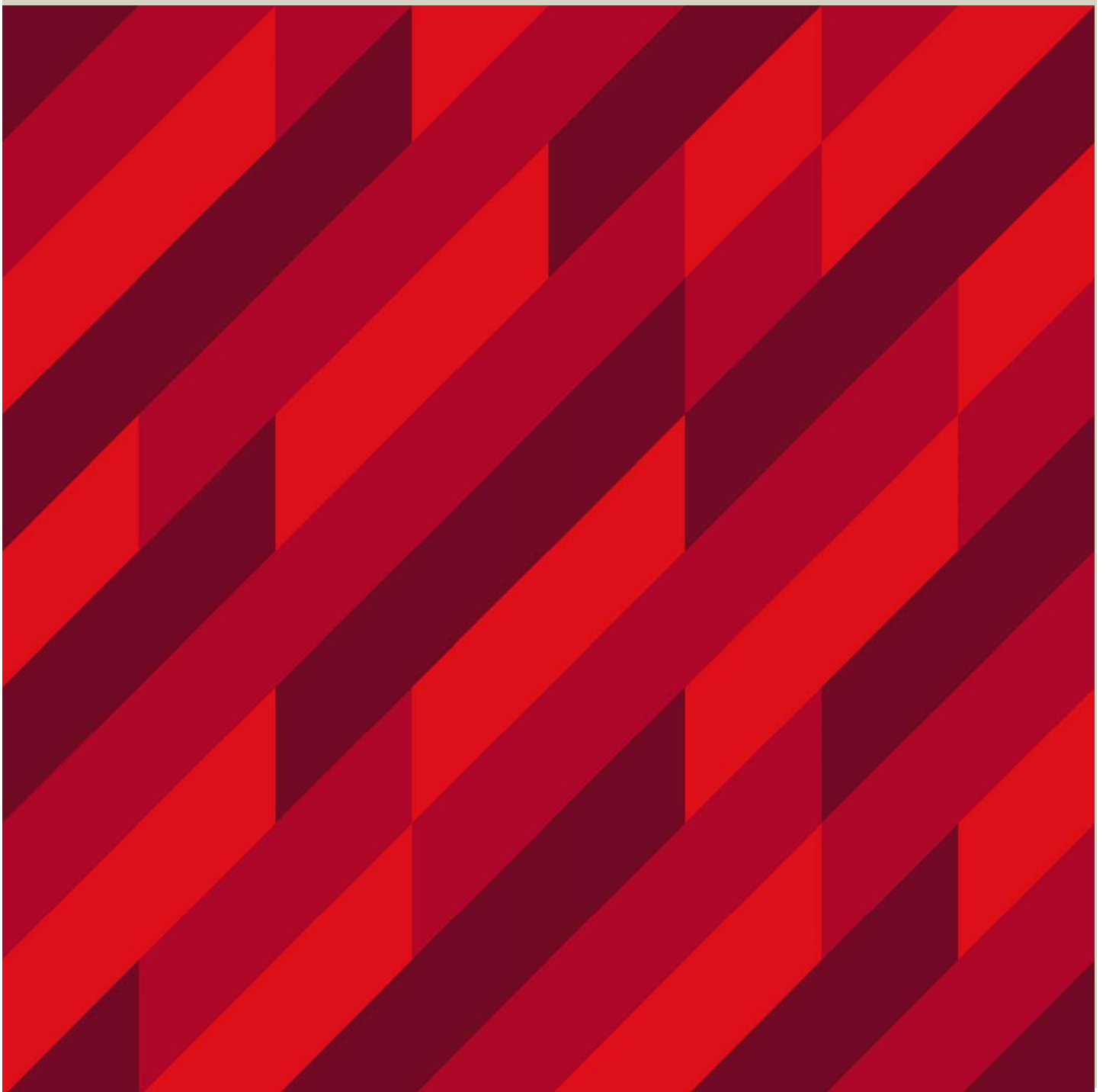




Increasing utilisation of mental health services for adolescent males with anxiety disorders



Acknowledgements

This research project was funded by *beyondblue* with donations from The Movember Foundation.

Thanks also to the academic advisors from Macquarie University, Prof. Ron Rapee, Dr Heidi Lyneham, Dr Viviana Wuthrich, Dr Lauren McLellan and Miss Sophie Schneider for contributing their time and expertise.

Thanks to the participating schools:

- Edmund Rice College, Wollongong – Mr Sam Tadros and Mrs Judy Papesch;
- St Mary's Cathedral College, Sydney – Mr Christopher Peel and Mrs Candice Green;
- St Paul's Catholic College, Manly – Mr Mark Baker and Mrs Mary Thomas;
- Knox Grammar School, Wahroonga – Mr Scott James and Mr David Schofield;
- St Dominic's College, Kingswood – Mr Barry Walsh and Mr Peter Meehan, and
- St Edmund's College, Canberra – Mr Daniel Lawler and Mrs Linda James.

Without their participation this project would not have been possible.

Our gratitude also goes to the secretaries, administrators, coordinators, teachers and other school support staff for their assistance in facilitating the survey data collection.

Most importantly, our deepest thanks to everyone who participated in this project via interviews, focus groups and of course, our questionnaires!

Dr Keila Brockveld, Yulisha Byrow, Lauren Stow, Laura Clark and Professor Jennie Hudson - Macquarie University (Authors)



Key messages

- Anxiety Disorders are the most common mental health problem in adolescents.
- Male adolescents are a difficult group to engage in mental health help seeking.
- Students in the study had low rates of mental health help seeking.
- The strategies we implemented in this study led to increases in engagement with the study webpages but not increases in help seeking or improvement in symptoms for adolescent males. Before funds are invested in universal campaigns, we need to investigate additional strategies to convert website engagement into help-seeking.
- Having an engaged, well-trained school counsellor who is well connected to the students and can identify children in need may lead to more service utilisation.
- Adolescents participating in the Chilled Out online treatment program provided positive feedback about the program. This positive feedback suggests that providing adolescent boys the option of online treatment is warranted.
- Students who accessed the Chilled Out program showed reductions in anxiety and depression symptoms.
- Information about anxiety needs to have a masculine tone, regard treatment as a way of achieving personal goals, and identify anxiety as a 'real' (i.e. can become severe) and treatable disorder.
- We need to increase facilitation of confidential help-seeking options such as:
 - positioning school counsellor offices away from public areas
 - providing additional roles for counsellors within schools so students would engage with them regularly for non-mental health purposes.
 - increasing options for young people to speak to professionals by internet/messenger/text.



Executive summary

Adolescent males are the least likely to seek treatment for mental health problems, with 13.2% of 16-24 year old males seeking help compared to 31.2% of 16-24 year old females. Studies indicate that perceived stigma, poor mental health literacy and preference for self-reliance are important barriers for adolescents. Computerised delivery of psychological services may be a more effective method of delivery for adolescents as it minimizes barriers.

The current study evaluated two methods of directing adolescent males to an online treatment service: i) one which used enhanced methods to target potential barriers to treatment (Enhanced Utilisation; EU) and ii) one which used current methods (Standard Utilisation; SU). The content of the EU condition was developed based on ideas generated through focus groups with the target population.

We conducted several focus groups with adolescent males reporting clinical and non-clinical levels of anxiety, as well as semi-structured 1:1 interviews with non-clinical adolescents. Factors identified during the focus groups that might promote help-seeking for anxiety in this population include:

- reducing the effort required to access information about help sources
- supporting adolescents to access help without public knowledge
- increasing mental health literacy of adolescents, parents and teachers by increasing access to information about anxiety
- presenting materials with a 'masculine' tone, including greater use of personal experiences particularly about how the program helped achieve the person's goals. Almost all participants felt that having a celebrity or an adult/adolescent with personal experience of anxiety to talk about the topic of anxiety in school would be extremely helpful
- using promotional material to emphasise confidentiality
- providing information about anxiety as a 'real' (i.e. can become severe) and treatable disorder.
- providing an optional 'online buddy' that involved low levels of effort and instant forms of communication (such as text messages rather than email.)

We developed an "enhanced utilisation" strategy based on the feedback from the focus groups and interviews. The enhanced utilisation condition included: 1) the *Stress Less Ad Campaign* – feedback

from the focus groups was given to an advertising company to develop an advertisement to recruit adolescents to the Chilled Out website (to watch the video, go to http://youtu.be/gNl86cI4_Tl). Using comedy, the video emphasised the importance of dealing with anxiety to achieve one's goals (goal directed rather than emotional content) and encouraged students to visit the website; 2) *Stress Less* posters; 3) a video clip of a boy with an anxiety disorder who normalised help seeking and discussed the efficacy of the program; 4) celebrity visits to normalise help-seeking, to provide a personal example of help seeking and to encourage the use of Chilled Out (see below); 5) we developed videos and posters of participating celebrities to promote the program.

The use of these promotional strategies led to a greater proportion of total webpage views and increased proportional time spent viewing the website compared to the standard utilisation condition. Also, there was an increase in the EU website unique page views during weeks when a celebrity visit occurred compared to weeks when no visit occurred, however this difference was not statistically significant.

In total, 50 students signed up for the Chilled Out program. Of those 50 students, 35 students were from the standard utilisation condition and 15 students from the enhanced utilisation condition. Of the 50 students who signed up for the Chilled Out program only 4 students completed the program (one student from the EU condition and 3 students from the SU condition). Fifteen students completed at least one module of the Chilled Out program and these students showed a decrease in anxiety and depression symptoms from the baseline to the post screening. The students who enrolled in the program reported that the greatest barrier to treatment was "lack of time". No other significant barriers to the treatment were identified.



INTRODUCTION

BACKGROUND INFORMATION

Anxiety disorders are the most prevalent form of mental health problems in youth, affecting up to 16% of adolescents (Merikangas et al., 2010; Rapee, Schniering & Hudson, 2009). Anxious youth have poorer peer relationships, fewer friends, and engage in fewer activities. They are also more likely to be teased and bullied, have physical problems, and family distress (Ezpeleta et al., 2001; La Greca & Lopez, 1998). There is extensive evidence that emotional disorders early in life predict a range of mental health problems later in life. For example, anxious adolescents are at increased risk for adult anxiety, depression, and suicide (Caspi et al., 1988; Keller et al., 1992). Youth mental health problems do not necessarily remit with time and thus, reducing the burden of young people's mental health will prevent not only chronic mental health problems in adulthood but will also lead to increases in workforce participation, reduced sick days, reduced demand on medical services, and increases in family stability. This highlights the importance of early intervention.

Although anxiety disorders represent a significant mental health problem, a small percentage of individuals seek treatment. Of those Australians with mental disorders, adolescent males are the least likely to seek treatment, with only 13.2% of 16-24 year old males seeking help compared to 31.2% of 16-24 year old females (Burgess et al., 2009). A recent review indicated that perceived stigma, poor mental health knowledge, and preference for self-reliance were important barriers to treatment for adolescents (Gulliver, Griffiths & Christensen, 2010).

Computerised delivery of psychological services may be a more effective method of delivery for this age group because it minimizes many of the barriers to traditional treatment (e.g., increased privacy, self-directed). The Centre for Emotional Health at Macquarie University has developed an internet program - 'Chilled Out' – based on our efficacious CD-ROM computerised program for reducing anxiety symptoms in adolescents (Wuthrich et al., 2012). Previously we found no major barriers to program use; however, uptake of computerised programs in adolescent males is unknown. Given adolescent males have the lowest rates of help seeking in the population, more research is needed about how to make help seeking more attractive to adolescent males.

AIMS

The current study aimed to establish and empirically evaluate methods for increasing treatment utilisation in adolescent males with anxiety. A secondary aim was to undertake further assessment of the Chilled Out program as a treatment for anxiety in adolescent males. This study evaluated two methods of directing adolescent males to the online Chilled Out program. The first method employed enhanced strategies to target potential barriers to treatment (enhanced utilisation; EU). The strategies were developed based on feedback and ideas generated through focus groups with the target population. The second method used existing standard strategies to direct students to the program (standard utilisation: SU).

HYPOTHESES

We hypothesised that the EU condition would have higher website hits, a higher number of boys commencing and completing the program and lower rates of anxiety and depression at post assessment compared to the SU condition. Of the young people completing the program, we also expected a significant reduction in the presence of anxiety and mood symptoms after the completion of the program.

FOCUS GROUPS

METHOD

The views of adolescent males (aged 12-18 years) were elicited using a combination of 1:1 interviews and focus groups. Participants were recruited from university clinics, counselling centres, CAMHS services, online advertising and schools in NSW. The purpose of this qualitative investigation was to identify the barriers to help-seeking in anxious adolescent males and discuss the value of methods which target help-seeking barriers. First, we conducted 1:1 interviews with 10 adolescent males with a history of anxiety. Seventy percent of this group had received professional intervention for anxiety. Second, using the same interview questions, we conducted four focus groups (group 1: n = 3; group 2: n = 6; group 3: n = 4; group 4: n = 7) and 2 interviews with adolescent males from the community.

Our team proposed a number of possible methods to target specific barriers on which the focus groups provided feedback:

- Increasing mental health literacy and utilisation by employing male role models (e.g., sports stars, celebrities) to discuss their anxiety and direct teens to online treatment).

- Reducing stigma by developing a slogan/by-line (generated from focus groups) that clearly identifies the confidentiality/privacy and helpfulness of the program.
- Increasing social support by having an online buddy (i.e. therapist).
- Offering the program free of charge.

RESULTS

Initial exploration of the data identified a number of important themes. The boys reported a preference for informal sources of help and self-reliance. A recurring barrier to help-seeking was a fear of public and self-stigma, in particular the lack of 'masculinity' associated with seeking help and anxiety being perceived as 'not a real problem'. These themes connected directly to participants favouring 'hidden' help-seeking, such as searching for information on the internet or speaking to friends/family members who would 'not tell anyone'. Many participants felt that there was a lack of awareness among young people, teachers and parents of symptoms and the treatable nature of anxiety. Many of the participants considered methods currently used to disseminate information to young people (e.g. Personal Development, Health and Physical Education classes) ineffective. A lack of motivation, the unknown nature (e.g. approachability, confidentiality, efficacy of treatment) and 'personal nature' of conversations were identified as barriers to seeking help from formal help sources. Factors identified during the focus groups that might promote help-seeking for anxiety in this population included:

- reducing the effort needed to access information (e.g. online access).
- supporting adolescents to access professional help sources without public knowledge (e.g. locating school counsellor offices away from public areas of the school and providing more out of school hours appointments).
- increasing mental health literacy of adolescents, parents and teachers by increasing access to information on anxiety.
- presenting materials with a 'masculine' tone, including greater use of personal experiences particularly about how the program helped achieve the person's goals, that is goal directed rather than emotional content. Almost all participants felt that having a celebrity or an adult/adolescent with personal experience of anxiety to talk about the topic of anxiety in school would be extremely helpful.
- using promotional material to emphasise confidentiality.
- providing an *optional* 'online buddy' that involved low levels of effort and instant forms of communication (e.g., text messages not email), as it was clear that not all adolescents liked the idea of an online buddy.

- providing information about anxiety as a 'real' and treatable disorder.
- offering the program free of charge was not ranked as a high priority.

INCREASING UTILISATION

METHOD

We recruited 6 non-government boys' schools including 4 urban and 2 rural schools. This study was conducted in accordance with the *National Statement on Ethical Conduct in Human Research (2007)*, the *CPMP/ICH Note for Guidance on Good Clinical Practice*, and consistent with the principles that have their origin in the Declaration of Helsinki. The ethical aspects of the study were approved by Macquarie University Human Research Ethics Committee and the diocese ethics board for the Catholic schools.

Parents of all students between 12-18 years received an online consent and information sheet about the study. In consultation with the school, when children were judged mature enough to understand and consent, only written child consent was required. Two schools requested both child and parent consent and four schools required child consent only. One school requested an incentive to encourage the return of consent forms: chance to win movie tickets.

Table 1: Promotional methods used in the SU and EU conditions

Standard Utilisation condition

Posters
 School Newsletter advertisements
 Emails sent to students
 Parent flyers
 Feedback emails sent to students

Enhanced Utilisation condition

Posters (Stress Less, celebrities, interviewed boy)
 Video interview with an adolescent boy with anxiety
 Emails sent to students
 Parent Flyers
 Feedback email sent to students
 Celebrity visitis
 Stress Less Campaign (video, posters)
 School newsletter advertisements

Consenting children in grades 7-11 (12-18 years) were assessed using self-report measures of anxiety and depression (baseline). A follow-up assessment using the same self-report measures was conducted approximately 8 months later (post). The Spence Children's Anxiety Scale – Child Version (SCAS-C) (Spence, Barrett & Turner, 2003) was used to assess child reported anxiety symptoms. The Short Mood and Feelings Questionnaire (SMFQ) (Angold et al., 1995) was used to assess child reported depression symptoms. We assessed student's mental health service utilisation by asking if they or their parents had ever sought treatment for them. If students agreed, they were emailed feedback regarding their scores. Chilled Out was recommended when symptom scores were moderate to high.

All consenting students were given access to the Chilled Out program free of charge. The 6 schools were randomised to receive either the enhanced utilisation condition (EU) or the standard utilisation condition (SU) (see **Table 1**). In the SU condition, 1) school counsellors were informed of the program and could refer students to the program, 2) an advertisement about the program was included in the school newsletter, posters, emails sent to students, parent flyers, 3) feedback emails were sent to students. The EU condition involved strategies in the SU condition plus several additional strategies developed based on the information elicited from the focus groups:

- Stress Less Ad Campaign – feedback from the focus groups was given to an advertising company to develop an advertisement (to watch the video, go to http://youtu.be/gNl86cI4_TI) that emphasised the importance of dealing with anxiety to achieve goals and encouraged students to go the website;
- a video of a boy with an anxiety disorder who normalised help seeking and discussed the efficacy of the program;
- celebrity visits to normalise help-seeking, to provide a personal example of help seeking and to encourage the use of Chilled Out (see below);
- we developed videos and posters of participating celebrities.

CHILLED OUT PROGRAM

Different URLs were used to access Chilled Out in each condition, allowing us to track students accessing the program in each condition. Each student enrolling in the program was given a confidential username and password. Children were asked to provide a contact phone number and/or email address. Their involvement in the program was kept confidential.

SU URL: public.mq.edu.au/beyondblue/stand;

EU URL public.mq.edu.au/beyondblue/effect.

Chilled Out is an internet program based on the Cool Kids program that teaches cognitive behavioural therapy techniques for managing anxiety to adolescents. It comprises eight therapy modules that take approximately 30 minutes each to complete, with a strong focus on cognitive restructuring and graded exposure. In this trial, the program was delivered online and utilised a combination of multi-media formats (text, audio, illustrations, cartoons, and live video) to deliver information, examples, activities, and homework in an engaging way. The program included 6 video case studies of adolescents discussing different anxiety problems. Adolescents could opt to have support from their parent or from a therapist via the telephone or email (known as the 'online buddy'). Brief parent handouts provided an overview of the core strategies (psycho-education, goal setting, and graded exposure) so they could support their adolescent, if needed. The brief telephone/email sessions, if elected by adolescent, occurred after weeks 1, 2, 3, 4, 5, and 7, 9, and 11, with the aim of encouraging program use and problem solving any difficulties with the application of the skills. Throughout the program, students were asked to report their symptom levels. The Preferences and Attitudes Questionnaire (Cunningham & Wuthrich, 2008) was administered to youth who commenced the program to gauge usability of the program. Participant satisfaction was measured using a brief, adapted version of the Barriers to Treatment Participation Scale (Kazdin, et al., 1997).

Figure 1 provides a summary of the study procedures.

SAMPLE CHARACTERISTICS

Of the 5062 students approached to take part in this study, 3276 (64.72%) adolescent males in grades 7-11, with a mean age of 14.11 years (median = 14 years) completed the baseline assessment. Three schools were randomly allocated to the EU condition and three schools were randomised to the SU condition using a random number generator. This resulted in 2119 students (66.61% of students in the SU schools approached to take part in the study) in the SU condition and 1157 (61.51% of students in the EU schools approached to take part in the study) in the EU condition. Two schools in the EU condition opted to have parents' consent for students to participate in the study, which decreased the number of participants in the EU condition. The mean age of participants in the SU condition was 14.21 years (median = 14 years) and in the EU condition the mean age was 13.94 (median = 14 years) years. The largest portion of the sample identified their parent's ethnicity as Oceanic (e.g. Australian, Aboriginal, Torres Strait Islander, and New Zealander) (see **Figure 2**).

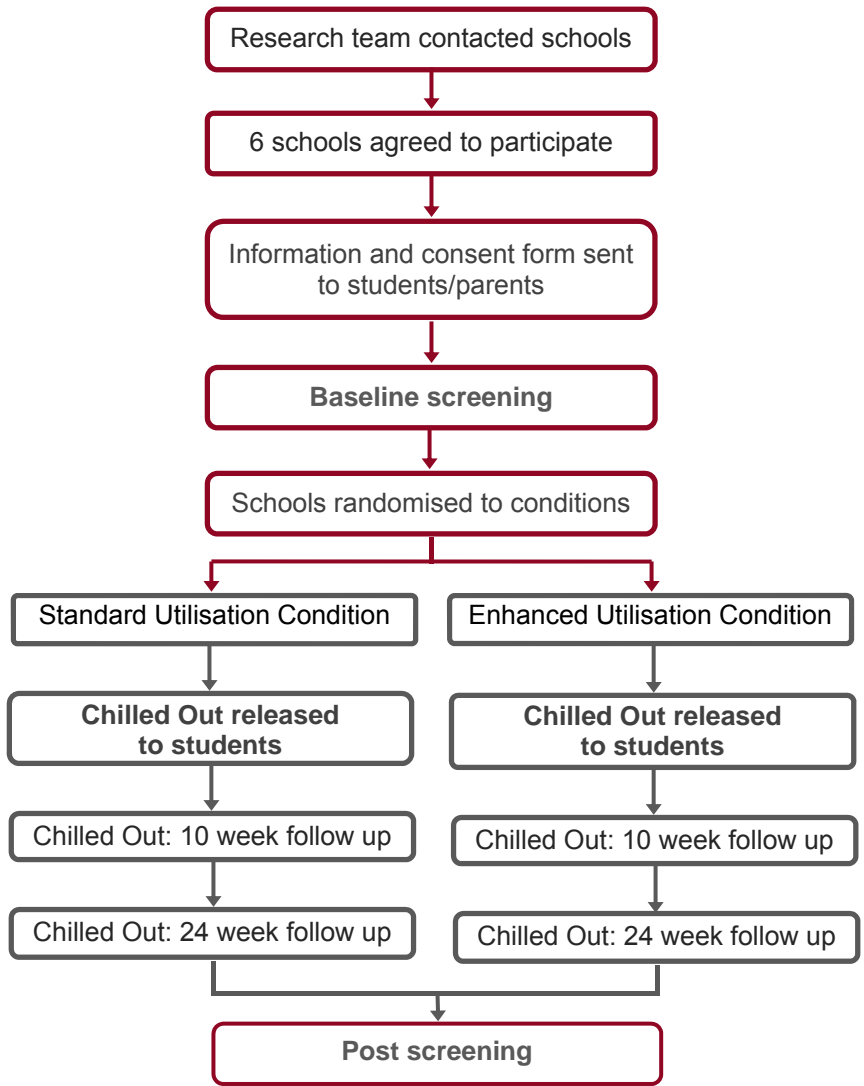



Figure 1. The trial procedures



Figure 2. Maternal and paternal reported ethnicity

CELEBRITY VISITS

Visiting celebrities were encouraged to talk about their experiences with anxiety. (Note: A visit to *EU School #3* from The ACT Brumbies (Australian Rugby Union) was planned but the team withdraw days before the scheduled visit.



NAME: Josh Duinker 18.11.2014

VISITED: EU School #1 (Yr 9, approx 50 boys)

REPRESENTING: Sydney Kings, NBL **AGE:** 25

HEIGHT: 211cm **POSITION:** Power Forward

BACKGROUND: "Big Man" grew up in Hornsby, attended a Catholic Boys school in Chatswood. Began professional career playing for 'Caceres Basket', Spain, before moving on to teams in Europe and the United States. Represented the Netherlands in the 2014 EuroChallenge Tournament. Plays in jersey #8.



NAME: Kevin White 18.11.2014

VISITED: EU School #1 (Yr 9, approx 50 boys)

REPRESENTING: Sydney Kings, NBL **AGE:** 27

HEIGHT: 189cm **POSITION:** Guard

BACKGROUND: Born in Melbourne, schooled at Balgowlah Boys in Sydney's northern beaches. Played college basketball for the 'Anchorage Seawolves' at the University of Alaska, United States. Was the Kings 'Best Defensive Player' in 2012/2013. Is one of Sydney Kings most recognisable Community Ambassadors.




NAME: Tristan Tulloch 08.10.2014

VISITED: EU School #1 (approx 600 boys)

REPRESENTING: Macquarie University's Future Students Project, Marketing Dept.

BACKGROUND: Accepted into Bachelor of Business Admin with Bachelor of Economics via Sports Scholarship. Spent 18 months in United States playing Soccer for Greensboro Spartans and studying at University of North Carolina. Previously worked for Football Federation of Australia (FFA).



NAME: Lloyd Owusu 17.11.2014

VISITED: EU School #2 (approx 750 boys)

REPRESENTING: Sydney FC, FFA (Soccer)

POSITION: Striker **AGE:** 38 **BORN:** England

BACKGROUND: After an epic season at Brentford, Lloyd moved up to Premier League with historic club Sheffield Wednesday. Has played professionally all over Europe. Selected to represent Ghana at 2006 FIFA World Cup. Head Coach at International Football School, Kariang. Sydney FC's Community Football Officer.




NAME: Merrick Watts 17.11.2014

VISITED: EU School #2 (approx 750 boys)

AGE: 41 **COMEDIAN, RADIO HOST, TV PRESENTER**

BACKGROUND: Began Stand-Up Comedy at 20 yrs old. Found international fame with stand-up partner Tim 'Roaso'. They presented several TV series and Radio shows together. Merrick also ventured into acting (e.g., Underbelly). Made numerous guest appearances on top-rating TV shows (e.g., Thank God You're Here). Former 2DayFM Breakfast host, now back at Triple M.



NAME: John Cantor 30.10.2014

VISITED: EU School #2 (Yr 8, approx 80 boys)

AGE: 29 **ADVENTURER, FILMMAKER, SPEAKER**

BACKGROUND: Born and raised on QLD's Sunshine Coast. Has surfed on every continent (except Antarctica). Climbed and hiked across Australia, NZ, Canada, Alaska and Patagonia. Was Bear Grylls' Stunt Double. Set a World Record for the fastest Solo Traverse of the formidable 16,000km Brooks Range, spanning the width of Alaska. Is a BeyondBlue Ambassador.

RESULTS

MENTAL HEALTH TREATMENT UTILISATION

At baseline 14% of all participants reported seeking help (or their parents seeking help on their behalf) from a mental health professional in the past for reasons such as feeling fearful, anxious, stressed out, down, depressed or angry (see **Figure 3**). Currently, 2.9% of the sample was receiving treatment from a mental health professional; 1.6% was receiving treatment from a psychologist or psychiatrist outside the school setting. There were no significant differences in past or current mental health treatment seeking between the SU and EU conditions ($p's > .05$).

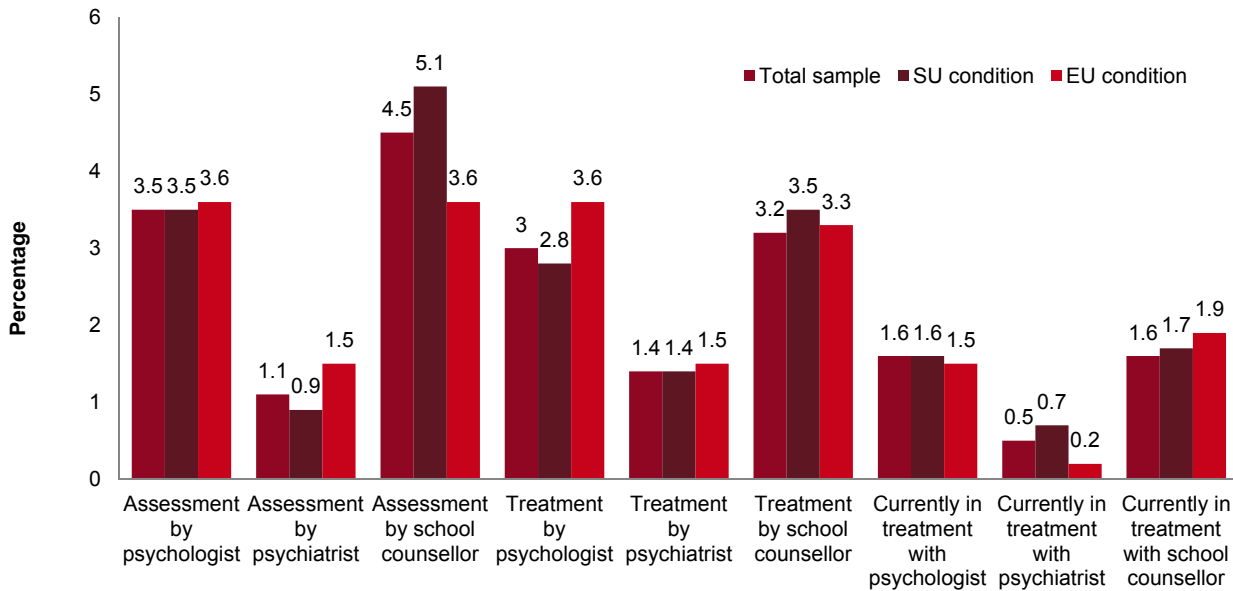


Figure 3. Percentage of participants utilising mental health services at baseline

Anxiety severity

The severity of anxiety symptoms was measured using the Spence Children’s Anxiety Scale (SCAS). According to normative data, individuals scoring 33 points and higher are experiencing elevated levels of anxiety. Individuals scoring 42 points or higher are experiencing clinical levels of anxiety (i.e., higher than elevated). Based on the assessment, 17.1% of students reported elevated levels of anxiety and over half of these students reported clinical levels of anxiety (8.75% of the total sample) (see **Figure 4**).

We compared the mean scores from the sample to the normative Australian data. On average, students in the current sample had significantly lower levels of Panic/Agoraphobia, Separation Anxiety, Obsessive Compulsive, Generalised Anxiety and Total Anxiety than those found in the community. There were no significant differences in symptom levels of Social Anxiety and Physical Injury fears between the current and normative sample ($p's > .05$).

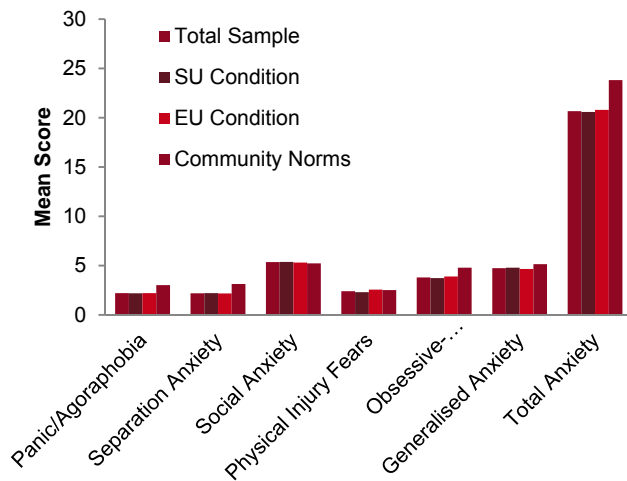


Figure 4. Severity of anxiety symptoms, for the total sample, SU and EU conditions.

Depression severity

The Short Mood and Feeling Questionnaire was used to measure participants' levels of depressive symptoms. According to normative data using the SMFQ total scores, individuals scoring 8 points or higher are experiencing elevated levels of depression, and individuals scoring 12 points or higher are likely to be experiencing clinical levels of depression. In the current sample, 22.39% of students had elevated levels of depression, with 10.73% of the sample reporting clinical levels of depression (see also **Figure 5**). There was no appropriate normative sample to compare the mean scores obtained on the SMFQ in the current study.

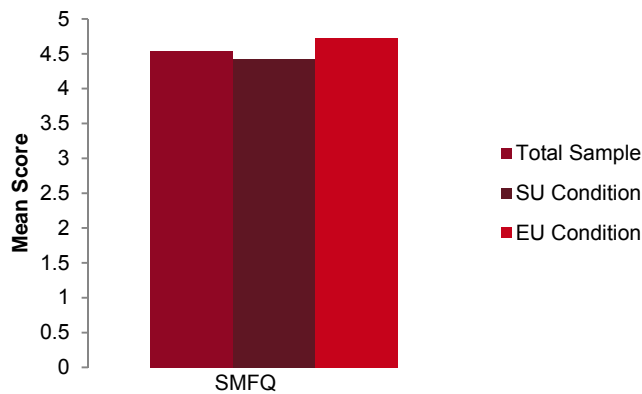


Figure 5. Severity of depression symptoms, for the total sample, SU and EU conditions.

PRIMARY HYPOTHESIS: WEBSITE UTILISATION

There was a larger number of participants in the SU condition than in the EU condition thus we also report the number of total page views, unique page views, and time spent viewing the websites relative to the number of participants in each condition with access to the websites (see **Table 2**).

Table 2. Page views and time spent viewing websites

	Total page views		Proportion of page views to no. of students with access		Total time spent viewing	No. with access to site
	Page views	Unique views	Page views	Unique views		
SU	619	447	0.29	0.21	227 mins	2119
EU	416	319	0.36	0.28	152 mins	1157

There was a significantly greater proportion of total page views ($z = -3.93$, $p = .00004$, unique page views ($z = -4.15$, $p = .000$) and time spent (minutes, $z = -2.05$, $p = .04$) viewing the website for the EU condition compared to the SU condition, (see **Figure 6 and 7**). However, it is likely that individuals accessed the website on more than one device, leading to an inflated percentage. Parents and teachers may have also accessed the sites. Thus, these figures cannot be used to determine the percentage of the sample that accessed the websites. Nevertheless, there was significantly greater engagement with the study website for students in the EU condition compared to the SU condition.

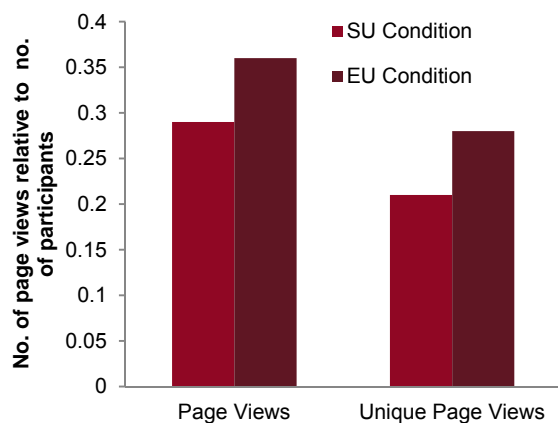


Figure 6. Chilled out website views and unique views for SU and EU

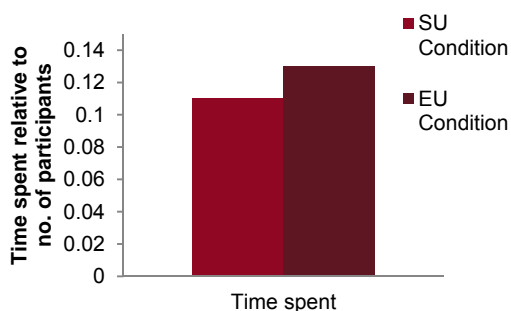


Figure 7. Time spent viewing chilled out website for SU and EU

EFFECTIVENESS OF CELEBRITY VISITS

We sought to determine whether the celebrity visits within the EU condition increased the Chilled Out website utilisation. There was an increase in the EU website unique page views during weeks when a celebrity visit occurred compared to weeks when no visit occurred, however these differences were not statistically significant. Total page views $t(2.09) = .83, p > .05$, Unique views $t(30) = 1.03, p > .05$ (see **Figure 8**).

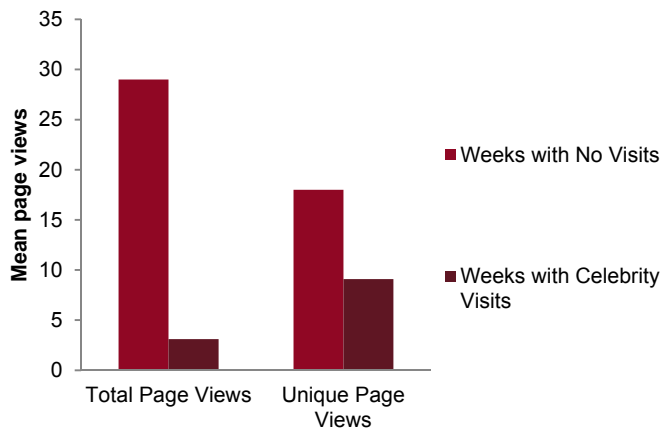


Figure 8. Mean number of website page views during weeks when celebrity visits occurred compared to weeks with no visits (EU condition only)

POST-ASSESSMENT MENTAL HEALTH UTILISATION

Of the total sample that completed the measures at post assessment ($n = 2635$), 277 participants (10.51%) reported seeking help (or their parents seeking help on their behalf) from a mental health professional in the past for reasons such as feeling fearful, anxious, stressed out, down, depressed or angry (see **Figure 9**). There were no significant differences in mental health utilisation between the SU and EU conditions at post screening, $p's > .05$.

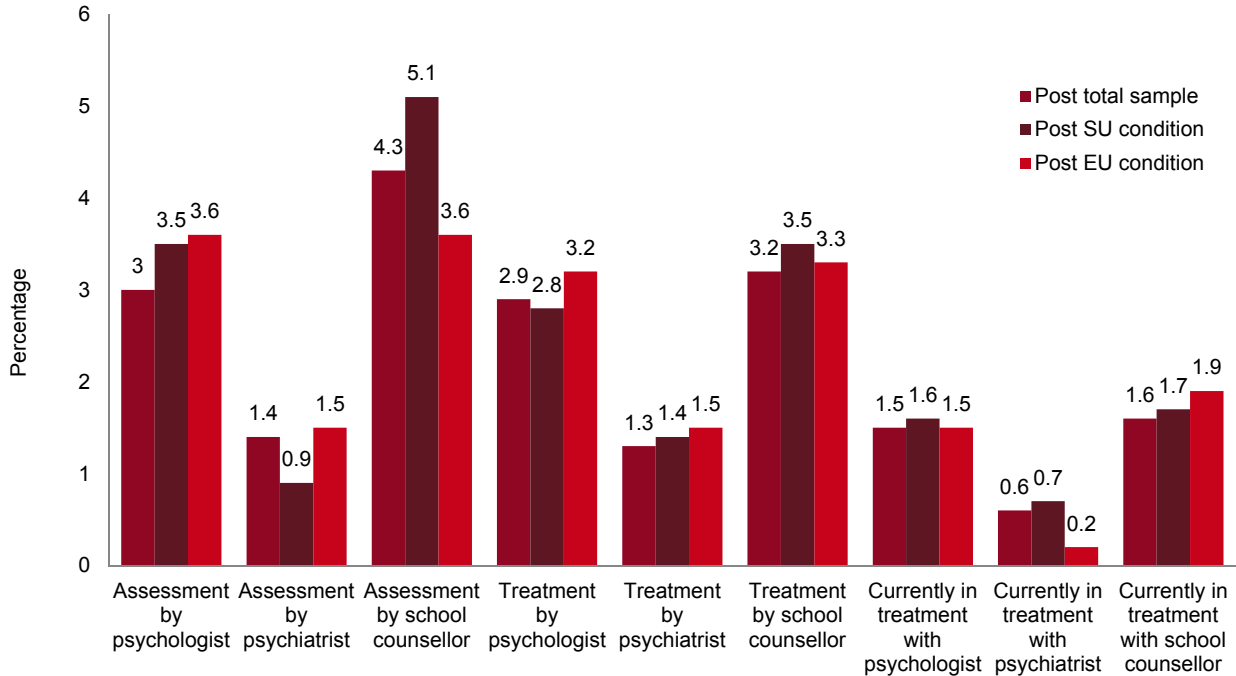


Figure 9. Percentage of participants that utilised mental health services at post treatment between conditions

MENTAL HEALTH AND WELLBEING: BASELINE TO POST

A series of analyses were conducted to examine the changes in symptom severity from baseline to post assessment and whether there were any differences in changes on symptom severity from baseline to post assessment between the SU and EU conditions. At the time of writing this report the post-assessment data collection for students in a school allocated to the EU condition (n = 70), had not yet taken place.

Anxiety severity

As can be seen from the means presented in figure 10, the severity of anxiety symptoms was significantly reduced from baseline to post screening for the whole sample (see **Figure 10**; Total Anxiety $F(2045) = 45.42, p = .000 = p < .05$). As we did not have a control group, this reduction may have been the result of the passage of time, or a result of the intervention. Future research using a waitlist control group is required. Further, there were no significant differences between the SU and EU conditions in changes in anxiety severity from baseline to post assessment (Total anxiety $F(1, 2045) = .49, p > .05$).

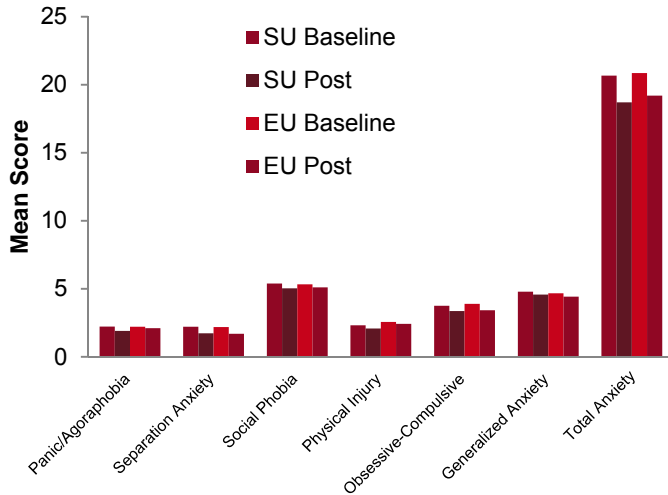


Figure 10. Mean anxiety severity symptoms as measured by the scas from baseline to post assessment

Depression severity

As can be seen from the means presented in figure 11, from baseline to post assessment, there was a significant reduction in depression symptom severity for all students, $F(2000) = 8.30, p = .004$. There were no significant differences between conditions in changes in depression severity from baseline to post (see **Figure 11**; Depression $F(1,2000) = .32, p > .05$).

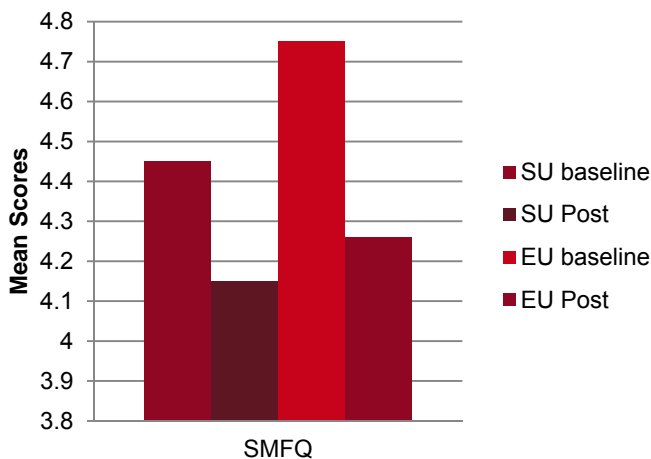


Figure 11. Mean depression symptoms as measured by the SMFQ from baseline to post assessment

PARTICIPATION IN THE CHILLED OUT PROGRAM

In total, 50 students signed up for the Chilled Out program (1.53% of students in the total sample). Of those 50 students, 35 students (1.65% of students in the SU condition) were in the SU condition and 15 students (1.30% of students in the EU condition) in the EU condition (see **Figure 12**). This difference was not statistically meaningful, $\chi^2(1, N = 3276) = .43, p > .05$. Of the 50 students who signed up for the Chilled Out program only four students accessed all modules in the program (one student from the EU condition and three students from the SU condition). Of the 50 students that signed up, 36% ($n = 18$) did not engage in Chilled Out (i.e., did not open any modules). The percentage of students that accessed each module as follows: 62% students opened (clicked) Module One, 42% Module Two, 40% Module Three, 26% Module Four, 20% Module Five, 18% Module Six, 10% Module Seven, and 18% Module Eight (see **Table 3** for an overview of modules). Of the 19 worksheets, only 8% used the *My Rewards* worksheet, 12% used the *My Goals* and the *Linking Thoughts and Feelings* worksheets, 2% used the *Rewards Checklist*, 6% used *My Evidence Sheet* and *My Fears and Worries List*, and 4% used the *My Worry Themes* worksheet; no other worksheets were used. Of the 50 participants, 29 opted to have an online buddy, yet only three corresponded with the online buddy.

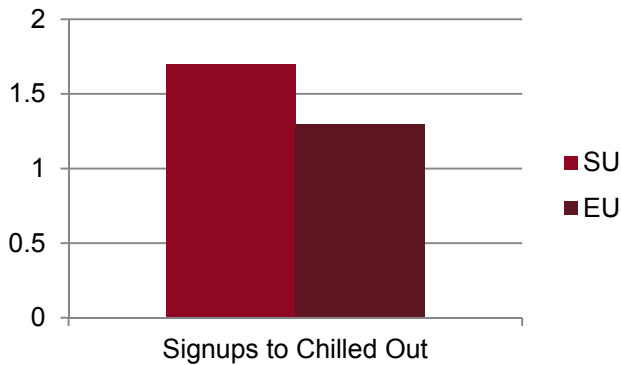


Figure 12. Percentage of sign-ups to Chilled Out.

MODULE	DESCRIPTION
Understanding Anxiety	How anxiety can affect a person
Setting goals	How to get the most from the program
Realistic thinking I	Replace worried thoughts with calm ones
Stepladders I	How to build a step ladder
Stepladders II	Develop stepladders for all your fears and worries
Realistic thinking II	In your mind realistic thinking
Other coping skills	Other skills: problem solving, assertiveness
Staying chilled	Review progress and what to do if you meet problems

Table 3. Modules in the Chilled Out program

THE CHILLED OUT PROGRAM

For the young people accessing the Chilled Out program (50 students), we expected a significant reduction in the presence of anxiety and depression symptoms between the two assessment points. We first examined the changes in severity of anxiety and mood symptoms of those who signed up to the treatment program (28 students in total with baseline and post data). Regarding anxiety, there was reduction in anxiety from baseline to post assessment but this was only a significant reduction for the separation anxiety subscale, $t(27) = 2.993$, $p = .006$ (see **Figure 13**). Again for depression symptoms, while there was a reduction in symptoms, this reduction was not statistically significant, $p > .05$ (see **Figure 14**). Interestingly, participants with higher depression were less likely to complete the modules.

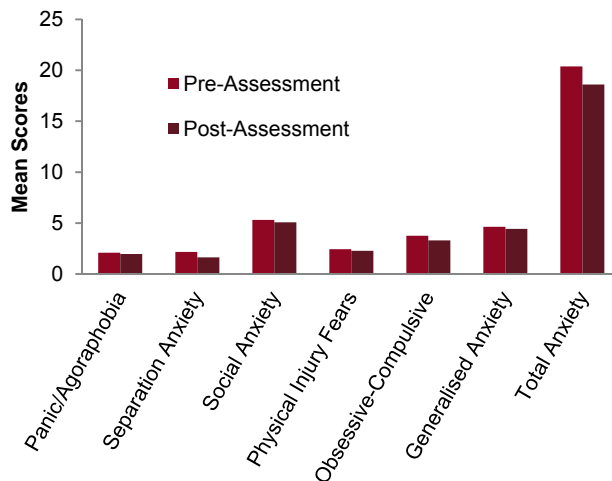


Figure 13. Anxiety symptoms as measured by the SCAS before and after Chilled Out

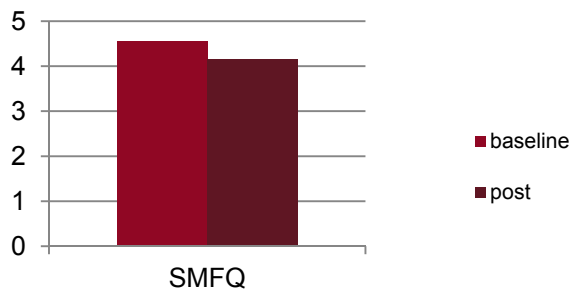


Figure 14. Depression symptoms as measures by the SMFQ before and after Chilled Out

The number of students completing one or more modules of Chilled Out is small ($n = 15$) and prevents statistical analysis of change. Nevertheless, we have presented the data on these 15 children to demonstrate the higher baseline rates and greater change in anxiety and depression in this subset (See **Figure 15 and 16**).

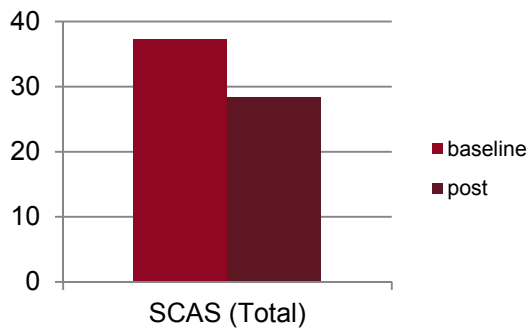


Figure 15. Anxiety symptoms as measured by the SCAS before and after Chilled Out for students completing more than one module

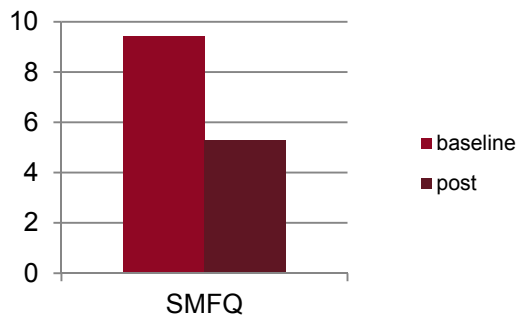


Figure 16. Depression symptoms as measured by the SMFQ before and after Chilled Out for students completing more than one module

PREFERENCES AND ATTITUDES TOWARDS TREATMENT

The ratings for the media components of the program were positive (mostly rated as “Average” or “Good” see **Table 4**). The most highly rated component was the live videos followed by screen text. Participants also rated the quality of therapeutic components (see **Table 5**) and usage preferences (see **Table 6**).

	Very Bad	Bad	Average	Good	Very Good
Screen text	4.5%	4.5%	31.8%	31.8%	27.3%
Non-moving pictures	4.5%	0%	50%	31.8%	13.6%
Live videos	4.5%	0%	45.5%	18.2%	31.8%
Cartoons	0%	0%	50%	40.9%	9.1%
Sound voiceovers	0%	4.5%	54.5%	22.7%	18.2%
Animated flowcharts	0%	4.5%	45.5%	31.8%	18.2%
Interactive forms	0%	4.5%	40.9%	36.4%	18.2%
Navigation system	0%	4.5%	36.4%	31.8%	27.3%
Overall appearance	0%	13.6%	40.9%	22.7%	22.7%
The “enjoyment factor”	0%	9.1%	36.4%	40.9%	13.6%

Table 4. Percentage of students rating the quality of media components in Chilled Out (n = 28)

	Very useful	Quite useful	A bit useful	Not useful
Understanding Anxiety	27.3%	40.9%	27.3%	4.5%
Setting Goals	18.2%	50.0%	27.3%	4.5%
Realistic Thinking I	27.3%	45.5%	22.7%	4.5%
Stepladders I	18.2%	40.9%	36.4%	4.5%
Stepladders II	13.6%	50.0%	31.8%	4.5%
Realistic Thinking II	18.2%	50.0%	27.3%	4.5%
Other Coping Skills	9.1%	68.2%	18.2%	4.5%
Staying Chilled	27.3%	36.4%	27.3%	9.1%

Table 5. Percentage of students rating the usefulness of the modules in Chilled Out (n = 22)

Which of the following items best describes the way you used the Chilled out program?	
You read a module and only moved to the next one when you completed its practice tasks	54.5%
You read several modules and then went back over the modules as you needed them	27.3%
You read all the modules first and then went back over the modules as you needed them	13.6%

Table 6. Percentage of students rating use preferences in Chilled Out (n = 22)

BARRIERS TO TREATMENT

The majority of students were satisfied with the program, found it useful, and were confident it would be helpful for others (see **Table 7**).

Satisfaction with program	Very unsatisfied	Unsatisfied	Neutral	Satisfied	Very satisfied
	13.6%	9.1%	36.4%	31.8%	9.1%
Usefulness of program for self	Very Unhelpful	Unhelpful	Neither helpful or unhelpful	Helpful	Very Helpful
	9.1%	9.1%	27.3%	40.9%	13.6%
Confidence in helpfulness of program for others	Not at all confident	Somewhat confident	Neutral	Moderately confident	Very confident
	9.1%	4.5%	22.7%	45.5%	18.2%

Table 7. Percentage of students rating satisfaction, usefulness of the program (n = 28)

Students reported that “Finding Time” was the biggest barrier to the treatment (see **Table 8**). A small percentage of the students reported that the program was boring and didn’t address their problems. The majority of students did not report any significant barriers with the program itself.

	Never a problem	Occasionally a problem	Sometimes a problem	Often a problem	Very often a problem
Finding time	22.7%	22.7%	27.3%	9.1%	18.2%
Technical problems	63.6%	13.6%	18.2%	4.5%	0%
Understanding the content	45.5%	27.3%	13.6%	13.6%	0%
Lost interest	18.2%	22.7%	18.2%	22.7%	0%
Too much personal information	63.6%	18.2%	13.6%	4.5%	0%
Not enough therapist support	68.2%	9.1%	18.2%	4.5%	0%
The program was boring	31.8%	22.7%	18.2%	18.2%	9.1%
Did not address my problems	45.5%	18.2%	22.7%	4.5%	9.1%
Did not understand tasks	77.3%	4.5%	18.2%	0%	0%
Did not want to practice tasks	40.9%	13.6%	27.3%	9.1%	9.1%

Table 8. Percentage of students rating barriers towards treatment (n = 28)

CONCLUSIONS

The main goal of this study was to increase help seeking in adolescent males with anxiety. The study compared two different methods for encouraging males to use an evidence-based program for the treatment of anxiety symptoms. The first method involved using standard methods (standard utilisation) and the second method targeted specific barriers to treatment (enhanced utilisation). The methods employed in the enhanced utilisation condition were based on feedback collected during focus groups and interviews with adolescent males. The qualitative component of this study revealed that boys preferred minimal effort to access resources, desired an increase in accessibility of information for themselves as well as parents and teachers but wanted high levels of confidentiality. The boys also made suggestions about the way in which mental health materials could be presented. For example, they suggested using materials that were presented with a 'masculine' tone and that included personal experiences about how the program helped to achieve goals. Our enhanced utilisation condition was based on these suggestions. For example, we provided confidential and free online access to an evidence based treatment for anxiety that required minimal effort. However, as we were conducting a trial requiring consent and tracking, there were a number of additional hurdles that may not be present in the real world (e.g., a long Macquarie University URL; students had to provide some details to ensure they had consented to the study). Also, although the program works well on tablets and laptops, it currently does not function well on smart phones. In the future, a program that works seamlessly on all devices may help to improve ease of access.

Our enhanced utilisation strategies also included providing personal stories from male role models as well as from an adolescent who had successfully completed the program. We developed an advertisement campaign, "Stress Less" that was presented in a masculine tone and was specifically designed for adolescent boys (references to sports, music, sports drinks). The campaign also emphasised the importance of tackling worries that prevented them from achieving goals (e.g. doing well at sport or at schools, getting a job, going to university, having friends, having a girlfriend etc). We also provided information on our website for parents and teachers to increase mental health literacy.

The EU condition lead to significant increases in engagement with the study website compared to the SU condition. There was a small, but not statistically significant, increase in website views following the celebrity visits to the school. Despite this increase in website engagement in the EU condition, there were no significant differences in service utilisation between the two conditions. In the SU condition, one specific school presented the highest number of sign-ups. We believe these results were due to the school counsellor, known by the students, who actively encouraged individual students to access the Chilled Out program. For this school, the program was targeted, that is, promoted to specific students. Thus, one possible method for increasing service utilisation in this population may be for school counsellors with a personal connection to students to encourage sign up to a confidential program. This method for increasing utilisation needs to be evaluated in future studies.

The outcome of this project highlights how difficult it is to motivate adolescent males to seek help for mental disorders. The data from our study suggested that only 2.9% of the sample were currently receiving treatment from a mental health professional. More specifically, 1.6% of students were currently receiving treatment from a psychologist or psychiatrist outside of the school setting. This is in contrast to the 17.1% of boys in the sample with elevated levels of anxiety and 22.3% with elevated depression. These data suggest that there are a significant number of adolescent boys with elevated anxiety and depression who are currently not receiving treatment.

Adolescents participating in the Chilled Out program reported that the greatest barrier to using the program was lack of time. These issues could be addressed by administering the program during class time (e.g. O'Kearney, Gibson, Christensen, & Griffiths, 2006), however this would need to be delivered in a way that ensured the student's confidentiality. Future research is needed to evaluate whether a student's connection with influential teachers or school counsellors could increase help seeking. In addition, research is mounting that a major barrier to mental health service utilisation across the age range is that individuals often do not recognise the need for treatment. Therefore, it is possible that many of the males in this study did not realise that they *should* be seeking help. Although students with higher self-reported anxiety scores were provided with a written recommendation to complete the program, it is possible that they did not choose this optional feature or they did not agree with the feedback and hence were not motivated to participate in the program. Further work needs to be done to help adolescent males to recognise the need for help, and access mental health services.

Although the EU study website experienced a higher number of unique page views than the SU website, the website hits did not convert to program commencement or completion. Some reasons for the lack of sign-ups could be attributed to the fact that many students may not think their anxiety was "severe enough" to warrant treatment seeking, they may not have enough time due to busy schedules, or even, they might have forgotten the URL to go back later. To address this, information about anxiety needs to be presented in a way that promotes masculinity in seeking help and identifies anxiety as a 'real' (i.e. can become severe) and treatable disorder. The findings of our study are consistent with previous studies that have shown poor uptake of universally offered programs, and suggest that interventions employing a targeted approach may prove more fruitful.

REFERENCES

- Angold, A., Costello, E. J., Messer, S.C., & Pickles, A. (1995). Development of a short questionnaire for use in epidemiological studies of depression in children and adolescents. *International Journal of Methods in Psychiatric Research*, 5, 237–249.
- Burgess, P.M., Pirkis, J. E., Slade, T. N., Johnston, A. K., Meadows, G. N. & Gunn, J. M. (2009). Service use for mental health problems: Findings from the 2007 National Survey of Mental Health and Wellbeing. *Australian & New Zealand Journal of Psychiatry*, 43(7), 615-623. doi:10.1080/00048670902970858.
- Caspi, A., Elder, G. H., Jr., & Bem, D. J. (1988). Moving away from the world: Life-course patterns of shy children. *Developmental Psychology*, 24, 824-831. doi:10.1037/0012-1649.24.6.824.
- Cunningham, M.J., & Wuthrich, V.M. (2008). Examination of barriers to treatment and user preferences with computer-based therapy using the *Cool Teens* CD for adolescent anxiety. *Eur J Appl Psychol*, 4,12-17.
- Gulliver, A., Griffiths, K.M. & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review. *BMC Psychiatry*, 10:113. doi:10.1186/1471-244X-10-113.
- La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology*, 26(2), 83-94. doi:10.1023/A:1022684520514.
- Kazdin, A.E., Holland, L., Crowley, M., & Breton, S. (1997). Barriers to treatment participation scale. *J Child Psychol Psychiatry*, 38,1051-1062.
- Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., & Swendsen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Survey Replication-Adolescent Supplement (NCS-A). *Journal of The American Academy of Child & Adolescent Psychiatry*, 49(10), 980-989. doi:10.1016/j.jaac.2010.05.017.
- O’Kearney, R., Gibson, M., Christensen, H., & Griffiths, K. M. (2006). Effects of a cognitive behavioural internet program on depression, vulnerability to depression and stigma in adolescent males: A school-based control trial. *Cognitive Behavior Therapy*, 35, 43–54. doi:10.1080/16506070500303456.
- Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety disorders during childhood and adolescence: Origins and treatment. *Annual Review of Clinical Psychology*, 5, 335-365. doi:10.1146/annurev.clinpsy.032408.153628.
- Spence, S. H., Barrett, P. M., & Turner, C. M. (2003). Psychometric properties of the Spence Children’s Anxiety Scale with young adolescents. *Journal of Anxiety Disorders*, 17(6), 605-625. doi:10.1016/S0887-6185(02)00236-0.
- Wuthrich, V. M., Rapee, R. M., Cunningham, M. J., Lyneham, H. J., Hudson, J. L., & Schniering, C. A. (2012). A randomized controlled trial of the Cool Teens CD-ROM computerized program for adolescent anxiety. *Journal of the American Academy of Child & Adolescent Psychiatry*, 51(3), 261-270. doi:10.1016/j.jaac.2011.12.002.