

A pilot trial of a brief Cognitive Behavioural Therapy program targeting anxiety symptoms in school students aged 9-16: The Meet Your Amygdala program



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Declaration

This dissertation contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, contains no material previously published except where due reference is made.

I give permission for the digital version of my dissertation to be made available on the web, via the University's institutional digital repository, the Library Search and also through web search engines, unless permission has been granted by the School to restrict access for a period of time.



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Statement of Contribution

In writing this thesis, my supervisors and I collaborated to generate research questions of interest that could investigate the existing Meet Your Amygdala program being delivered by the Department for Education. The Department for Education provided participant recruitment and the sample. My supervisors and co-supervisor and I collaborated to design the methodology of testing and to design appropriate analyses of the data set. I conducted the literature search, completed the ethics application and was responsible for data analysis and thesis write-up with input from my supervisors and co-supervisor.

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I would like to warmly acknowledge my supervisors and co-supervisor for their significant contribution to the production of this thesis. I am very thankful for their committed support and generous insights which sparked my enthusiasm in this topic further and has contributed significantly to my learning.

A pilot trial of a brief Cognitive Behavioural Therapy program targeting anxiety symptoms in school students aged 9-16: The Meet Your Amygdala program

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This article is intended for submission to the Journal of School Psychology, which adheres to the APA reference style. At present, the article has been written according to the Master of Psychology (Clinical) thesis requirement of 6000-8000 words but will be edited prior to submission to meet the 10,000 word limit specified by the Journal of School Psychology.

Abstract

Approximately 6.9% of Australian children aged 13-17 have been diagnosed with an anxiety disorder, and research suggests that prevalence rates are increasing. School based interventions have the potential to provide necessary intervention to adolescents who may otherwise not receive treatment. However, little is known about whether students and teachers value school-based programs and find them acceptable, or about whether they can be delivered with fidelity in school settings, or about what contributes to positive student outcomes. The present study evaluated the fidelity and acceptability of the Meet Your Amygdala (MYA) program, a cognitive behavioural therapy-based program involving students and teachers in grades 5-10 ($N = 26$), using measures of student, teacher, and facilitator satisfaction with the program, attendance records, and fidelity checklists. This study also examined the effect of the MYA program on student levels of anxiety using child self-reports and parent reports of anxiety at pre and post intervention. Results showed preliminary support for the MYA program as an acceptable intervention for use with students who have mild symptoms of anxiety, particularly high school students, and particularly when delivered in a small-group format.

Key words: Anxiety; Adolescence; School-based intervention; Cognitive Behavioural Therapy; Fidelity; Acceptability

Introduction

Adolescence is a foundational developmental period, marked by a surge in social, behavioural, and academic stressors that increase adolescents' vulnerability to developing a mental health disorder, with anxiety disorders among the most common (Lawrence et al., 2019; Neil & Christensen, 2007). In Australia, approximately 1 in 7 young persons aged 4 to 17 (13.9%) meet the criteria for a mental health disorder, and of these, 6.9% of adolescents aged 13 to 17 meet the criteria for an anxiety disorder (Lawrence et al., 2015). In 2018, for children aged 5-14 years, anxiety disorders were the most prevalent mental health disorder affecting girls, and the second most prevalent mental health problem affecting boys (AIHW, 2018). The average age of onset for half of all mental health disorders experienced by adults occurs during adolescence, before age 14, with an even earlier average age of onset for anxiety disorders, at 11 years of age (Kessler et al., 2005). Without effective intervention, anxiety disorders tend to worsen in severity over the lifespan (Keller 2003; Kendall et al., 2004; Creswell et al., 2014; Johnstone et al., 2020). Early intervention during adolescence is therefore considered an effective way to reduce the immediate and long-term burden of anxiety disorders (WHO, 2004).

The immediate consequences of anxiety disorders for children and adolescents include the disruption of normal cognitive processing, behavioural and emotional regulation, and social functioning (Goodsell et al., 2017; Johnstone et al., 2020; Porche et al., 2016). These symptoms can interfere with the quality of young peoples' interpersonal relationships and can result in decreased peer acceptance, increased peer victimisation, poorer self-esteem and self-efficacy compared to young people without an anxiety disorder (de Lijster et al., 2018; Cabral & Patel, 2020). Anxiety disorders during adolescence are also associated with poorer academic performance and higher rates of school absenteeism, which is often followed by poorer employment outcomes and decreased life satisfaction during adulthood

(de Lijster et al., 2018; Haughland et al., 2020; Lawrence et al., 2019; Lépine 2002; Swan et al., 2018). Additionally, young people with anxiety disorders are more vulnerable to the development of substance use issues and criminal behaviour and are at a higher risk of suicidal behaviours (Johnstone et al., 2020; Swan et al., 2018).

Despite the growing prevalence, and the burden of anxiety disorders on young people, many sufferers of mental health disorders do not access treatment (Alonso et al., 2018; Gandhi et al., 2022). A 2013-14 national survey of Australian children ($N = 2967$) found that just over half (56.0%) of children and adolescents with mental health disorders had used a health service within the last year (Lawrence et al., 2015). Additionally, another report found that only 11% of children ($N = 517$) with mental disorders received minimally adequate treatment (Sawyer et al., 2018). Some of the barriers to accessing treatment include under-diagnosis, stigma related to seeking treatment, and limited community-based health resources (Iskra et al., 2018). According to reports from Australian parents of children aged 4 to 11 ($N = 2967$), other barriers to seeking treatment include the high costs of treatment and lack of mental health literacy (Lawrence et al., 2015). Furthermore, a recent survey of Australian clinicians including child and adolescent psychiatrists, child psychologists, paediatricians, and general practitioners ($N = 143$), identified several systemic barriers to providing treatment, including service fragmentation, extended wait times and insufficient training for paediatricians and general practitioners (Paton et al., 2021). Notably, among racial and ethnic minority groups, barriers to treatment intensify even after controlling for symptom severity (Goetter et al., 2020). Low mental health care utilization is concerning, given that evidence-based psychotherapy treatments for childhood anxiety disorders exist, and are shown to be effective.

One possible solution to this problem is to provide evidence-based, early intervention via schools. School-based interventions are typically brief, group-based programs that

provide evidence-based treatment that is directly accessible to students without the difficulty of seeking outside services, and which can be provided at a lower cost compared to individualised clinical treatment (Britton et al., 2014; Creswell et al., 2020; Le et al., 2021; Iizuka et al., 2015; McLoone et al., 2005). Schools are increasingly recognised as one of the most opportune settings for early identification of mental health concerns, given that school staff are in a unique position to regularly oversee student behaviour (Iizuka et al., 2015). Identifying students who are at risk in this way reduces the impact of underdiagnosis and allows for early intervention prior to the development of long-term dysfunction (McLoone et al., 2006). Additionally, unlike traditional clinical settings, schools are not removed from everyday challenges and as such, they provide opportunities to overcome real-life challenges found in school settings, such as general and social fears, or separation anxiety (McLoone et al., 2006). Furthermore, the school setting may help to reduce stigma associated with seeking external support for mental health concerns. It is common for students to access other allied health services within schools (e.g., speech therapy support and occupational therapy support), thus receiving mental health support at school may help to reduce any feelings of shame related to being considered abnormal or different (McLoone et al., 2006). This is a significant strength of school-based interventions considering that the stigma associated with mental health disorders is commonly reported to significantly reduce service utilization (Iizuka et al., 2015; McLoone et al., 2006).

While schools present a unique opportunity to provide intervention services to young people, there are also a number of barriers to successfully providing intervention in a school setting. For example, schools already manage significant demands and numerous extracurricular programs (Haughland et al., 2020). The inclusion of programs to target anxiety requires additional resources which may compete with existing school requirements,

and some schools may be unable to employ mental health professionals or afford the time to invest in consultation and training (Husabo et al., 2022).

Moreover, although school-based programs have been developed, most lack the inclusion of school staff as part of the program structure. Teacher involvement in group programs is a valuable part of promoting positive social and emotional student outcomes and has been shown to be at least equivalent in effectiveness to that of outside mental health professionals (Iizuka et al., 2015; Ruttledge et al., 2016). Being familiar to students, teachers are more likely to assist in the adoption of strategies, maintain group engagement and manage behavioural difficulties, than if the intervention was delivered by outside professionals only (Iizuka et al., 2015). Teachers have the potential to play an important role in reinforcing group content and assisting with application of skills post intervention. However, teachers are also limited by a lack of prior mental health training (Shelemy et al., 2019). Additional training prior to the delivery of an intervention program, combined with an already significant workload is a barrier to implementation (Shelemy et al., 2019). A gap in the research to date is understanding how best to involve teachers or school staff in school programs.

To address the lack of teacher participation in school-based interventions and contribute to the research gap, a program named the Meet Your Amygdala (MYA) was created. The MYA program is uniquely designed to be facilitated by a psychologist, as well as a supervisory schoolteacher. A psychologist-led, teacher-supported model capitalises on follow through of skill implementation as teachers can support the child participants during the delivery of the program, and after its conclusion. This is a key strength of the MYA as this may help to increase the number of mental health supports available within a school system, therefore reducing the burden of limited resourcing (Husabo et al., 2022). Additionally, the program format aims to give teachers the opportunity to learn the program's

concepts and strategies whilst participating in the group, with no previous training required. This may be particularly acceptable to teaching staff and has the potential to overcome logistical barriers.

The MYA program is a CBT based intervention, that was designed by psychologists at the Department for Education in 2020 as an 8-week program involving weekly 1.5-hour group sessions. This program targets students identified by school staff and parents as being likely to benefit from strategies to manage anxiety and was developed to be delivered either as a whole class or small-group format. Recent meta-analyses indicate that CBT based interventions are the most effective intervention type compared to mindfulness based or acceptance and commitment therapy-based interventions, thus the MYA approach is consistent with the gold standard for school interventions (Creswell et al., 2020; Hugh-Jones et al., 2021; Cabral & Patel, 2020). The MYA program's core content includes psychoeducation, group activities and skills practice aimed to help build mental health literacy and provide learning opportunities. Key to the program's structure is the inclusion of behavioural exposure tasks and cognitive restructuring tasks, which are demonstrated to significantly increase rates of improvement on measures of anxiety symptoms and have not always previously been emphasised in group interventions (Creswell et al., 2020; Peris et al., 2015). See Appendix 1 for an overview of the program content.

Previous research has established that school-based programs, particularly those based on CBT, demonstrate significant reductions in symptoms of anxiety in a wide number of school studies, (Hugh-Jones et al., 2021; Feiss et al., 2019; Neil & Christenson, 2007; Van Loon et al., 2020). However, to date much less is known about the fidelity and acceptability of school-based programs, and while it is important that school-based interventions are efficacious in well-controlled trials, they must also be effective in busy school settings where multiple factors have the potential to interfere with program delivery and student

participation (Breitenstein et al., 2010; Rojas-Andrade & Bahamondes, 2019; Singal et al., 2014).

Fidelity measures, namely the degree to which the program is delivered as intended or not, provide information about the extent to which an intervention can feasibly be adapted to the school setting as intended (Breitenstein et al., 2010). Additionally, acceptability measures, namely the degree to which the program is tolerated by the target group, provides information about the suitability of the program and levels of student engagement (Iizuka et al., 2015). Understanding fidelity, along with student and teacher perspectives on acceptability, is in the interest of schools as these variables inform the practical implementation of the intervention and are associated with positive student outcomes (Breitenstein et al., 2010; Palsola et al., 2020; Rojas-Andrade & Bahamondes, 2019).

The consideration of whether or not a program can be implemented with fidelity in a real-world school setting that is both acceptable to staff and students, has been neglected or only partially addressed in much of the prior research (Breitenstein et al., 2010; Rojas-Andrade & Bahamondes, 2019). Some studies of school-based interventions have included measures of fidelity or acceptability, and suggest that school-based CBT programs are generally accepted and valued by students, but not all have measured fidelity as well as acceptability (Iizuka et al., 2015; Rojas-Andrade & Bahamondes, 2019). Additionally, a systematic review of school based mental health programs ($N = 31$) found that while 71% of studies that included fidelity measures measured this more than once during the intervention, only 35% measured fidelity session-by-session (Rojas-Andrade & Bahamondes, 2019). Of particular importance, teacher's views on acceptability have largely been overlooked despite being gate keepers to program implementation (Iizuka et al., 2015; Rojas-Andrade & Bahamondes, 2019). Therefore, the current lack of research on fidelity and acceptability is a problem for the delivery of school-based interventions because it is unclear whether

interventions can be delivered with fidelity in school settings, and what is acceptable to staff and students (Britton et al., 2014; Creswell et al., 2020; Husabo et al., 2022).

The current pilot study of the MYA program was conducted across five public schools in South Australia, where students in grades 5 to 10 ($N = 26$) participated in the 8-week MYA program as either a whole class format or small group format. This study aimed to evaluate the fidelity and acceptability of the MYA program using measures of student, teacher, and facilitator satisfaction with the program, attendance records, and fidelity checklists collected throughout the intervention period of Terms 2 and 3, 2022. A secondary aim of this study was to determine whether the MYA program was effective in reducing symptoms of child and adolescent anxiety.

Method

2.1 Participants

Participants in this study were children and their parents/caregivers, teachers who co-facilitated the groups, and registered psychologists and provisional psychologists who facilitated the groups. The child participants were school students in grades 5 to 10 at participating government funded, Department for Education schools. Students were invited to participate in the MYA program if they were identified by school staff, including teachers and members of the school leadership team, as being likely to benefit from strategies to manage anxiety. This process was consistent with existing protocols for identification of students eligible for group-based support from the Department for Education Student Support Services Psychology Team. All students nominated in this way, along with their parent/caregiver, were eligible to participate in the research project. Exclusion criteria were factors that may impact on the ability to participate in program content in a group environment including students in lower year levels (< Year 5), students with known intellectual disability, severe language disorders, moderate to severe autism spectrum disorder or complex trauma. Selected students were invited to participate in small group formats, while one whole-class format of the MYA program was also delivered. The leadership team at each participating school independently selected a teacher co-facilitator from within its staff, consistent with existing Department for Education protocols. All teacher co-facilitators were invited to participate in the study.

2.2 Measures

2.2.1 Program Fidelity

Program fidelity was evaluated using a 9-item fidelity questionnaire, developed for the purposes of this study, and based on a previously developed fidelity questionnaires from

the FRIENDS anxiety intervention program (Iizuka et al., 2015). The questionnaire was completed by psychologist/provisional psychologist facilitators after the conclusion of each of the 8 sessions. The questionnaire used six dichotomous check-list items (yes/no; e.g., "I had all the materials I needed," "I added information or activities"); three 7-point Likert scale questions ranging from 'no, not at all,' to 'yes, very often' (e.g., "students appeared to understand the content") and three qualitative questions asking for 'any additional comments.'

2.2.2 Program Acceptability

Student and teacher satisfaction with the program was evaluated at the end of the program using a student feedback form (17 items) and teacher feedback form (7 items). The student questionnaire included items adapted from the FRIENDS 5-point-Likert Social Acceptability Measure (Lowry-Webster et al., 2003), and also included items about levels of student enjoyment; whether the program was helpful; and whether the format was suitable. A separate teacher questionnaire, developed for the purposes of the present study, included items about levels of perceived student enjoyment, and levels of perceived student benefit. Response options for items in the student and teacher measures consisted of a 5-point Likert scale ranging from 'strongly agree,' to 'strongly disagree,' along with two qualitative questions inviting comments on the best and worst aspects of the program.

2.2.3 Student Anxiety Symptoms

Child self-reported anxiety symptoms and parent reported anxiety symptoms were measured at the beginning and end of the program using the child self-report and parent-report versions of the Spence Children's Anxiety Scale (SCAS and SCAS-P) (44 items and 38 items). Each item was scored on a 4-point scale ranging from 0 to 3, with a possible maximum total score of 114. Thirty-eight items contributed to the total SCAS score, with 6

positively balanced ‘filler’ items not included, designed to reduce negative response bias (SCAS, 2021). *T*-scores were used to interpret overall symptom severity, with higher *t*-scores indicating higher levels of anxiety. A SCAS *t*-score cut-off > 60 was used to categorise students as being in the ‘elevated’ anxiety range, a score > 65 categorised students as being in the ‘highly elevated’ anxiety range, and a score < 60 categorised students as being in the ‘normal’ range of symptom severity (SCAS, 2021).

The SCAS has shown high test-retest reliability over a 12-week period (e.g. $r = 0.63$ in an Australian sample), and is strongly correlated with other measures of child anxiety (Olofsdotter et al., 2016). The measure has also been validated in an Australian sample of 875 adolescence aged between 13-14 years old (Spence et al., 2003). Additionally, a systematic review and meta-analysis involving 32 studies indicated good internal consistency with a mean Cronbach’s alpha of 0.92 (Orgilés et al., 2016). Similarly, the SCAS-P has demonstrated sound predictive validity of an anxiety disorder using the total *t*-score, and good convergent validity with other measures of anxiety (Orgilés et al., 2016). In the present study internal consistency was good (alpha = .91 for SCAS; alpha = .96 for SCAS-P).

2.3 Procedure

Parents and caregivers of students identified by school leadership staff to participate in the MYA program were sent an email or post package inviting them to participate in the MYA program and the research project. This package contained separate consent forms for the student to participate in the MYA program and to participate in the research study. It was explained that students and their parents/carers were able to consent to participate in the MYA program but decline to participate in the research study. The information sheets explaining the research study contained a link or QR code that parents/caregivers could follow, to take them to a participant information sheet and consent form for the present study.

Parents were able to provide consent for themselves and/or their child to participate in the research project. The consent forms and questionnaires for the research study were completed via a web link to the Qualtrics website or via hard copy questionnaires sent via post. Students and parents completed the study questionnaires pre-and post-intervention.

This study received ethics approval from the University of Adelaide Human Research Ethics Committee (H-2021-185), and the Department for Education Research Unit (Reference number: 2022-0001). Participation in the study was voluntary and parent participants and child participants (> 15 years) provided written consent.

2.4 Data Analyses

2.4.1 Program Fidelity and Acceptability

The quantitative data was analysed using the Statistical Package for the Social Sciences (SPSS, Version 27). Program fidelity was analysed by calculating the percentage of scores rated as having met fidelity, “yes” or “very often,” (a rating of 6-7 on the facilitator checklist) compared to the percentage of scores rated as not meeting fidelity, “no, not at all” (rating of 1-5 on the facilitator checklist). The acceptability of the program was analysed by calculating the percentage of students and teachers who evaluated the program positively (by selecting “agreed” or “strongly agreed”) on the feedback questionnaires, compared to the percentage of students and teachers who were “not sure” or evaluated the program negatively; “disagreed” or “strongly disagreed.” Confidence intervals (CIs) provided information about the precision of these estimates and the extent to which the differences between proportions were statistically significant.

Qualitative responses were also examined using thematic analysis as outlined by Braun & Clarke (2006). Themes were drawn and reported from fidelity checklists, and feedback forms (student and teacher).

2.4.2 Program Efficacy

Descriptive statistics (mean and standard deviation) were used to describe the pre- and post-intervention SCAS scores (student and parent report). Single-group repeated measures *t*-test were used to determine whether the changes in anxiety symptoms (SCAS and SCAS-P) were statistically significant. In addition, reliable change index (RCI) scores, following the formula described by Evans (1998), were used to determine the proportion of students who experienced a reliable change in anxiety scores from pre to post assessment using both child and parent reports. Change exceeding the RCI score is unlikely to occur more than 5% of the time due to unreliability of the measure alone, therefore any changes exceeding the RCI score were considered reliable (Evans et al., 1998).

Results

3.1 Descriptive Statistics

A total of 5 programs were delivered across 4 schools in Terms 2 and 3 of 2022. Four of the programs were delivered in small-group format in high schools. The fifth was delivered to a whole class in a primary school. Fifty-two students and their parents were invited to participate in the research study, and of these, 34 students from Years 5 to 10, and 16 parents of students provided baseline data. A small number of Year 4 students ($N = 10$) also participated in the MYA program alongside Year 5 students in the whole-class program, however these students were ineligible for this study due to age restrictions and have been excluded from the data analysis. Final pre and post data was collected for 26 students and six parents, and four out of five teachers provided feedback post intervention. Students who did not provide data post intervention ($N = 8$) were either absent from school during the final assessment ($N = 2$) or opted to discontinue the program ($N = 6$). A flowchart of how student and parent participants came to be included in the present study is presented in Figure 1 and Figure 2 respectively.

Figure 1

Flowchart of Student Participation in Study Stages

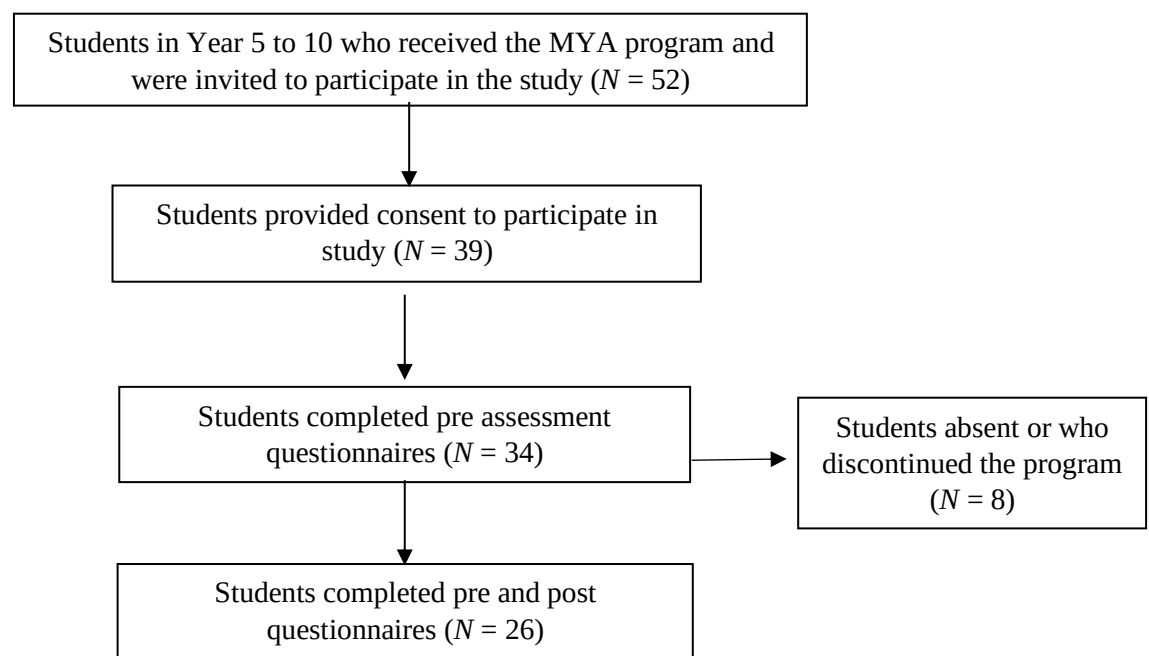
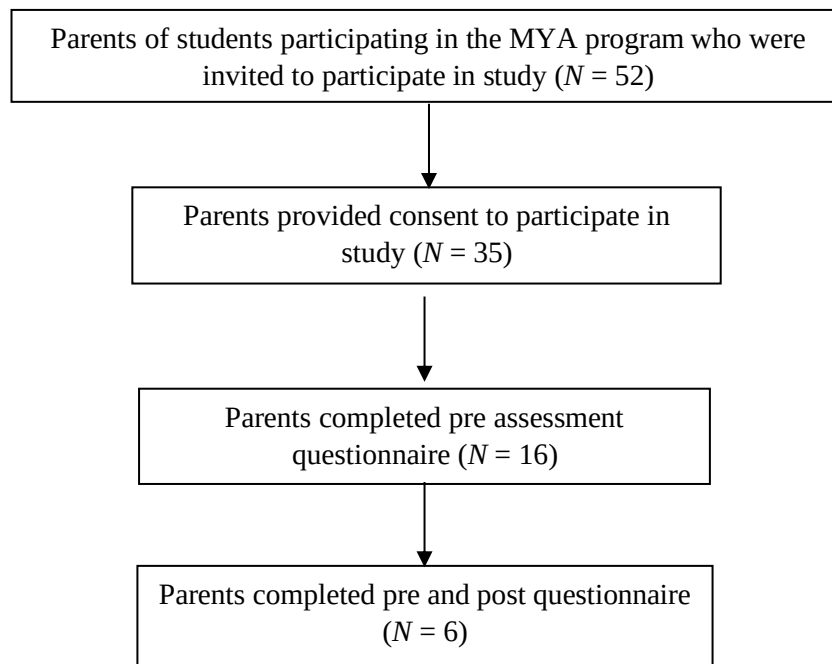


Figure 2*Flowchart of Parent Participation in Study Stages*

The student sample ($N = 26$) had a higher proportion of females (57.7%) compared to males (38.5%), and 3.8% identified as genderfluid. Participant ages ranged from 10 to 15 years old with an average age of 12 ($SD = 2.0$). The highest percentage of students were in Year 5 (61.5%), followed by Year 9 (26.9%), Year 8 (7.7%), and Year 10 (3.8%). Most students participated in the whole-class format (61.5%), while 38.5% participated in small group formats ranging in size from 5-10 participants.

3.2 Program Fidelity

Table 1 presents the percentage of sessions ($N = 28$) rated by facilitators as being implemented with fidelity. Facilitators reported that most sessions were attended by the participating staff member and included the required program materials and student workbooks. Facilitators also reported that most sessions were completed on time (79.4%).

In approximately two-thirds of the sessions, facilitators reported closely following program instructions (67.6%). Additional information or activities were added to 32.8% of sessions. Qualitative comments from facilitators indicated that the type of content added to sessions included examples from facilitators used to elaborate on program content. For example, “some elaboration on the fight-flight response.” Facilitators reported that additional examples were used, “due to students’ level of knowledge,” and when “the student was struggling” to understand the concept. Facilitators also reported that some information and activities were omitted in 64.7% of sessions. However, according to facilitators, the type of content omitted from sessions was typically the structured distraction breaks, which were short group games and movement activities not directly related to the program content, along with session recaps at the end of a session, often “due to time constraints.”

In addition to changes within sessions, the eight-week program structure was rarely implemented as designed. Facilitators from four out of the five groups combined two sessions into one during the implementation of the program, as a result of sessions having been missed following school closures or student absences.

Finally, while students understood and engaged enthusiastically in approximately 60% of the sessions, facilitators also reported that some elements of the program were harder to implement than others and that engagement was more difficult during these sessions. In particular, the ‘step-ladder activity’ from Session 4, which asked students to identify a task or activity they had been avoiding and then break this down into smaller more achievable steps, was noted by multiple facilitators as requiring extra scaffolding because students found it difficult to come up with practical examples relating to their own lives. Similarly in Session 6 and 7, in which students were asked to identify and challenge difficult thoughts, facilitators reported that students found this concept difficult to grasp, with one facilitator reporting that the students “didn’t seem engaged with thought challenging”. In contrast, Session 5 which

included practicing short behavioural exposure activities of feared social or other situations and was mostly interactive, was noted by facilitators as being very engaging for students.

Table 1

Percentage of MYA Sessions Scoring ‘Yes’ or ‘No’ on the Program Fidelity Checklist as Rated by Facilitators (N = 28)

Question Item	Facilitator Response	
	Yes	No
	% (95%CI)	% (95%CI)
The regular school staff member was present	85.3 (68.9-95.0)	14.7 (5.0-31.1)
I had all the materials (including video resources) that I needed	100.0 (89.7-100.0)	0.0 (0.0-10.3)
Each student had their workbook	88.2 (72.5-96.7)	11.8 (3.3-27.5)
I added information or activities	38.2 (22.2-56.4)	61.8 (43.6-77.8)
I omitted some of the information or activities	64.7 (46.5-80.3)	35.3 (19.7-53.5)
I completed the session outline on time	79.4 (62.1-91.3)	20.6 (8.7-37.9)
I closely followed instructions from the Meet Your Amygdala manual*	67.6 (49.5-82.6)	32.3 (17.4-50.5)
Students appeared to understand the content*	61.8 (43.6-77.8)	38.2 (22.2-56.4)
Students engaged enthusiastically with the content*	61.8 (43.6-77.8)	38.2 (22.2-56.4)

Note. *These items were rated on a 7-point Likert scale ranging from “No, not at all” to “Yes, very often.” Yes= rating of 6 or 7 on the fidelity checklist (“Yes, very often”); No= rating of 1-5 on the fidelity checklist (“No, not at all”).

3.3 Program Acceptability

3.3.1 Student Acceptability

Table 2 presents student acceptability ratings of the MYA program. Students reported high levels of enjoyment and engagement in the MYA program. A high percentage of students reported that they would recommend the program to others (79.2%, 95% CI: 57.8-92.9), and a consistent finding showed that students agreed that the program was interesting (79.2%, 95% CI: 57.8-92.9), and disagreed that it was boring (83.3%, 95% CI: 62.6-95.3). As the 95% CIs for each response (agree/strongly disagree, not sure, disagree/strongly disagree) did not overlap, this indicates that the higher proportions of students who agreed with these statements was not due to chance. In response to the question, ‘what are some of the best things about the MYA?’, common verbatim responses from students included: “How interactive it was,” “learning about the amygdala”, “the activities and the workbooks,” “the scavenger hunt,” (a behavioural exposure activity) and “the lollies as a reward for learning.”

Student acceptability of some of the practical aspects of the program showed mixed support. A high percentage of students (67.7%) agreed that the program was easy to follow, and 58.3% of students reported enjoying doing activities in the workbook. However, less than half (45.8%) of students agreed that the number of sessions was about right, and over a third (37.5%) of students agreed that there was too much listening and not enough activities.

Finally, only 37.5% of students agreed that they had noticed a positive change in themselves after completing the program, and just over half (an average of 58.3%) of students endorsed that they better understood their feelings, thoughts and behaviours after completing the program. Of particular note, despite perceiving that they could use what they had learned in the future (70.8%), only 37.5% of students reported having used the skills learnt in the program at home or at school. Taken together, these results indicate that student acceptability

of program structure and applicability of skills learned was mixed, despite high reported levels of enjoyment.

Student qualitative feedback in response to the question ‘what are some things you didn’t like about the MYA?’, highlighted areas of the program that may have contributed to the pattern of results indicating relatively low levels of application of skills and perceived benefits for students, including: “too many pages to fill out,” “too much talking,” along with requests for “more activities outside and more moving around,” and “more time for questions.” Some differences according to year level of students were noted; students in Year 5 (who participated in the program as a whole class) commonly reported a preference for more break times, more interactive activities and for the program to be shorter in length. In contrast students in Year 8, 9 and 10 (who participated in the program in small groups) reported that the program was too short and could have “gone for longer,” “so we could fit more in.”

Table 2

Percentage of Students Rating the Acceptability of the Meet Your Amygdala Program on the Student Feedback Questionnaire (N = 24)

Question Item	Student Response		
	Agree, strongly agree	Not sure	Disagree, strongly disagree
	% (95%CI)	% (95%CI)	% (95%CI)
I enjoyed the Meet Your Amygdala program	87.5 (67.6-97.3)	8.3 (1.0-27.0)	4.2 (0.1-21.1)
I found the Meet Your Amygdala program helpful	66.7 (44.7-84.4)	29.2 (12.6-51.1)	4.2 (0.1-21.1)
I would recommend the Meet Your Amygdala program to others (e.g. classmates, friends)	79.2 (57.8-92.9)	16.7 (4.7-37.4)	4.2 (0.1-21.1)
Since starting the Meet Your Amygdala program I have noticed a positive change in myself	37.5 (18.8-59.4)	54.2 (32.8-74.4)	8.3 (1.0-27.0)
I think I can use what I have learnt from the Meet Your Amygdala program in the future	70.8 (48.9-87.4)	16.7 (4.7-37.4)	12.5 (2.7-32.4)
I practiced using the things suggested in the group at home or at school	37.5 (18.8-59.4)	37.5 (18.8-59.4)	25.0 (9.8-46.7)
The information made sense and the instructions were easy to follow	66.7 (44.7-84.4)	25.0 (9.8-46.7)	8.3 (1.0-27.0)
I liked doing the activities in the workbook	58.3 (36.6-77.9)	33.3 (15.6-55.3)	8.3 (1.0-27.0)
The number of sessions was about right	45.8 (25.6-67.2)	45.8 (25.6-67.2)	8.3 (1.0-27.0)
The Meet Your Amygdala program was interesting	79.2 (57.8-92.9)	12.5 (2.7-32.4)	8.3 (1.0-27.0)
The Meet Your Amygdala program was boring	12.5 (2.7-32.4)	4.2 (0.1-21.1)	83.3 (62.6-95.3)
There was too much listening and not enough activities	37.5 (18.8-59.4)	41.7 (22.1-63.4)	20.8 (7.1-42.2)
The Meet Your Amygdala program has made me better at understanding my own feelings	54.2 (32.8-74.4)	37.5 (18.8-59.4)	8.3 (1.0-27.0)
The Meet Your Amygdala program has made me better at understanding my own thought patterns	58.3 (36.6-77.9)	33.3 (15.6-55.3)	8.3 (1.0-27.0)
The Meet Your Amygdala program has made me better at understanding my own behaviour	62.5 (40.6-81.2)	29.2 (12.6-51.1)	8.3 (1.0-27.0)

Note. N = 2 students' feedback questionnaires missing.

Consequently, acceptability of the program was further explored across grade levels to examine whether acceptability was different for primary school (whole class format) versus high school students (small-group format). As can be seen in Table 3, results indicate that a higher percentage of students in Years 8, 9 and 10 positively evaluated the MYA relative to students in Year 5. For example, 87.5% (95% CI: 47.3-99.7) of high school students reported that the MYA had helped them better understand their feelings, while only 37.5% (95% CI: 15.2-64.6) of primary school students agreed with this. A higher percentage of high school students also reported that they agreed that the program was helpful (87.5%, 95% CI: 47.3-99.7) compared to primary school students (56.3%, 95% CI: 29.9-80.2), and 87.5% (95% CI: 47.3-99.7) of high school students reported that they could use what had learnt in the future, while only 62.5% (95% CI: 35.4-84.8) of primary school students agreed with this. Due to the overlapping CIs the differences appear unlikely to be significant, although small sample sizes are likely to have contributed to wide CIs ($N = 8$ high school students) and there does appear to be a consistent pattern of scores indicating higher acceptability in high school students. However, although high school students were more accepting of the program, rates of skills practice in day to day life (37.5% of students), and perceived positive change following engagement in the program (37.5% of students) was equally low for both age groups.

Finally, nearly one fifth (17.6%; $N = 6$) of the total student sample who began the program and provided baseline data chose to drop out of the program before its completion. Other students (5.8%; $N = 2$) participated in the program but were away during the final sessions' assessment and could not provide post data.

Table 3

Student Acceptability Comparing Reports from Primary School Aged Students (Year 5; N = 16) vs High School Aged Students (Year 8, 9, 10; N = 8)

Question Item	Agree, strongly agree		Disagree, strongly disagree	
	Primary School Students	High School Students	Primary School Students	High School Students
	% (95%CI)	% (95%CI)		% (95%CI)
I enjoyed the Meet Your Amygdala program	81.3 (54.4-96.0)	100.0 (63.1-100.0)	6.3 (0.2-30.2)	0.0 (0.0-36.9)
I found the Meet Your Amygdala program helpful	56.3 (29.9-80.2)	87.5 (47.3-99.7)	6.3 (0.2-30.2)	0.0 (0.0-36.9)
I would recommend the Meet Your Amygdala program to others (e.g. classmates, friends)	68.8 (41.3-89.0)	100.0 (63.1-100.0)	6.3 (0.2-30.2)	0.0 (0.0-36.9)
Since starting the Meet Your Amygdala program I have noticed a positive change in myself	37.5 (15.2-64.6)	37.5 (8.5-75.5)	12.5 (1.6-38.3)	0.0 (0.0-36.9)
I think I can use what I have learnt from the Meet Your Amygdala program in the future	62.5 (35.4-84.8)	87.5 (47.3-99.7)	18.8 (4.0-45.6)	0.0 (0.0-36.9)
I practiced using the things suggested in the group at home or at school	37.5 (15.2-64.6)	37.5 (8.5-75.5)	25.0 (7.3-52.4)	25.0 (3.2-65.1)
The information made sense and the instructions were easy to follow	62.5 (35.4-84.8)	75.0 (34.9-96.8)	12.5 (1.6-38.3)	0.0 (0.0-36.9)
I liked doing the activities in the workbook	56.3 (29.9-80.2)	62.5 (24.5-91.5)	12.5 (1.6-38.3)	0.0 (0.0-36.9)
The number of sessions was about right	37.5 (15.2-64.6)	62.5 (24.5-91.5)	6.3 (0.2-30.2)	12.5 (0.3-52.7)
The Meet Your Amygdala program was interesting	68.8 (41.3-89.0)	100.0 (63.1-100.0)	12.5 (1.6-38.3)	0.0 (0.0-36.9)
The Meet Your Amygdala program was boring	18.8 (4.0-45.6)	0.0 (0.0-36.9)	75.0 (47.6-92.7)	100.0 (63.1-100.0)
There was too much listening and not enough activities	50.0 (24.7-75.3)	12.5 (0.3-52.7)	6.3 (0.2-30.2)	50.0 (15.7-84.3)
The Meet Your Amygdala program has made me better at understanding my own feelings	37.5 (15.2-64.6)	87.5 (47.3-99.7)	12.5 (1.6-38.3)	0.0 (0.0-36.9)
The Meet Your Amygdala program has made me better at understanding my own thought patterns	50.0 (24.7-75.3)	75.0 (34.9-96.8)	12.5 (1.6-38.3)	0.0 (0.0-36.9)
The Meet Your Amygdala program has made me better at understanding my own behaviour	56.3 (29.9-80.2)	75.0 (34.9-96.8)	12.5 (1.6-38.3)	0.0 (0.0-36.9)

Note. “Unsure” ratings have been excluded from this table to ease readability, so percentages do not add up to 100 percent.

3.3.2 Teacher Acceptability

Teacher reports ($N = 4$) on feedback questionnaires show strong acceptability of the MYA program, as shown in Table 4. All teachers agreed that the program was helpful and beneficial. Teachers also agreed that they would recommend the program to others and that they had seen a positive change in students. Consistent with student responses, half of teachers (50%) agreed that they had seen students implementing the skills learnt from the program.

Some of the positive aspects of the program, according to teachers, included: “A good mix of talking, activities and sharing,” “real world strategies are provided with opportunities to practice,” “lots of practical tools to use,” “adjusting language very quickly to adjust to high school aged kids,” and “students accessing new skills and knowledge not covered in curriculum and delivered by professionals.”

In response to the question, ‘what could we do to improve the MYA program?’, teachers indicated that better scheduling of session times in advance may help to improve student attendance; with example responses including “lock in a time for next program to support the planning of the cohort,” and “attendance was an issue for some students potentially due to clashes with lessons.” Teachers also highlighted that the program was better suited to students with mild anxiety symptoms rather than severe levels of anxiety. One primary school teacher reported that students with “very high anxiety found it difficult to engage in the program...excellent for mainstream but the program wasn’t able to reach everyone.”

Table 4

Percentage of Teachers Rating the Acceptability of the Meet Your Amygdala Program on the Teacher Feedback Questionnaire (N = 4)

Question Item	Teacher Response		
	Agree, strongly agree	Not sure	Disagree, strongly disagree
	% (95%CI)	% (95%CI)	% (95%CI)
The Meet Your Amygdala program is useful for students	100 (39.8-100.0)	-	-
I believe the students benefitted from the Meet Your Amygdala program	100 (39.8-100.0)	-	-
I would recommend other students try the Meet Your Amygdala program	100 (39.8-100.0)	-	-
I have noticed a positive change in the students after the Meet Your Amygdala program	100 (39.8-100.0)	-	-
I have noticed the students using the skills they have learnt from the Meet Your Amygdala program	50 (6.8-93.2)	50 (6.8-93.2)	-

Note. N = 1 teacher's report missing.

3.4 Program Efficacy

3.4.1 Student Anxiety

Table 5 presents the SCAS pre-and post-intervention mean scores, standard deviation *p*-value and effect size for the total student sample, high school students and primary school students. At baseline, according to child self-reports on the SCAS, 46.2% of the total student sample were in the normal range (*t*-score < 60), with 26.9% in the elevated anxiety range (*t*-score > 60), and 26.9% in the highly elevated range (*t*-score > 65). The mean SCAS score decreased by 1.9 (*SD* = 10.8) from pre- to post-intervention. A paired samples *t*-test showed that this reduction in symptoms was statistically significant (*t* = .91) although the size of effect was small.

Additionally, at baseline the percentage of high school students ($N = 10$) rated as being in the elevated anxiety range was 40% ($N = 4$), while the percentage of primary school students ($N = 16$) in the elevated anxiety range at baseline was 18.8% ($N = 3$). Exploration of changes in scores from pre- to post- intervention for high school versus primary school students indicated that at baseline high school students had a higher mean score than primary school students, and primary school students reported a lower baseline level of anxiety ($t = -.45$). The mean score for high school students reduced by 6.70 ($SD = 11.51$) from pre- to post-intervention which was a statistically significant reduction ($t = 1.84$), with a medium effect size. In contrast, the mean SCAS score for primary school students increased by 1.06 ($SD = 9.43$) from pre- to post-intervention.

Table 5

Mean, Standard Deviation, p-Value and Effect Size for Student Pre- and Post-Intervention Scores on the SCAS as Reported by the Total Student Sample ($N = 26$), High School Students ($N = 10$) and Primary School Students ($N = 16$)

Sample	Pre	Post		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>p</i>	ES
Total Student Sample	45.73 (19.23)	43.81 (17.52)	< .001	.18
High School Students	55.40 (16.53)	48.70 (14.74)	.016	.58
Primary School Students	39.69 (18.74)	40.75 (18.86)	< .001	- .11

RCI analysis was subsequently used to examine the reliability of the change in scores from pre to post intervention. Utilising procedures outlined by Evans et al., (1998), a change in SCAS score from pre- to post-intervention greater than 15.81 was determined to be indicative of reliable change across all student participants. Just under one quarter of the total sample (23.1%) showed reliable improvement in anxiety symptoms following completion of the MYA program. Of those students in the highly elevated anxiety range at baseline, 42.9% ($N = 3$), showed reliable improvement post intervention. Of students in the elevated anxiety range at baseline, 28.6% ($N = 2$) showed reliable change from pre- to post-intervention, although one of these students showed reliable change in the opposite to expected direction (an increase in anxiety scores from pre- to post-intervention), while 71.4% ($N = 5$) of these students did not show reliable change. Only 8.3% ($N = 1$) of students in the normal range at baseline showed reliable improvement.

RCI analysis of students across grade levels found that while 40% of high school participants reported a reliable improvement in anxiety symptoms following the program ($RCI > 15.20$), only 12.5% of primary school participants reported reliable improvement ($RCI > 15.02$).

3.4.2 Parent Reports

Parents reported on student levels of anxiety for students in Year 5 ($N = 3$) and students in Year 8 and 9 ($N = 3$), using the SCAS-P. Results indicated that parents identified 33.3% ($N = 2$) as being in the highly elevated anxiety range, 16.7% ($N = 1$) of students as being in the elevated range, and 50% ($N = 3$) of students as being in the normal range at baseline. The mean SCAS-P score at baseline was 37.17 ($SD = 25.36$). At post-intervention, the mean SCAS-P score decreased by 11.5 points ($SD = 14.73$) to 25.67 ($SD = 15.55$). A

paired samples *t*-test showed that this reduction in scores was statistically significant ($t = 1.91$; $p = .033$). This represents a medium to large effect size (Cohen's $d = .78$).

Parent RCI scores showed a similar pattern of effect to student RCI scores. According to parents, 33.3% of students showed a reliable improvement from pre- to post-intervention and 66.7% of students showed no reliable change in scores ($RCI > 14.02$).

Discussion

4.1 Overview

This study aimed to examine the fidelity and acceptability of the MYA program; an 8-week cognitive behavioural therapy program for children and adolescence incorporating teacher participation and specific behavioural exposure and cognitive restructuring activities. The primary purpose of this study was to determine whether this program could be implemented in a school setting as intended, while being acceptable to students and teachers. This study also examined whether the program was effective in reducing symptoms of student anxiety. The findings from this study have implications for school mental health program delivery and provide preliminary support for the MYA program as an acceptable intervention for use with students who have mild symptoms of anxiety, particularly high school students, and particularly when delivered in a small-group format.

4.2 Summary of Findings

4.2.1 Program Fidelity

In the current pilot study, the MYA program achieved reasonable treatment fidelity which provides novel information about the extent to which a CBT group intervention can be delivered as intended. Facilitators reported that they implemented instructions as intended during two-thirds of the sessions, were able to provide the required program resources and completed most sessions on time. Students were also thought to have engaged and understood the content in 60% of the sessions according to facilitator reports. These findings are important as they demonstrate that parts of the MYA program's structure and evidence base can be feasibility implemented as intended within schools. Notably, the fidelity of the program was adhered to in multiple school settings and by a number of facilitating clinicians,

which gives some support to the program's potential generalisability to other school settings in the future.

However, not all aspects of program fidelity were acceptable within this study. Facilitators reported omitting content during most sessions, and four out of the five groups combined sessions due to time constraints. Considering the busy school setting in which this program was conducted, it is understandable that facilitators chose to omit content or combine sessions in order to deliver the program within the scheduled time limit in response to challenges such as COVID-related staff and student absences (McCuaig & Hay, 2014). Previous studies have demonstrated that program fidelity cannot always be met in its entirety due to the busy nature of the school setting, and therefore utilising facilitator's best judgement can be considered necessary to some extent (McCuaig & Hay, 2014). Considering this, future adaptations of the program may still consider reducing some of the program's content, such as the movement breaks, in readiness for likely school disruptions. Finally, facilitators reported providing additional support to students when the content was perceived to have been challenging or misunderstood. This finding highlights that greater explanation by facilitators, particularly during higher-order thinking activities like thought challenging activities, may be useful for some students.

4.2.2 Program Acceptability

Student engagement in school programs is critical to the success of the intervention program (Palsola et al., 2020; Scholz et al., 2022). Acceptability of the MYA program showed mixed support. Although the majority of participants enjoyed the program, further analysis across grade levels and associated delivery formats, highlighted that the program was mostly accepted by high school students participating in small group formats and only somewhat accepted by primary school students participating in a whole-class format. A

higher proportion of high school students agreed that the program was enjoyable, useful for the future and was formatted appropriately, whereas a higher proportion of primary school students disagreed with these question items. Additionally, qualitative feedback indicated that high school students would have preferred for the program to have been longer, while primary school students reported that the program was too long and required more interactive activities and break times.

Based on the clear trend that the MYA program was better suited to high school students in small group format than primary school students in the whole-class group, future groups would likely benefit from targeting program content and instructions by age group, based on this feedback, so that students receive more acceptable treatment. Older students are more likely to accept the cognitive demands and behavioural expectations of participating in a group setting like the MYA program, compared to primary school students, due to their more advanced cognitive development, while evidence from this study shows that cognitive activities need to be simplified and more structured for younger students and include more behavioural tasks with more frequent break times. It is worth noting, that high school students had a higher baseline level of anxiety than primary school students, and therefore differences in ratings of acceptance may be attributed to the differences in treatment suitability rather than, or in addition to, age-related differences. However, it is also not uncommon for school-based interventions to be targeted by age group (Macquarie University, 2021). For example, the popular Cool Kids program originally designed for ages 7-17, has since been adapted to offer a specific program for adolescents aged 13-17 called Chilled to provide a more targeted age-appropriate service (Lyneham et al., 2014). Therefore, based on the pattern of greater program acceptability in high school students compared to primary school students, this evidence suggests that future implementation of the MYA should consider adaptations for age groups to improve acceptability across development stages. Future implementation

should also investigate the effects of different delivery formats on student ratings of acceptance, as it is unclear whether the small group or whole class format contributed to different ratings of acceptance between age groups.

Interestingly, despite varying reports of acceptability across age groups, an equally small percentage of high school students and primary school students reported practicing skills taught in the group in outside settings, and only a small percentage of students perceived a positive change in themselves following engagement in the MYA program. This finding is of concern considering that skill implementation is positively associated with outcome effects and plays an important role in student learning (Grodner & Rupp, 2013; Lee et al., 2019). A meta-analysis examining the effects of randomised control trials on adolescent anxiety disorders found that participants with the largest effect sizes following implementation of the intervention, were those participants who practiced skills outside of school (Creswell et al., 2020). Therefore, it is possible that the students in this study may have perceived greater benefit and shown more significant outcomes if skills taught in the program were implemented to outside settings throughout the duration of the program. Future adaptations should therefore consider how to promote student participation in outside skill practice to examine whether increased adherence to homework tasks contributes to better mental health outcomes.

Finally, the dropout rate of 17.6% ($N = 6$) of students from baseline gives some indication that not all students were accepting of the MYA program. Other studies of school-based interventions for adolescent anxiety have reported similar percentages of student dropouts; 16.7% of the total sample ($N = 42$); 11.1% of the total sample ($N = 36$) (Masia-Warner et al., 2005; Masia-Warner et al., 2007). While it is not uncommon for some students to dropout of intervention programs, understanding the barriers to student participation and

reasons for student dropout is important to providing a suitable treatment service, and is a consideration for future research.

4.2.2.1 Teacher Acceptability

Results from this study also contribute to understandings of how best to promote teacher participation within school-based programs. Previous literature has established that teaching staff face limited opportunities to acquire mental health training despite being in a position to support student mental health (Shelemy et al., 2019). The MYA intervention therefore used a unique model of training which asked teachers to participate in the intervention program without prior learning, to act as a co-facilitator and support students while learning the content from a facilitating psychologist. Teachers in this study agreed that the program was useful, that they had seen a positive change in students, and that they would recommend the program to other students. Qualitative feedback also revealed that the structure of the program, namely a CBT intervention incorporating group activities, discussions, and workbook activities, was acceptable to teachers. This is a valuable finding for future CBT intervention delivery. Additionally, teachers reported liking the delivery of the program by a professional rather than a teacher-led intervention. This supports the findings from a previous qualitative study of 49 teachers in the UK that reported that teachers preferred an expert to provide support to students and for teachers to act in a supportive role (Shelemy et al., 2019). The positive feedback from teachers about the MYA program, provides preliminary support for the use of a psychologist-led, teacher-supported model of intervention.

4.2.3 Program Efficacy

The effects of this program in reducing symptoms of anxiety in adolescents were small to moderate. Of note, however, larger effects were shown for high school students than

for primary school students, and at post intervention 40% of high school students reported a reliable improvement in anxiety symptoms compared to only 12.5% of primary school students. Primary school students had less severe anxiety symptoms at baseline, thus the lack of change in anxiety symptoms for most of these students might have been anticipated. Nonetheless, these results show preliminary support for the usefulness of the MYA program at reducing anxiety symptoms.

Students that showed the greatest reduction in anxiety symptoms post intervention were those students in the elevated anxiety range and highly elevated anxiety at baseline. Students in the normal range at baseline showed the least improvement in anxiety symptoms at post intervention, although it is worth noting that these students were able to maintain normal levels of anxiety and a small percentage did show reliable improvements. The finding that students with mild to moderate anxiety symptoms benefited more from the intervention than students without anxiety symptoms supports the use of targeted programs aimed at specific presentations, namely mild anxiety, rather than a universal intervention program (Feiss et al., 2019; Van Loon et al., 2020). This has implications for economic resourcing within schools and provides evidence in support of the use of targeted programs as being more likely to benefit students with symptoms of anxiety than benefitting other students.

Furthermore, parent reports on student symptoms of anxiety at pre and post intervention showed a slightly greater reduction in symptoms according to parents compared to student reports, thus highlighting the potential benefits of the MYA program for children. Parents reported a medium to large effect size following completion of the program and a percentage of 33% of students as showing reliable change. It is not uncommon for parents and children to disagree on mental health assessments, and although different, the discrepancies between parents and student reports are not significant (Van Roy et al., 2010).

This implies that the findings reported by students are reliable. It is worth noting however, that the generalisability of the parent reports are limited by the very small sample size.

4.3 Limitations and Recommendations for Future Research

The small sample in this study limits the generalisability of the findings. Similarly, students were selected from schools of similar socio-economic backgrounds; government schools in metropolitan regions of South Australia ranked as being educationally advantaged (Data.SA, 2022). Most of the facilitating psychologists and provisional psychologists were also female. Implementing the MYA program to a larger, more varied sample of students, including students from low socio-economic backgrounds, would contribute to understanding the effectiveness of MYA program, and is a recommendation for future research.

Additionally, despite using selection criteria aimed to identify eligible students with mild symptoms of anxiety, a proportion of the sample were within the normal range of anxiety symptoms at baseline. Findings from this study showed that students who experienced the most benefit were those with elevated anxiety symptoms at baseline. Therefore, more reliable means to identify students with mild to moderate anxiety symptoms at baseline, who are most eligible for the program, is another suggestion for future research.

Another limitation of this study is that measures of fidelity did not identify the degree of implementation fidelity needed to obtain outcome effects. It would be valuable to the application of the MYA program and future school-based interventions to understand the extent to which facilitators can deviate from adherence to program content, and adapt to the school environment, while still seeing outcome effects. In other words, ‘how much fidelity’ is required for outcome effects? This was not feasible in the current study, however understanding fidelity cut-offs is particularly important when school programs are being implemented in different school settings with likely varying student needs and varying levels

of facilitator expertise (Brietenstein et al., 2010). Psychometric measures of fidelity in future research would help to achieve a clearer understanding of fidelity cut-offs (Husabo et al., 2022).

Moreover, future research on the psychologist-led, teacher-supported model for school interventions would benefit from examining the extent to which a teacher-supporting role leads to teacher acquisition of the program's content and strategies. This may also help to provide insights into whether or not teachers are more easily able to support student mental health after the implementation of the program. A limitation of the current study is that this was not considered. However, if teachers do indeed perceive themselves to be better equipped to support students following their participation in a psychologist-led teacher-supported program like the MYA, then this model would likely be a viable option for schools with limited resources, especially considering the already promising reports of teacher acceptability shown in the present study.

4.4 Conclusion

Anxiety disrupts the wellbeing of children and adolescents and is a predictor of negative future trajectories. School-based interventions have the potential to provide early, evidence-based treatment to the growing number of young people who may be unable to access the support they require via other means (e.g., specialist clinics) (McLoone et al., 2006). Research to date on the implementation of school-based programs have mostly excluded teacher participants and measures of program fidelity and acceptability, which limits current understandings of how best to facilitate school-based interventions. The present study provided novel information about a CBT, evidence-based program for primary and high school aged students. The findings from this study showed reasonable implementation fidelity, mixed student-reports of acceptability and high teacher-reports of acceptability.

Outcome effects were mostly small to moderate. These findings show preliminary support for the use of school-based interventions, like the MYA program, for students with anxiety, and have implications for future program delivery, including providing preliminary support for the inclusion of teachers in school programs. Based on the finding of discrepant acceptability between age groups and delivery formats (whole class vs targeted small groups) in this study, future delivery of school-based interventions should further explore the impact of student age and delivery format when designing and implementing school-based programs. Future research should also consider more reliable means for participant selection, the degree of fidelity required to see outcome effects, and whether teachers gain practical skills that support student wellbeing post intervention.

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Appendices

Appendix 1: Outline of session content of the MYA program

Session No.	Content
Session 1: The amygdala changes your body	- Psychoeducation about normal <i>physical</i> amygdala response - Progressive muscle relaxation exercise - Paced breathing exercise
Session 2: The amygdala causes us to feel fear (and anger)	- Psychoeducation about emotional states - Psychoeducation about normal <i>emotional</i> amygdala response - Introduction to Subjective Units of Distress scale
Session 3: Social danger	- Psychoeducation about social anxiety and the role of the amygdala perceiving threat - Psychoeducation about amygdala response on cognitive processing - Name it to tame it strategy (cognitive exercise)
Session 4: Avoidance	- Psychoeducation about the role of avoidance - Facing fears and step ladder activity (graded hierarchy of exposure)
Session 5: Scavenger Hunt (Feel afraid and do it anyway)	- Scavenger Hunt (behavioural exposure exercise) - Breathing colours (mindfulness exercise)
Session 6: Noticing thoughts	- Psychoeducation about thoughts and feelings - Introduction to thought challenging - Mindful focus on thoughts (mindfulness exercise)
Session 7: Catch your thoughts- Check your thoughts	- Catch your thoughts- Check your thoughts (thought challenging exercise) - Psychoeducation about thinking traps - 3 mindful breaths (mindfulness exercise)
Session 8: Recap	- Feel afraid and do it anyway #2 (behavioural exposure to feared social situation exercise) - Program recap and celebration

Appendix 2: Instructions to Authors

Chosen Journal: The Journal of School Psychology

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