years (78)	MoodGYM (Knowledge & skills training including cognitive skills)	N	CES-D
O'Kearney, Kang, Christensen, & Griffiths (2009)	Universal	15-16 years (157)	MoodGYM	T	CES-D

*Also targeted anxiety

[+]Treatment effect was obtained with a high anxiety sub-sample of the universal sample.

Note: BDI = Beck Depression Inventory; BHS = Beck Hopelessness Scale; CDI = Children's Depression Inventory; CES-D = Centre for

Epidemiological Studies Depression Scale; RADS = Reynolds Adolescent Depression Scale

Effect: Prevention Effect (P), Treatment Effect (T) or No Effect (N)

Table 2. A summary of published Australian school-based anxiety prevention interventions.

Author(s)	Universal, Selective or Indicated?	Mean Age in Years (N)	Program Features	Effect	Primary Outcome Measure
Lowry-Webster et al. (2001)* Lowry-Webster et al. (2003)*	Universal	10-13yrs (531)	The Friends program	P	SCAS; RCMAS
Barrett & Turner (2001)	Universal	10.54 (489)	The Friends program	T	SCAS; RCMAS
Dadds et al (1997), Dadds et al (1999)	Indicated	9.4 yrs (128)	Coping Koala Program (CBT) 10 x 1-2 hr weekly sessions.	P	RCMAS, CBCL
Lock & Barrett (2003)* Barrett et al. (2006)*	Universal	2 cohorts age 10-11 years & 13 to 14 years) (669)	The FRIENDS program	T	SCAS; RCMAS
Roberts et al. (2010)*	Selected	11.99 (496)	The Aussie Optimism Program (Social life skills and optimistic thinking skills)	N	RCMAS
Barrett, Sonderegger, & Sonderegger (2001)	Universal	12.5 (204)	The FRIENDS program	T	RCMAS

Barrett, Sonderegger, & Xenos (2003)	Universal	(320)	The FRIENDS program	T	RCMAS
Barrett et al. (2005)*	Universal	(693)	The FRIENDS program	T	SCAS
Roberts et al. (2003)* Roberts et al. (2004)*	Indicated	11.89 (189)	Adaptation of the Penn Prevention Program	T	RCMAS

* Also targeted depression.

Note: SCAS = Spence Children's Anxiety Scale; RCMAS = Revised Children's Manifest Anxiety Scale; CBCL = Child Behaviour

Checklist.

Effect: Prevention Effect (P), Treatment Effect (T) or No Effect (N)