A review of alcohol and drug education and early intervention programs in Australian government schools

Report by: Dr Bosco Rowland, Ms Michelle Benstead, Dr Matin Ghayour-Minaie, Ms Heidi Renner, Ms Rachel Smith and Prof John W Toumbourou

Consulting Team, Centre for Social and Early Emotional Development (SEED), Deakin University.

31 July 2019

The SEED Consulting Team is based at the Deakin University Centre for Social and Early Emotional Development (SEED) and Centre for Drug use, Addictive and Anti-social behaviour Research (CEDAAR). SEED conducts world-leading research on social development and its origins in early emotional life. The overall objective of SEED is to promote emotional health, from pregnancy through to adulthood and into the next generation.

The Centre for Drug use, Addictive and Anti-social behaviour Research (CEDAAR) conducts research into the psychological, biological, socio-political, and clinical aspects of Alcohol and other Drug (AOD) use, other addictive behaviours, and consequent harm. CEDAAR conducts federally and state-funded research on substance use, gambling, prevention, treatment, harm reduction and related problem areas such as violence, criminal justice settings, and characteristics of rural addictive behaviours. CEDAAR aims to use these understandings to inform evidence-based policy, treatment, and prevention interventions, as well as providing service to the community. The CEDAAR program is linked to SEED, as we look to understand many of the problems associated with substance use and other addictive behaviours and related harms from a developmentally informed perspective.

Contact the SEED Consulting Team: Professor John Toumbourou [john.toumbourou@deakin.edu.au]

Summary

In recent decades, reductions have been observed in Australian school student alcohol and drug use. A range of effective alcohol and drug use programs and policies have contributed to the decline in youth alcohol and drug use. The changing context of youth alcohol and drug use introduces the need to review future prevention and early intervention targets against school programs and policies to establish new direction. This report reviews alcohol and drug use prevention and early intervention approaches used in Australian government schools.

First, a literature review is presented summarising the evidence for effective programs and the theoretical mechanisms that underpin successful behaviour change.

Second, the report assesses to what extent the current alcohol and drug use prevention and early intervention approaches used in Australian government schools accord with projected needs and the evidence for effective programs.

The literature review completed for this report identified that there are an increasing number of evidence-based alcohol and drug use prevention and early intervention approaches available to Australian schools. However, our examination of state government websites and surveys of school staff suggest that the majority of schools do not use evidence-based programs and guide their school practices instead on general frameworks and principles.

The report makes five recommendations:

(1)   set ambitious behaviour change targets for continued reduction of alcohol and drug use amongst Australian school students;

(2)   evaluate school practices that are based on frameworks and principles to ensure they are safe and not contributing to harm;

(3)   offer incentives to schools that use evidence-based alcohol and drug programs;

(4)   place a priority on the evaluation of school alcohol and drug education programs, within Australian government research funding schemes; and

(5)   examine positive youth development outcomes in the evaluation of school alcohol and drug education programs.

Historical context

A key Australian literature review published in 2002 noted that, in the preceding decades (in the 1980s and 90s), evaluation evidence had accumulated on how to prevent alcohol and drug use amongst Australian youth (Loxley et al, 2002). While a number of factors have contributed to the decline in adolescent drug alcohol use, trials, mostly completed in the USA, but some important studies in Australia, show clear evidence for "efficacy" (positive effects in studies managed by researchers) across a range of "settings" (e.g., community organisations, schools, family services, counsellors). There were increasing calls at that time for "effectiveness" and "dissemination" trials (program evaluations managed in standard service operating conditions).

Key informant interviews at that time noted a commonly observed phenomena; school staff were largely unaware of the accumulating research evidence and had low expectations that school alcohol and drug education could change student behaviour (Godfrey et al., 2002; Sanci et al., 2002). Primary school staff were focussed on course materials that engaged students (Godfrey et al., 2002), while secondary school staff sought to manage and reduce harms (Sanci et al., 2002).

Over the intervening decades Australian researchers have been active in making effective school alcohol and drug prevention programs more readily available. Teeson et al. (2012) presented a systematic review that included six school programs (CLIMATE Alcohol; CLIMATE Alcohol and Cannabis; The Gatehouse Project; Health Promoting Schools; Resilient Families; and SHAHRP [School Health and Alcohol Harm Reduction Project]) that had been evaluated in school randomised trials published from 2004. Of these programs, five had significant effects on alcohol and or tobacco use.

A team of researchers working in a collaboration between the Alcohol and Drug Foundation (at that time known as the Australian Drug Foundation) and the National Drug Research Institute implemented a randomised school effectiveness trial of an alcohol education curricula (McBride et al., 2004). The effective behaviour change results from that trial led to an implementation project to disseminate this program within schools in Victoria. The Drug Education in Victorian Schools (DEVS) program was an as an alcohol and drug education program, informed by SHAHRP, that was implemented over two years (from 2010 to 2011). When followed up in 2012, students exposed to the program had higher alcohol and drug knowledge and lower rates of risky alcohol use, compared to control groups (Midford et al., 2012).

In NSW researchers associated with the National Drug and Alcohol Research Centre implemented and evaluated the Climate Schools research trial (Newton et al., 2009; 2010). Climate Schools implemented an online alcohol and drug education curricula. Evaluations found exposure to the program reduced student alcohol and cannabis use, relative to controls (Newton et al., 2009; 2010). These trials contributed further evidence that school-based alcohol and drug education can be effectively disseminated across large school populations. As a result of these research efforts, alcohol and drug education programs developed in Australia are now implemented in many nations around the world.

Reductions in Australian school students' alcohol and drug use have been observed over recent decades. In 2002 Australian school students' had some of the highest rates of alcohol and drug use in the world (Toumbourou et al., 2009). Since that time, epidemiological studies using different databases have all reported large reductions in Australian school student alcohol and drug use (Kelly et al., 2016; Toumbourou et al., 2018; White & Hayman, 2012). The reduction in youth alcohol and

drug use was at odds with the philosophy in 2002 that held youth alcohol and drug use to be an inevitable part of adolescent exploration and risk taking.

A revised set of national Australian alcohol guidelines were introduced in 2009 (NHMRC, 2009) recommending that adolescents abstain from alcohol until age 18. A number of efforts have been made to disseminate these guidelines. A school trial (Toumbourou et al., 2013) evaluated the effect of encouraging parents to set rules to not allow or supply adolescent alcohol use. Evaluation showed the intervention was associated with a 25% reduction in regular alcohol use in Grade 9 and there was evidence that parents exposed to the intervention were more likely to implement rules restricting adolescent alcohol use (Toumbourou et al., 2013).

In 2012, a national system of underage alcohol sales monitoring was introduced (Rowland et al., 2013). In the first year of operation 60% of Australian packaged liquor retailers (bottle shops) were found to sell alcohol to youth that looked underage (Rowland et al., 2017). From 2013 Australian retailers introduced similar programs and Kelly et al. (2016) analysed household survey data and noted reductions in retailers sales to youth.

Toumbourou et al. (2018) analysed national data on student reports of alcohol and drug use and risk factors. This report found that reductions in youth alcohol and drug use were influenced by lower rates of adults selling and supplying alcohol to underage youth. Despite significant falls in recent decades, Australian student alcohol use remains substantially higher than students in the USA. In 2015 in Grade 8 students, rates of lifetime alcohol use were 45% in Australia Toumbourou et al, (2018) compared to 26% in the USA (Johnston et al, 2019). These figures demonstrate there is potential to further reduce school-age alcohol use across Australia.

   In the context of success reducing youth alcohol and drug use, a number of Australian researchers are calling for an increased focus on encouraging positive youth development and increased achievement of youth potential. A number of Australian studies have used data modelling to characterise youth sub-groups based on behavioural, social and mental health indicators reported in early adulthood (Hawkins et al., 2011; Hutchinson et al., 2016). In separate studies Hawkins et al. (2011) and Hutchinson et al. (2016) identified the existence of three major groups characterised as follows: (1) Poorly adjusted - high levels of alcohol and drug use and related problems (11.3% of Australian young adults; Hutchinson et al, 2016); (2) Well adjusted/ Thriving - high levels of positive adjustment and low rates of alcohol and drug use problems (24.8%); and (3) Normative - with moderate adjustment and relatively common alcohol and drug use (63.9%).

The "thriving" groups are noted to have few mental health problems and experience high levels of life satisfaction and social trust. These young people also tend to report high social competence and civic engagement. Longitudinal analyses typically show low levels of alcohol and drug use and volunteering in adolescence as among the factors predicting thriving (Hutchinson et al., 2016). An important finding in these studies is that the majority of Australian young adults are not thriving, and alcohol and drug use and sub-clinical mental health problems remain common.

In summary, although there are encouraging Australian trends in recent decades, serious problems remain. The majority of Australian youth still use alcohol before reaching age 18. The improvements made across Australia at a whole population level are not evident in clusters of socially disadvantaged and rural and regional youth. The majority of Australian young adults do not currently realise their potential to achieve thriving positive development.

This report was commissioned by the Australian Department of Health in an effort to identify how to further strengthen alcohol and drug use prevention and early intervention approaches in Australian

government schools. To prepare the current report the following tasks were conducted. First, a literature review was completed summarising the evidence for effective programs and the practices that underpin the successful behaviour change interventions. Second, state government resources were reviewed and a consultation and survey of school staff was completed to assess to what extent the current alcohol and drug use prevention and early intervention approaches used in Australian government schools accord with the evidence for effective practices.

Methods

Systematic Literature Review

A systematic literature review was completed to identify previous literature reviews of the effectiveness of alcohol and drug prevention and early intervention programs implemented to school student populations. The present project updated the Mewton et al. (2018) overview of systematic reviews completed between the 2006 and 2016. Identical search terms to Mewton were used to identify relevant literature reviews published after 2016. The flow diagram is presented in Appendix Figure 1. A summary of the included studies is presented in Appendix Table 1.

A search was conducted in three of the major electronic databases including psycINFO; Medline Complete; and Embase, and 443 publications were identified for screening. Prevention interventions were included if they were conducted in the following domains: (i) Family; (ii) School; (iii) Leisure; and (iv) Multi-component. Other domains that were included in Mewton et al. (2018), that were excluded in the current review as they were not relevant to the school-age included: workplace; healthcare; media policy approaches; community approaches; ASTI specific approaches; computer or internet; older publications. The inclusion/exclusion criteria were applied, and in total, 19 reviews were included for final review.

Table 1 in the results section summarises programs that the literature review identified to be potentially effective alcohol and drug prevention and early intervention programs that can be implemented for school student populations. Table 1 also identifies the programs that the consultation (described below) identified to be currently used in Australian schools.

Consultation with school staff and review of state government resources

Two methods were used to consult school staff. First, contact was made with expert stakeholders recognised to have expertise in implementing alcohol and drug prevention and early intervention programs for school student populations. These included staff experienced and/or currently involved with the delivery of drug education programs. For example, staff involved with health, well-being and pastoral care. A search was conducted of websites and policy documents in each state. Stakeholder contact and website searching sought information about the current organisation of alcohol and drug prevention and early intervention programs for school student populations.

Second a consultation process, a quantitative survey was completed with school staff. This survey asked a series of structured questions regarding the types of drug prevention and early intervention programs that schools were currently implementing. The survey used to consult school staff also asked about broader school resiliency programs implemented to enhance student social emotional competence and wellbeing. As part of this survey school staff were presented with the names of a number of evidence-based drug prevention and early intervention programs and asked to indicate whether they were being implemented in their school. School staff were also asked whether they used the "positive choices" website, a portal that provides information on evaluated programs. The key questions these consultations sought to answer were: (1) what policies and practices are in place to encourage schools to implement evidence-based drug prevention and early intervention programs; (2) to what extent is this actually occurring; and (3) what could be done to increase implementation?

Government schools were sampled for the current survey from a randomised community sample designed for a trial of the "Communities That Care" (www.communitiesthatcare.org.au/) process (Rowland et al., 2013). These schools were sampled in 28 local government areas in Victoria (VIC), Queensland (QLD) and Western Australia (WA). The sample was designed to represent the socioeconomic distribution, and rural/metropolitan diversity of schools and students across Australia. Students sampled in these schools have been previously shown to represent the national student population (e.g., Toumbourou et al., 2018). In order to extend the sample to additional schools, ethics permission was also obtained to interview staff in government schools in NSW, and SA.

Results

Table 1 presents a summary of the programs that the literature review identified to be potentially effective for alcohol and drug prevention and early intervention. Table 1 also summarises the programs that school staff reported as being commonly implemented.

Table 1: Programs identified through the literature review as potentially effective for alcohol and drug prevention and early intervention that school staff reported as being commonly implemented.

Program	Review Evidence		Reported utilisation in Australian Schools
Communities That Care **	Harrop et al, 2016	Demonstrated 'promising' results	Used in communities in Victoria, Queensland and Western Australia
Climate Schools ***	Teeson et al, 2012	Significant effects for alcohol and cannabis	Used in schools in NSW, and Victoria
Health Promoting Schools*	Favourable: Shackelton et al 2016.	No evidence found for reducing alcohol or other drug use	Recommended on WA state government websites
Resilient Families**	MacArthur et al 2017; Newton et al, 2017.	Significant effects on heavy and regular alcohol use 24-months from baseline (Toumbourou et al, 2013)	Used in selected Victorian Secondary Schools
SHAHRP **	Teeson et al, 2012	Significant effects for alcohol	Used in schools in Victoria and WA
Strengthening Families***	Harrop et al, 2016; Newton et al, 2017; Nguyen et al, 2016; Valero et al, 2017	Demonstrated 'promising' results; Not effective in reducing cannabis use in one trial, however was successful until 48 month follow-up in another trial	Used in selected Victorian Primary Schools
Whole school intervention*	Favourable: Shackelton et al 2016.	'Inconsistent' evidence found for effects on alcohol and drug use.	Recommended on WA state government websites

Note. * Inconclusive findings, limited evidence; ** Some evidence, further evidence encouraged; *** Strong evidence base

The information in Table 1 revealed that only a limited number of the evidence-based programs that were identified in the systematic review (Appendix 1) are implemented in Australian schools. The majority of the programs that were named in the systematic review were not identified by stakeholders to be operating in Australia.

School Staff Consultation

In what follows a brief summary is provided of responses to the school staff survey. A longer report is available from Dr Rowland upon request.

In total, 68 school staff responded to the school survey. Schools were from Queensland, Victoria, Western Australia and South Australia. Specific area to which the schools were located are outlined below.

Queensland:	Bundaberg, Brisbane
Victoria:	Shepparton, LaTrobe, Hume, Bendigo, Cardinia, East Gippsland, Knox, Geelong, Warrnambool, Hobsons Bay and Baw Baw
Western Australia:	Mundaring, Mandurah and Kalgoorlie/Boulder
South Australia:	West Torrens, Mitcham, Northern Areas, Berri, Barmera, Mount Gambier, Peterborough, Whyalla, Salisbury, Tea Tree Gully, Burnside, Naracoorte, Lucindale, Clare Valley, and Gilbert Valley.

Using the ATSI communities at this website: https://www.indigenous.gov.au/communities/list-view, we noted that none of the schools that participated in the survey were Aboriginal or Torres Strait Islander communities.

The majority of respondents were involved in student welfare/student services/pastoral care respondents, followed by Teachers. Most respondents had more than 10 years experiences in working in education, and there was a fairly even split between those working with years 7 to 9, and those working with years 10 to 12.

Table 2. Respondent Demographics

Roles of respondents	Number of respondents
Student welfare/student services/pastoral care	31
Teachers	26
SEL	3
Deputy Principals	2
School Nurses	2
Wellbeing leader	1
HPE/Sport coordinator	1
Senior Leader	1
AP Learning environment and wellbeing leader	1
Total	*68*
Number of Years working in education	**% of respondents**
More than 10 years	70.9%
4 to 10 years	12.8%
less than 4 years	7.3%
Years levels being taught	**Number of respondents**
Years 7 to 9	36
Years 10 to 12	43

Respondents were asked: "Do the teachers at your school use any of the following drug education programs to teach students about substance use/abuse? (Please mark all that apply.)". Figure 1 (on next page) presents the programs respondents reported being used in schools. The most common programs were Smart Generation, School Alcohol Harm Reduction Project, Creating Conversations and Climate Schools.
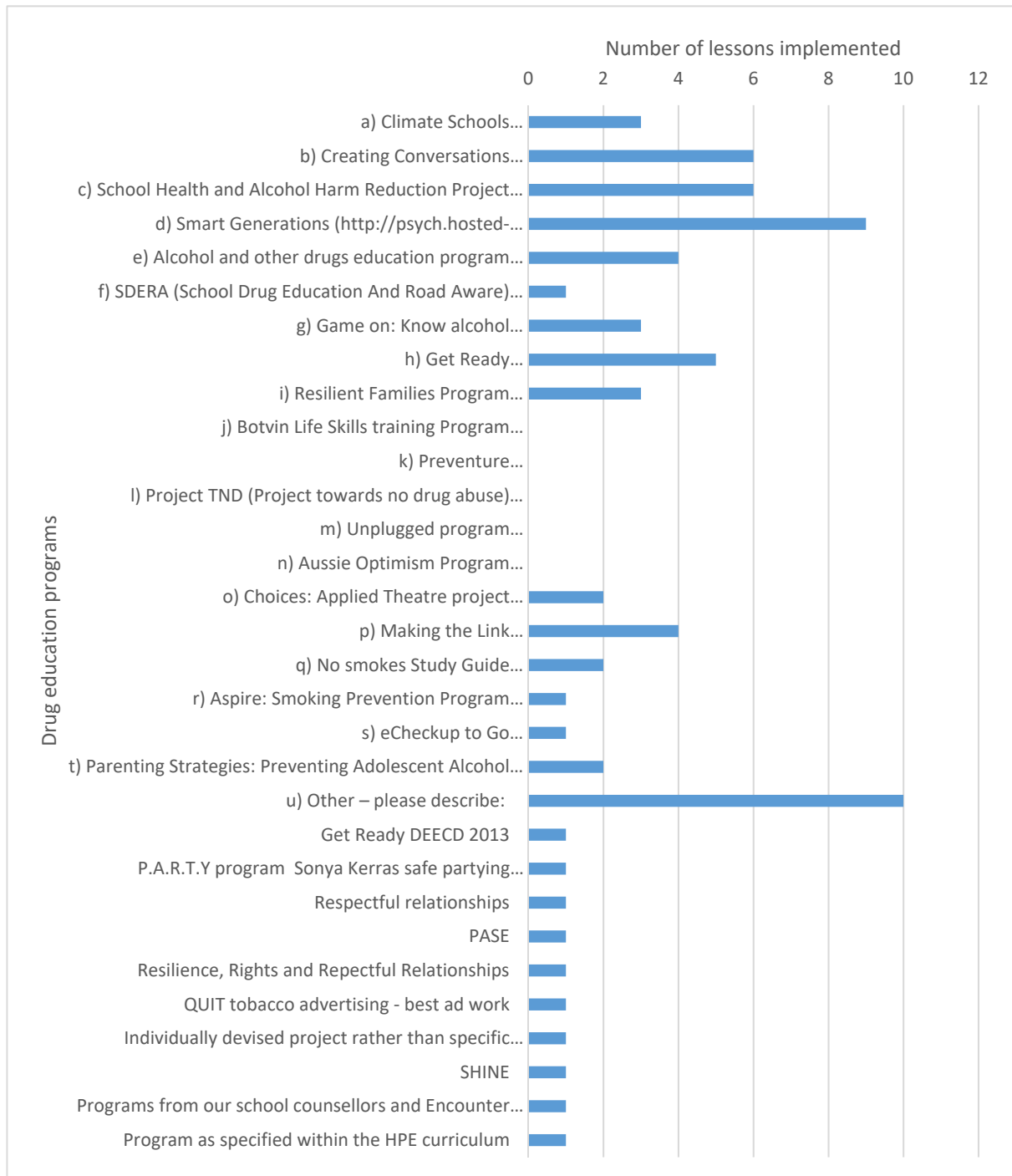
Figure 1. Drug education programs currently being implemented in schools to teach students about substance use/abuse

Programs offered at schools and other responses under the "other category" included: Respectful relationships; Positive Education Framework; Our Religious Education system embraces much of this; Berry Street (Beginning); Anti-bullying; RRRR program curriculum (DET); Growth mindset and Positive education; Respectful Relationships; Hands on Learning; A program (PASE - Personal and Social Education) put together by the Wellbeing team; Rights, Responsibilities and Relationships; Respectful relationships; Zones of Regulation; Lovebites; Positive School Wide Program; Wellbeing Program; Dr in School; Hands on Learning; PDMS Program; Party Safe Program; Fit to Drive Program; Multicultural Programs; Respectful relationships (RRRR curriculum); Positive education (Positive Psychology) with focus on mindfulness; Respectful

Relationships Curriculum; Teen Mental Health First Aid (all year levels), SafeTalk from Living Works Australia (all year levels), The ILLY Program through Relationships Australia (Yr. 10) respectful relationships, Child Safe, Safe Schools; Headspace comes in a run social warriors group; Wellbeing run girls and boys groups; Berry Street Trauma Informed Practice; Peer Support Program Shine; Berry Street Education Model; Shine Relationships and Sexual Health program; Shine Child Protection Curriculum; Learning Curve; combination of resources from counsellors and groups such as Beyond Blue; Positive Education - Geelong Grammar program.

While Life Education is predominantly delivered in primary schools, and this report focuses on secondary schools, it was noted that none of the schools reported using the Life Education program.

Respondents were asked: "For each of the above listed programs, please state the year levels targeted and number of lessons". Approximately 84% of programs were run with students in years 7/8 to 10, 13% of programs were implemented in years 10-12, and 4% of programs were implemented across all year levels. Considerable variation was reported in the number of lessons that were implemented in each programs from 1 lesson to 20 lessons, with the most frequently occurring being 8 lessons (n= 10).

The survey included the question: "To what extent do you agree or disagree with the following statements about drug and alcohol education at your school?" Figure 2 indicates that overall, respondents agreed that drug and alcohol curricula is well-integrated in schools, respondents are trained to deliver drug and alcohol curricula, and that it is deemed effective in changing behaviour and increasing students safety.

Note: ▪ agree; ▪ disagree
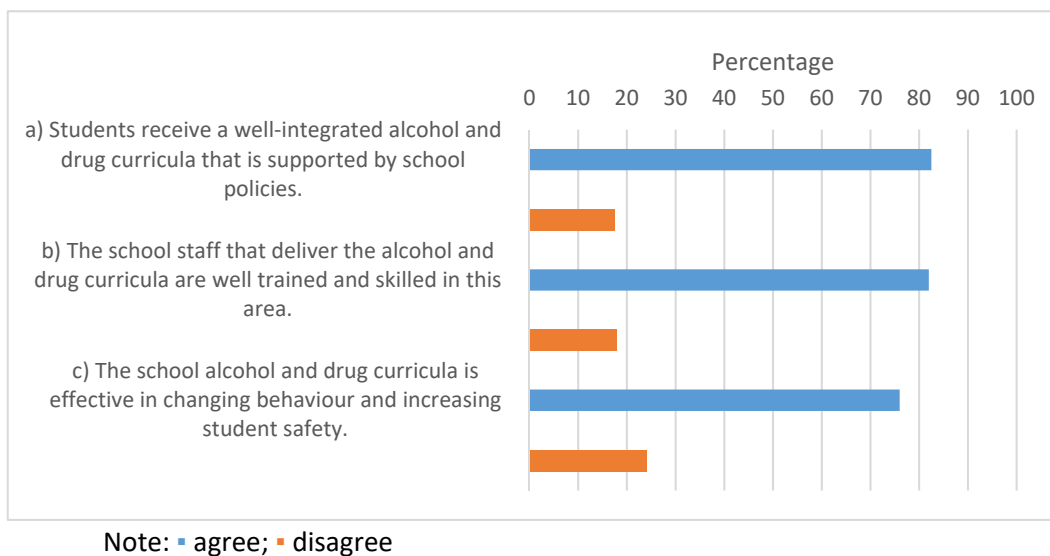
Figure 2. Respondent evaluations of current drug and alcohol curricula in schools.

Promotion of social emotional learning within schools

Many of the effective alcohol and drug education programs also seek to improve student social emotional learning. Respondents were asked: "How familiar is your school with social and emotional learning?" Most indicated that their school had some familiarity with social and emotional learning. Using a response scale ranging, from '1- Not familiar at all' to '5- Very familiar', on average respondents rated 3.55., with 49% indicating either 4 or 5.

The survey included the question: "Do the teachers at your school use any of the following social and emotional learning programs or any other mental health frameworks to teach students social and emotional wellbeing?" The most commonly used frameworks were MindMatters (N= 20) and Respectful Relationships (N= 6).

A range of other frameworks were mentioned by 24 respondents including: You Can Do It; Hands On Learning; Rights, Responsibilities, and Relationships; Zones of Regulations; PASE (Personal and Social Education); Lovebites; PDMS Program; Party Safe; Fit to Drive; Teen Mental Health First Aid; Safe Talk for Living Works Australia; The ILLY Program through Relationships Australia; Child Safe; Safe Schools; Social Warriors group through Headspace; Berry Street education model; SHINE; Learning Curve; Positive Education Framework; The Religious Education system; Dr in School; Peer Support Programs; and Anti-bullying content. The most commonly reported program MindMatters was typically implemented 5 lessons or incorporated into other activities.

Respondents were asked: "What do you believe are the most effective strategies your school uses to improve students' social and emotional learning?" The majority of respondents reported the use of class-based activities and fostering school culture (47%), with a similar number of respondents describing the use of group chaplaincy/pastoral care/counselling/peer mentoring (46%).

The survey included the question; "We have an effective School Action Team for social and emotional learning that meets regularly". Figure 3 presents the percentage of schools reporting status of an SEL action team. Less than 20% already have a School Action Team currently embedded within the school, approximately 28% are currently implementing an action team and approximately 23% have not yet introduced one at all.
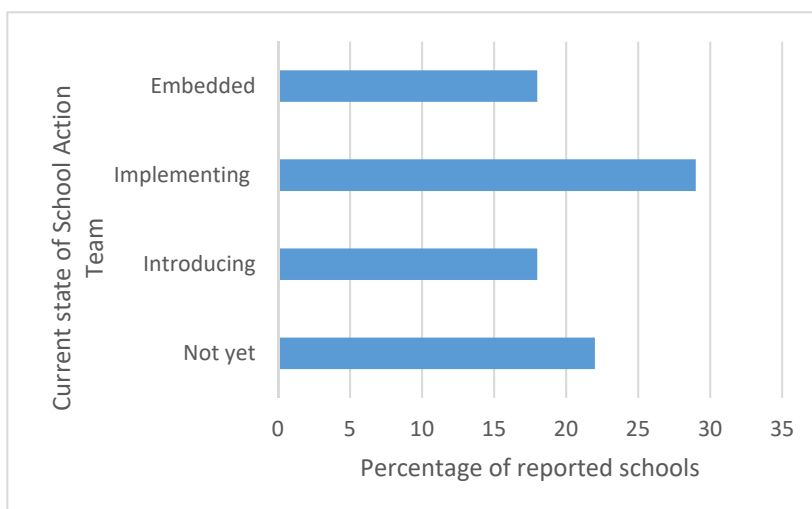
Figure 3. Status of Social Emotional Learning School Action Team.

Respondents were asked how important they felt their school feels about a range of factors in relation to student achievement with responses ranging from '1- Not important at all' to '5- Very important'. Respondents stated that school safety was of strongest importance to their school, with the least importance given to social and emotional learning (SEL) (see Figure 4).
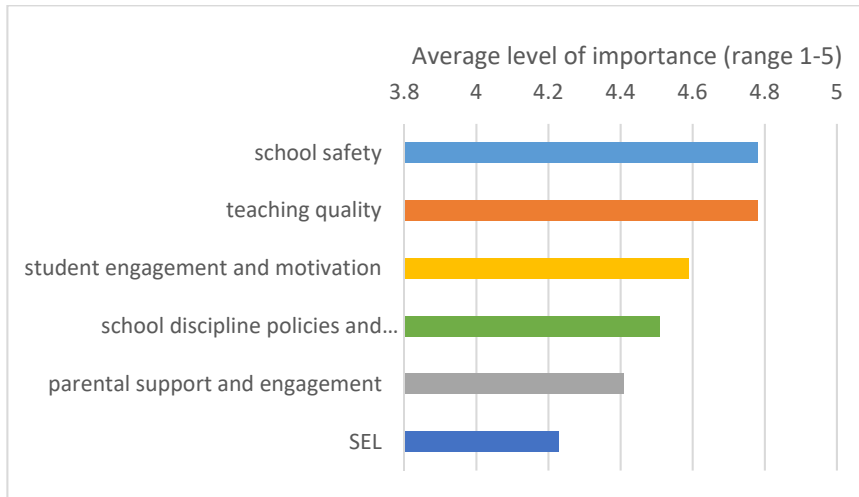
Figure 4. Average level of importance given by the school in relation to school achievement.

Respondents were asked how successful they felt their school was in teaching students to be competent in different aspects of social and emotional learning, ranging from '1- Not successful at all' to '5- Very successful'. Respondents reported that responsible decision making was most successful, with self-awareness and self-management (e.g. managing emotions) as least important (See Figure 5).
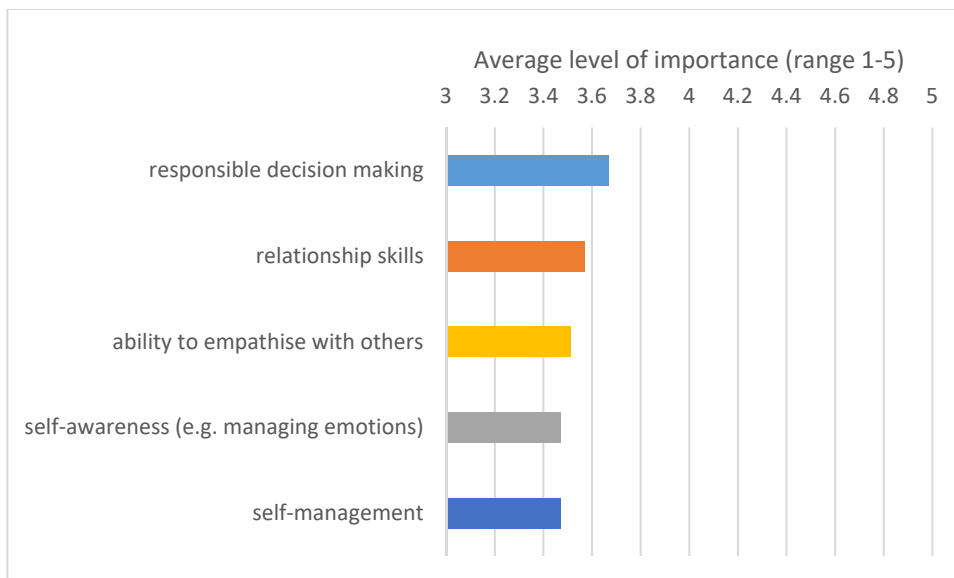
Figure 5. Average level of importance given by the school in relation to areas of SEL.

Respondents were asked to agree or disagree with a series of statements about their school climate. Figure 6 (below on next page) indicates the distribution of the responses. Respondents mostly agreed that their school's climate was conducive to teaching and learning, fosters social and emotional wellbeing for students. Approximately 30% believed bullying occurred at their school and approximately 40% indicated that SEL was not integrated into the curricula.
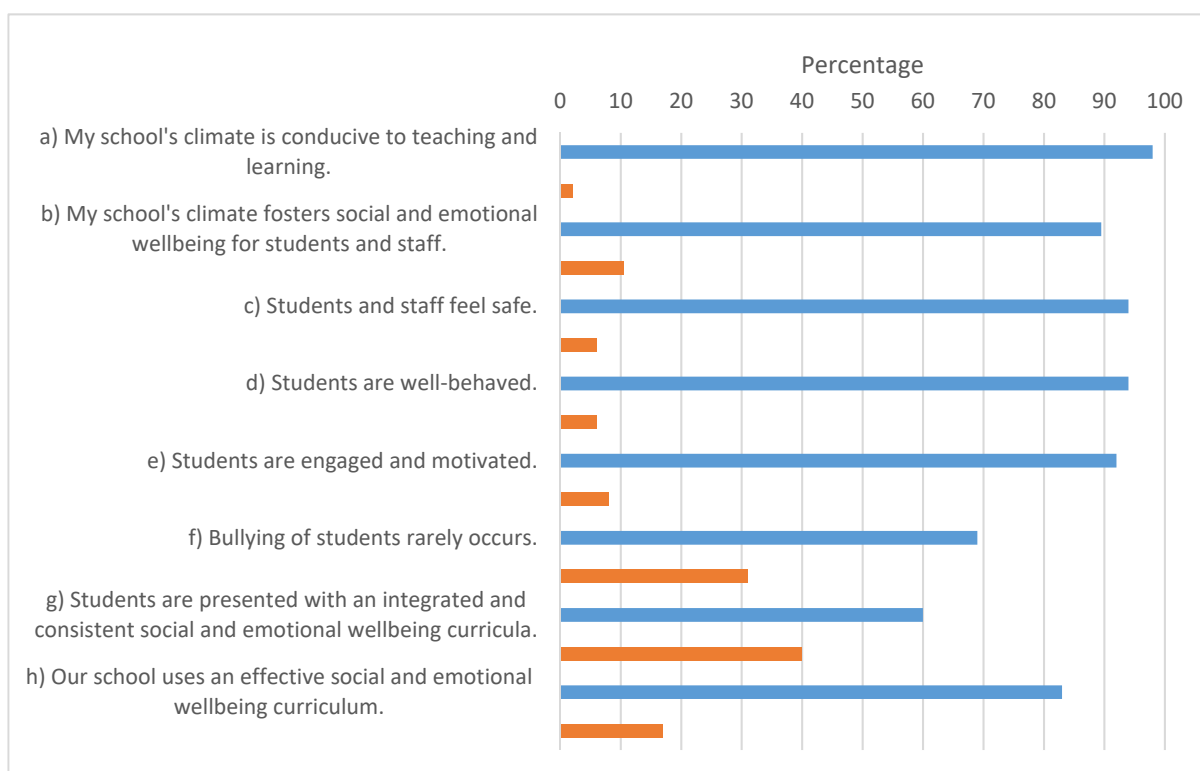
Note: ▪ agree; ▪ disagree

Figure 6. Respondent agreement with statements relating to their school climate.

Community coalitions supporting schools

School prevention and early intervention programs are known to be more effective where they are supported by community coalition activities. Respondents were asked: Are you aware of any community coalition in your school area that are implementing programs to: prevent alcohol or drug use for children or youth … or to promote social emotional learning? In total, 80% reported knowing of a community coalition that promoted social and emotional learning, and 82% were aware of a program that aims to prevent alcohol use in children and youth, and 80% were aware of drug prevention programs. Coalitions included the following: Berry Street; P.A.R.T.Y; Headspace community health; VICPOL; Suicide prevention; Bendigo community health; Communities That Care (CTC); Relationships Australia; REGEN; Ice Task Force; DASC; DECD Wellbeing strategy; DASSA; and local service clubs such as Rotary.

Review of information on alcohol and drug programs identified on state government websites

The sections that follow provide a brief overview of the current organisation of government school alcohol and drug programs, based on a review of current websites and published documents. In overview, based on our website search, there is considerable diversity in the level of organisation across states. In some states such as South Australia, parents are referred to non-government organisations. In Western Australia, a state organisation SDERA has been established to organise responses to youth alcohol and drug use prevention. In Victoria links are provided to frameworks and resources. There are no states that provide a list of evidence-based programs. Most state websites convey broad principles and concepts, rather than referral to specific programs.

The NSW website conveys the broad principle that drug education in government schools reflects the whole of government's harm minimisation approach, "aiming to promote resilience; build on skills, knowledge and attitudes to enable young people to make responsible, healthy and safe choices". "Age

appropriate drug education forms a part of the mandatory Kindergarten to Year 6 and Year 7 to 10 Personal Development, Health and Physical Education curriculum" (retrieved form https://education.nsw.gov.au/teaching-and-learning/curriculum/key-learning-areas/pdhpe/drug-education).

The website in Victoria also conveys broad principles. "The model for drug education in Victoria is also based on a whole school approach that utilises research and evidence based practice, effective pedagogy and encourages a positive school climate and strong partnerships". A range of resources to assist teachers in this role is provided on the Department's website. There are regional officers that provide professional learning activities to teachers. The drug education team is situated within the Student Wellbeing and Health Support Division. The role of the central officers is to develop policy and resources and administer funding to schools. The Alcohol and Drug Foundation, QUIT and Tobacco Reforms are some examples of the websites that are referenced as providing detailed information about alcohol and other drugs, drug prevention, support and resources to reduce tobacco use in society and information to parents and organisations about tobacco legislation (retrieved from https://www.education.vic.gov.au/school/teachers/teachingresources/discipline/physed/Pages/drugeducation.aspx?Redirect=1).

In Queensland, the Department of Education, conveys a specific program that has been developed in conjunction with the Queensland Curriculum and Assessment Authority. This is titled the "Alcohol and Other Drug Education Program" and is available to all Queensland schools. The program supports young Queenslanders to "develop a greater awareness and understanding of the impacts of alcohol and other drug use; their capacity to make responsible, safe and informed decisions and their ability to effectively manage challenging situations". The program includes a suite of teacher guidelines and resources for Years 7 to 12. The program is informed by the department's Drug Education and Intervention Advice and supports the Learning and Wellbeing Framework. State school Principals make decisions regarding how the program is implemented in their context. Schools are also referred to on-line specialist resources/websites such as the Alcohol and Drug Foundation and Alcohol, Tobacco and Other Drug via the Learning Place (Retrieved from https://education.qld.gov.au/initiatives-and-strategies/health-and-wellbeing/student-health-wellbeing/policy-procedures-guidelines/drug-education-and-intervention).

In South Australia, nongovernment bodies are referenced as providing drug education to the schools. The Department of Education recommend organisations such as: the Life Education Secondary school program - Face the Facts in which drug and alcohol-related harms among young people will be delivered through interactive workshops; Encounter Youth, Alcohol and Other Drug Education provided to students, parents and teachers aiming to alert, inform, and empower young people to bring about safer, more meaningful celebration through harm minimisation approaches and by encouraging students to 'look after themselves and their mates'; keeping safe: child protection curriculum. Referenced in the Department website as advice and support for students include the Alcohol & Drug Information Service; Youth Health line; Counselling Online. For parents referral is made to the Alcohol and Drug Information Service (ADIS); Family Drug Support Australia; Drinkwise; Parenting Strategies; Prevention-Smart; Child and Youth Health; The Australian Drug Foundation; and The National Drug Campaign (Retrieved from https://www.sa.gov.au/topics/education-and-learning/health-wellbeing-and-special-needs/drugs-and-alcohol).

In WA, SDERA (funded by Department of Education) is in charge of providing drug education to schools. SDERA, in consultation with the Department of Education WA, Catholic Education Western Australia and the Association of Independent Schools of Western Australia, produces

resources that support the implementation of whole school approaches to resilience, alcohol and other drug and road safety education, which are based on best practice research such as the Health Promoting Schools Framework. These programs and activities have been shown through research and evaluation to be effective.

SDERA provides information about alcohol and other drugs, school-based curriculum programs and resources, professional learning workshops for early childhood and school staff, and parents, and also assists schools to develop drug education guidelines. They also offer a state-wide consultancy service and a "Changing Health Acting Together" initiative. This supports schools to implement a whole school approach to drug education. SDERA's alcohol and drug education resources take a resiliency approach and develop students' skills such as perseverance, problem solving, critical consciousness and a sense of purpose. One example of the SDERA's whole school approach program is "Getting it Together". This includes a range of easy-to-use tools and templates, sample action plans, drug education guidelines - including procedures for incident management and intervention support and other information that will support a whole school approach (Retrieved form https://www.sdera.wa.edu.au).

In Tasmania, drug education is organised around the philosophy of harm minimisation and principles and practices underpinning the National Drug Strategy. There is a strong focus on that drug education programs should be consistent with the Australian Curriculum for Health and Physical Education, and the National Safe schools Framework. However, there are no recommendation that evidence-base programs, or specific evidence-based programs should be adopted. See https://documentcentre.education.tas.gov.au/Documents/Drug-Education-and-Management-Policy.pdf.

In the ACT we could not find any information explicitly referring to drug education in the ACT. The strategic plan on the website describes the schools "apply and agreed standard of evidence to the decisions" they make. In respect to learning the document states that they use evidence-based practices to demonstrate impact on student learning. However, we could not identify any recommended evidence-based programs or any specific focus on drug education on in the strategic plan or website. See (https://www.education.act.gov.au/),

The Northern Territory (https://education.nt.gov.au/) does not outline any specific policy in respect to drug education. A list of polices are available (https://education.nt.gov.au/policies), which include alcohol consumption on school premises. There is a specific "health of students" policy section, which outlines policies for "drugs in school" and a section on drug education. It notes that drug education should be embedded in the curriculum across all stages of schooling. It also notes that drug education should develop students' health literacy in relation to drugs, harm minimisation, issues or drug use in society and support services available. There is no indication of specific recommended evidence based programs, or that evidence-based programs should be implemented is mentioned.

Contact with stakeholders, familiar with alcohol and drug education programs confirmed that relatively few of the programs implemented in schools were recommended in systematic reviews of the evidence. In an effort to estimate the number of schools implementing programs recommended in systematic reviews of the evidence, contact was made with program owners. Based on this contact, it is estimated that nationally each year less than: 50 schools implement Climate Schools; 10 schools implement Strengthening Family Connections; or Resilient Families. Assuming there are max 200 students in a school grade cohort then Climate Schools could have up to 10,000 students exposed to the program; Resilient Families approximately 200 students Strengthening Family Connections approximately 100 students. In contrast, interviews with stakeholders suggest that

above 700,000 students per annum participate in the Life Education program across Australia, which has evidence for potentially damaging effects on student substance use (Hawthorne, 1996).

Discussion

As summarised in the introduction, student alcohol and drug use has reduced significantly across Australia in the last two decades (Toumbourou et al, 2018). These trends have been mainly the result of reductions in the supply of adolescent alcohol by families and alcohol retailers, with less evidence for contributions from school programs (Toumbourou et al, 2018). Although the reductions in student alcohol and drug use have been significant, comparisons reveal that Australian students still have markedly higher alcohol use compared to their same age peers in the USA (see introduction). These findings highlight the importance of continuing efforts to prevent and reduce student alcohol and drug use in Australia.

The introduction to this report argued that alcohol and drug use prevention and early intervention approaches now have strong evidence for effectiveness in Australia. There is evidence to support a variety of different approaches. The systematic literature review presented in Appendix 1 identified a range of effective alcohol and drug use programs.

The effective approaches identified in the systematic review were based on a range of health behaviour change theories including: behavioural theory; cognitive behavioural therapy; social learning theory, social influence models, motivational interviewing, transtheoretical model, theory of reasoned action, resilience theory, health beliefs model, and social cognitive theories. The CLIMATE Alcohol and Cannabis and School Health and Alcohol Harm Reduction Project (Teeson et al, 2012) are both examples of programs that draw from health behaviour change theories and have evidence for positive impacts based on well conducted evaluations.

Programs were identified that focus on the school system. The theoretical underpinnings of these programs emphasise the role of school risk factors (e.g. attendance, academic attainment) and protective factors (e.g. engagement) in the development of youth alcohol and drug use. The Health Promoting Schools and Whole School Intervention frameworks are examples of models that seek to coordinate school strategies (see Appendix).

Programs were identified that were based on family system theories, family attachment and socialisation theories. These theories emphasise the role of family-level risk and protective factors in the emergence of youth alcohol and drug use. The Resilient Families Program, Families and Schools Together and Strengthening Families are all examples of programs that have emerged from family systems theories. Each of these programs provide potential frameworks for coordinating family-school partnerships (see Appendix).

Programs were also identified that were based on ecological systems theories. Ecological systems theories emphasise the integrated influence of community, school, family and peer risk and protective factors as contributors to youth alcohol and drug use. Communities that Care provides an example of a model that facilitates community coalitions to implement a coordinated range of evidence-based programs to prevent youth alcohol and drug problems. Further details of programs of this type are presented in the Appendix.

The survey of school staff revealed that only a limited number of the programs recommended in systematic reviews are implemented in Australian schools. The majority of the programs that operate in schools have not been evaluated to a standard that would enable their selection in systematic reviews of evidence. School staff were generally familiar with the importance of student social emotional learning and considered schools were supported by community coalitions.

The review of state government websites summarised in the results suggested that Australian state governments generally do not require that schools implement evidence-based programs. State guidelines typically refer to general principles such as "harm minimisation" and "whole of school approaches". In the schools that reported implementing programs identified in the systematic review of the evidence, these programs were often being conducted in partnership with researchers or program developers.

According to research reviews, successful prevention requires that evidence-based strategies are appropriately selected and then applied in a manner that retains their effective elements. The evidence is consistent across outcomes that weakly implemented interventions show inconsistent or null effects (Sanci et al, 2002).

The current report presents an important survey of the utilisation of alcohol and drug education programs in Australian schools. The findings demonstrate firstly that there is considerable school variation and differences between states. However, many schools surveyed for the present project were aware of programs that they could use to align with evidence-based practices, with this more evident than in consultations held in 2002 (Godfrey et al., 2002; Sanci et al., 2002).

Consultations completed for the present report identify the potential for Australian alcohol and drug use programs to move beyond prevention and early intervention to develop a clear focus on encouraging positive youth development. Although schools report familiarity with social emotional learning, a coordinated team focus is less apparent. Hawkins et al. (2012) and Hutchinson et al. (2016) report a minority of Australian young adults (less than one in four) currently achieve their full potential for positive adjustment.

Project Strengths and Limitations

Strengths of the present study included the use of a systematic approach to reviewing literature and the opportunity to consult a range of stakeholders. The respondent sample included a range of school and staff and other stakeholders. The analysis revealed a number of common responses, suggesting that the sample size was sufficient to achieve saturation.

Limitations of the study were that it was not able to study a sufficiently large sample of schools to accurately estimate school programs and practices. The project was not designed to assess the impact of school alcohol and drug education on student behaviour.

Recommendations

Based on the above information the following recommendations were made to further align school programs with effective practices.

Recommendation 1: *Set ambitious behaviour change targets for continued reduction of alcohol and drug use amongst Australian school students*

Australian student alcohol use remains substantially higher than students in the USA. In 2015 in Grade 8 students, rates of lifetime alcohol use were 45% in Australia (Toumbourou et al, 2018) compared to 26% in the USA (Johnston et al, 2019). These figures demonstrate there is potential to further reduce school-age alcohol use across Australia. If Australia were to maintain the rate of reductions observed over the past 15 years, it is projected by 2024 Grade 8 lifetime use of alcohol will reduce down to 31% (from 45% in 2015). By 2024 we consider it feasible to halve rates of tobacco use down to 5% (from 10% in 2015) and cannabis use to 2% (from 4% in 2015).

Recommendation 2: *Evaluate school practices that are based on frameworks and principles to ensure they are safe and not contributing to harm.*

Our findings suggest that schools mostly use frameworks and principles rather than evidence based programs. While frameworks are usually based on some level of evidence, "weakly implemented interventions show inconsistent or null effects". Programs provide detailed implementation guidance that is unavailable in frameworks and principles (Sanci et al, (2002). This was evident from our analysis of state websites and our survey of school staff. As there is potential for alcohol and drug programs to have negative effects (Sanci et al, 2002), school practices justified from frameworks and principles should be evaluated to check they are safe and not contributing to harm. Prior research shows that frameworks and principles do not lead to effective practices, and should be based on strong research, evaluation and faithful implementation (Flay, et, al, 2005; Gotfredson, et al, 2015).

The school survey examined both alcohol and drug education and social and emotional learning as these two curriculum areas are inter-related. The survey revealed the MindMatters framework was commonly used to guide social and emotional learning. Our survey did not include primary schools where the Kids Matters framework operates. The survey revealed a number of coalitions that support schools. One method of improving the uptake of evidence-based practices such as Climate Schools may be to seek the support of existing community coalitions and with those managing the MindMatters framework. The extent that the Life Education Program is implemented in primary and secondary schools should be considered.

Recommendation 3: *Offer incentives to schools that use evidence-based alcohol and drug programs.*

Although our findings suggest that there are low rates of adoption of evidence-based school alcohol and other drug programs, there are a number of schools that use evidence-based programs (Table 1). Given their potential to maximise effective use of public funds, we recommend that schools that use evidence-based programs be offered relevant financial and other support.

Recommendation 4: *Place a priority on the evaluation of school alcohol and drug education programs within Australian government research funding schemes.*

Our research identifies a number of Australian school-based alcohol and drug programs that do not have sufficient research to establish their effectiveness (Table 1, Appendix Table 1). Given the potential to improve public health and more efficiently use public funds, we recommend that Australian government research funding prioritise the evaluation of school-based alcohol and drug programs.

Australia now has a respected international track-record reducing student tobacco and cannabis use, with rates below those in the USA. In 2015 lifetime use in Grade 8 for cigarettes was 10% in Australia and 13% in the USA, while cannabis use rates were 4% in Australia and 15.5% in the USA (comparing Toumbourou et al, 2018 with Johnston et al, 2019). With youth substance use a continuing concern internationally, Australia can play an important role exporting high quality program advice and assistance.

Recommendation 5: *Examine positive youth development outcomes in the evaluation of school alcohol and drug education programs.*

The introduction to the present report identified the potential for Australian alcohol and drug education programs to develop a clear focus on encouraging positive youth development. There is evidence from longitudinal research that reducing school age alcohol and drug use and encouraging student volunteering can increase positive development in young adulthood (Hutchinson et al, 2016). The current report examined both alcohol and drug education and social and emotional learning and noted these two curriculum areas were inter-related. As mentioned in Recommendation 4, effective alcohol and drug use prevention practices will remain of interest in many nations in future decades. By increasing school staff training and by offering students volunteering and paid opportunities to learn about alcohol and drug prevention, opportunities can be offered for new skills that are likely to translate to future employment opportunities (Toumbourou, 2017).

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Appendix

Table A1.

Summary of Included Studies

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
Fagan & Benedini (2016)[C]	Family; Family-based	Grade 7; Alcohol	23; 1	Effekt	Change in parent attitudes and rules mediated change in drunkenness, onset of drunkenness and alcohol use. Can have preventive effects in alcohol.	Parenting attitudes about youth drinking; Parent rules about youth drinking
Hartnett et al (2017)[C♦]	Family; Family-based	Not reported clearly (14-16 years) Adolescence; Substance misuse	14; 4	FFT	Low to moderate findings for RCTs including FFT, however these results do not separate out substance misuse from behavioural problems. Support for family-based programs, compared to untreated controls, and alternative treatments including CBT, other models of family therapy, and individual and group therapy for adolescents	Ecological multifactorial model of risk and protective factors- engagement and motivation (reduce intra-familial negativity, relational reframing), behaviour change, and generalisation (future challenges, supports)
Kuntsche & Kuntsche (2016)[C•]	Family; Parent-based preventive interventions	9-18 years; Alcohol, Tobacco, Cannabis	39; 8	OPP; PBI; Family Check-up; In control: No alcohol!; Learn at home self-help drug education material; Especially for Daughters; Strong and Clear; MyStudentBody-Program; Parent Management Training; Connect	All programs target parents in a developmentally appropriate way (e.g. rule setting for younger and improved communication for older adolescents). OPP actively targets parents by ensuring they set and enforce strict rules around underage drinking and monitor behaviour, whereas PBI targets parents by developing positive parenting, parental disapproval of alcohol use, improve alcohol related communication and monitoring behaviour. Programs appeared to be more effective with increase intensity, including booster's	Social learning theory; Primary socialization theory; Ecological systems theory, Influence on parents attitudes and behaviours

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
					sessions. Some support for the effectiveness of parent-based programs, particularly those with higher intensity.	
Lauricella et al (2016)[D]	Family; Culturally adapted prevention programs	10-15 years; Alcohol and other substance abuse	31; 16	SAAF; Keepin' it R.E.A.L.; Seventh Generation Program; Ho'ouna Pono	Increased positive parenting, and youth self-control, improved parent-child relationships, reduction in use and initiation of alcohol, increased anti-drug norms. Highlighted the importance of close collaboration with communities when creating a culturally grounded prevention intervention.	Building skills for health-promoting behaviours including positive parenting, and drug resistance skills. Focus on cultural values, beliefs and worldviews
Valero et al (2017)[C]♦	Family; Family-based selective prevention programs	10-18 years; Alcohol, Cannabis, Cocaine	9; 7	Familia Adelante; SFP; CIFFA; TFT; EBFT; FFT; UC-FT	Low effect sizes were found overall for preventive interventions of substance consumption, however programs that had higher effects for increasing Family Relationships and Positive Parenting, also had higher effects for substance consumption including SFP. Therefore programs that use strategies to improve Family Relationships and increase Positive Parenting could reduce Substance Consumption in adolescents. Some support for the effectiveness of parent-based programs	Family attachment, cohesion, conflict, resilience, monitoring, parenting practices; family functioning
Foxcroft et al (2016)[C]♦•	Multi-component; universal and targeted prevention	15-24 years; Alcohol	84	MI	At studies with <4 month f/up, small effects were found for quantity of alcohol consumed, frequency and problems. No effects were found for binge drinking. Studies with >4 month f/up, small effects were found for quantity of alcohol consumed and frequency. No or marginal effects were found for drinking problems and binge drinking. Overall, no effects were found for risky behaviour, drink	MI

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
					driving, peak or average blood alcohol content.	
Harrop et al (2016)[D][•]	Multi-component (school, family, community); Universal, selective and indicated prevention programs	5-18 years; Alcohol, Tobacco, Illicit drugs	Not stated; 23	*School-based:* LST; Positive Action; Raising Healthy Children; EFFEKT; Positive Family Support- Family Check-up; Achievement Mentoring- Middle School; Project Northland; Project Towards No Drug Abuse; ATLAS; SPORT Prevention Plus Wellness; Blues Program; BASICS; InShape Prevention Plus Wellness; *Family-based:* Guiding Good Choices; Familias Unidas, SFP 10-14, FFT; Treatment Foster Care Oregon; Multisystem Therapy; *Community Programs:* PROSPER, CTC, Big Brothers Big Sisters of America, Keep Safe.	Preventative programs that demonstrate 'Model Plus' rating include LST and Multisystem Therapy. Those that are 'Model' programs include Positive Action, Project Toward No Drug Abuse, Blues Program, BASICS, Treatment Foster-Care Oregon, and FFT. The remaining programs are all 'Promising'	School-based incorporate one/or several components: teacher instructional/ classroom management skills, social, emotional, and cognitive skills, tutoring. Family-based incorporates parenting skills, establishing clears standards of behaviour, family management skills, strategies for dealing with anger, creating prosocial opportunities. FFT also works on family communication, and decreasing negative and dysfunctional patterns of family behaviour.

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
Newton et al (2017)[B•]	Multi-component (School-based & parent-included); Combined student- and parent- based universal prevention programs	11-18 years; Alcohol and other drugs	22; 10	Project Northland; Resilient Families; Iowa SFP; SFP 10-14; LST and SFP 10-14; PAS Program; HSD Program; HRIDAY intervention; Going Places Program; Preparing for the Drug Free Years; The Adolescent Transition Years	Of the 10 programs, 9 were significantly effective in delaying or reducing AOD use in at least 1 trial. Eight of the 10 programs were efficacious in reducing alcohol consumption, however reductions were varied across trails in relation to reductions in initiation, heavy or binge drinking, lifetime alcohol use or frequent use. One trial was only effective with female participants. Of the 6 trials addressing cannabis use, one study was effective in reducing the growth of use over time, and another in delaying initiation at 18 and 66 month follow-ups. SFP was not effective in one trail, but was in another. Potential efficacy of combined student- parent-based programs to prevent and reduce AOD among adolescents. Attempts to increase parent participation is needed. No clear differences in the efficacy of interventions targeting a specific substance, or multiple substances.	Cognitive-behavioural and social influence principles, parent-child communication, peer interaction; Students' relationship skills, equip parents with parenting skills/ support networks; Biopsychosocial model and relative risk/protective factors, parent-child bonding and relationship quality, increase resiliency in youth; Biopsychosocial vulnerability, increase parental nurturing and communication, and prosocial and resilience skills in youth; social learning theory and problem behaviour, promotes social resilience, self-management, and general social skills; Theory of Planned Behaviour and social cognitive theory, parental rule-setting, refusal skills in students; Social influence and self-efficacy; Social influence; Social learning and social competence, increase parental monitoring; Social development model and social learning principles, prosocial family bonding; Social learning principles and life skills training, parental supervision and involvement

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
Nguyen et al (2016)[D]•	Multi-component (school-based); Prevention	Adolescence; Inhalants		LST; CBT-based anti-drug program (no name provided); SFP 10-14; Project ALERT; All stars	Programs administered during 11-14 years are effective, while elementary school years are not effective on their own. High-risk adolescents enrolled in LST school-based programs demonstrated reduced inhalant use.	CBT- increasing self-esteem, communication, managing pressure and anxiety, developing personal relationships; drug resistance skills, anti-drug norms, personal and social skills; social influence model; changing normative beliefs, level of lifestyle incongruence, and commitment to not use drugs
Shackelton et al (2016)[C]	Multi-component (School-based)	11-18 years; Tobacco, Alcohol, Drugs	22; 6	Not stated- 'whole school intervention; 'Any' universal multicomponent psychosocial or educational prevention program; HPS interventions (changes to school ethos, or community or both); school based drug-prevention programs; school-based individual or environmental focused; school-based mentoring	No or inconsistent evidence found for alcohol or drugs across multicomponent interventions, and little evidence to suggest these were more effective than single-component interventions.	Not stated
Stockings et al (2016)[C]•	Multi-component; not specified	Not reported; Alcohol, Tobacco, Illicit drugs	Not reported	Not stated	Inconclusive results or mostly no effect in education with young people only, however small to moderate effects when parents are included, particularly when education is paired with CBT or skills	Theory for treatment models is summarised, but not prevention

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
					training in the prevention and reduction of use of alcohol and illicit drugs.	
Van Ryzin et al (2016) [C]♦•	Multi-component; Family-based prevention program	11-21 years; Alcohol, Tobacco, Marijuana, 'Hard drugs' (cocaine, inhalants, etc.)	116	Not stated- authors separated out components from each programs/studies into the following: (1) parental monitoring and behaviour management; (2) fostering school success; (3) positive family relationships; (4) substance-use knowledge, attitudes and values; (5) self-regulation and stress management; (6) problem solving; (7) resisting peer risk; (8) psycho-education; (9) ethnic identity; (10) Future orientation; (11) other	Overall low to moderate effect size found. Effects for components that boosted effect sizes included components that focused on 'Positive Family Relations' and 'Future Orientation' in adolescents. Support was found for family-based programs, however there is no difference whether they are school-based or community-based	Family systems
Davis et al (2017) [C]♦•	Other; Prevention in non-college settings	18-25 years; Alcohol, Illicit drugs (Cannabis, Heroin, Methamphet	50; 32	Not stated	Mean effect across the prevention studies was d= 0.17. MI v control produced an effect size d= 0.20. CBT and other miscellaneous studies were unable to be calculated. Personalized feedback is a less effective prevention strategy in non-	MI; CBT; Miscellaneous (including pharmacological, nor those with no clear manual/theory

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
		amine, Cocaine, Ecstacy, and MDMA)			college settings, as opposed to those in college settings.	
Caputi et al (2017)[C•]	School	5th-8th grade; Substance use	11	KiR; KiR (D.A.R.E.); KiR (D.A.R.E.) elementary	Evidence for the D.A.R.E. version of KiR is weak and evidence suggests it may not be suitable for nationwide, universal implementation. Results indicate that all versions have inconclusive effects, and the elementary version demonstrated either insignificant results or even counterproductive results.	Resistance strategies- 'refuse', 'explain', 'avoid', 'leave'. Risks, communication, emotions, support networks
Hodder et al (2017)[A••]	School	5-18 years; Alcohol, Illicit drugs, Tobacco	19; 13	Not stated	Interventions demonstrated significant effects in reducing the prevalence of illicit drug use, but not alcohol or tobacco use. This included overall results, multidimensional, universal and school only settings. However, around one third of studies reporting alcohol and tobacco use could not be included in the meta-analysis which may have impacted the results.	Resilience is targeted through protective factors that focus on both individual (e.g. improving self-esteem, empathy, self-awareness) and environmental (e.g. family, school, community) factors
Lize et al (2017)[C•]	School	12-14 years; Cannabis	23	Project ALERT; LST; All stars; CASPAR; Across the Ages; TGFD; CHOICE; Opening Doors; Lions Quest; Family Check-Up; BRAVE; K.i.R; PPP; TCYL; H2P	Overall a small effect was found on cannabis use was significant which suggests that it prevents or delays use, however results for intention to use and refusal was not significant. Teachers were found to be the most effective in terms of delivery mode	Not stated
MacArthur et al (2017)[C••]	School (peer-led); Peer-led	10-21 years; Alcohol	17; 8	Based on components from Project Northland (Poland);	Of the 8 studies included, peer-led intervention demonstrated lower alcohol use, and possibly cannabis use, however 2	Theory of reasoned action, problem behaviour theory, social learning theory;

Paper	Category; Focus	Population; Substance/s	Total studies; Relevant interventions	Names of interventions	Main findings & Conclusion	Theoretical perspective/components
	prevention interventions	Tobacco, and/or drugs		Life Skills training; Project Alert; Lifestyle management class; WHO collaborative study; Peer mentoring; TND Network;	studies found that in higher risk groups, greater engagement with substance use as evident. There was no clear pattern of factors associated with impact, such as shared intervention domains, duration of intervention or underlying theory. May be effective in reducing tobacco, and alcohol use, and possibly cannabis use	Cognitive Behavioural Approach; Social influence model, health belief model, self-efficacy; Social Cognitive Theory
Onrust et al (2016) [C◆●●]	School	Elementary to grade 12; Alcohol, Tobacco, and/or drugs	288; 154 (alcohol) and 110 (drug use)	Programs were clustered into 4 age-groups: elementary students, early adolescents, middle adolescents and late adolescents.	Universal programs demonstrated small significant effects on tobacco, alcohol and drug use in elementary aged-children, and early adolescents. No effect for middle adolescents, on alcohol and drug use. No significant findings in the older adolescents on any outcome. Most common approach in interventions was skills training in to social environments, and decision making skills. Most common theoretical approach was social influence, yet in late adolescents the focus was on the Transtheoretical model of behaviour change.	Developmental theory; skill training such as social skills; problem solving or decision making skills; self-control; self-esteem; coping with stress and anxiety. Education skills such as health education; adjusting social norms around substance use; refusal skills training; commitment to not use; healthy alternatives. Social influence approach; CBT principles; trans-theoretical model of behaviour change. Strategies included: mentoring; peer education; behavioural management by a teacher or parent.

Note. Randomised Controlled Trial (RCT); Controlled Trail (CT); Interrupted Time Series (ITS); Functional Family Therapy (FFT); Cognitive Behaviour Therapy (CBT); Orebro prevention program (OPP); Parent-based Interventions (PBI); Strong African American Families (SAAF); Keepin' it R.E.A.L. ('Refuse', 'Explain', 'Avoid', 'Leave'); Strengthening Families Program (SFP); Culturally Informed and Flexible Family-Based Treatment for Adolescents (CIFFA); Traditional Family Therapy (TFT); Home-based Ecologically based Family Therapy (EBFT); Functional Family Therapy (FFT); Usual Care Family Therapy (UC-FT); Motivational Interviewing (MI); Life Skills Training (LST), Athletes Training and Learning to Avoid Steroids (ATLAS); Brief Alcohol Screening and Intervention for College Students (BASICS); Promoting School-Community-University Partnerships to Enhance Resilience (PROSPER); Communities That Care (CTC); World Health Organisation (WHO); Towards No Drug Abuse (TND); Prevention of Alcohol Use in Students (PAS) Program; Healthy School and Drugs (HSD) Program; Health Related Information

Dissemination Amongst Youth (HRIDAY) intervention; Alcohol and Other Drugs (AOD); Health Promoting Schools (HPS); Keepin' it real (KiR); KiR Drug Abuse Resistance Education (D.A.R.E.); Too Good For Drugs (TGFD); Choosing His/Her Own Individual Community Experience (CHOICE); Building Resiliency and Vocational Excellence (BRAVE); Peer Prevention Project (PPP); Take Charge of Your Life (TCYL); H2P (Hip Hop).

[ABCD] Quality Rating refers to strength of evidence rating system adapted from the European monitoring Centre for Drugs and Drug Addiction as used in Mewton et al. (2018).

[A] Meta-analysis involving high quality studies (RCTs, CTs, or ITSs), if evidence in 5 primary studies has 'preventive effects' or has 'no preventive effects'. If 5 or fewer primary studies 'can have preventive effects' or 'appears not to have any preventive effects'

[B] Systematic review involving high quality studies (RCTs, CTs or ITSs), If half or more of the primary studies are positive 'can have preventive effects'. If fewer than half of the studies are positive 'occasionally demonstrates preventive effects', If none of the primary studies are positive 'appears not to have any preventive effects';

[C] Meta-analysis or systematic review reporting on all available studies, 'May have preventive effects' or 'may not have preventive effects';

[D] Any unsystematic review, expert opinion or government report.

⬥ Meta-analysis conducted

• Theory explicitly stated

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Figure 1. Systematic Search Flow Diagram
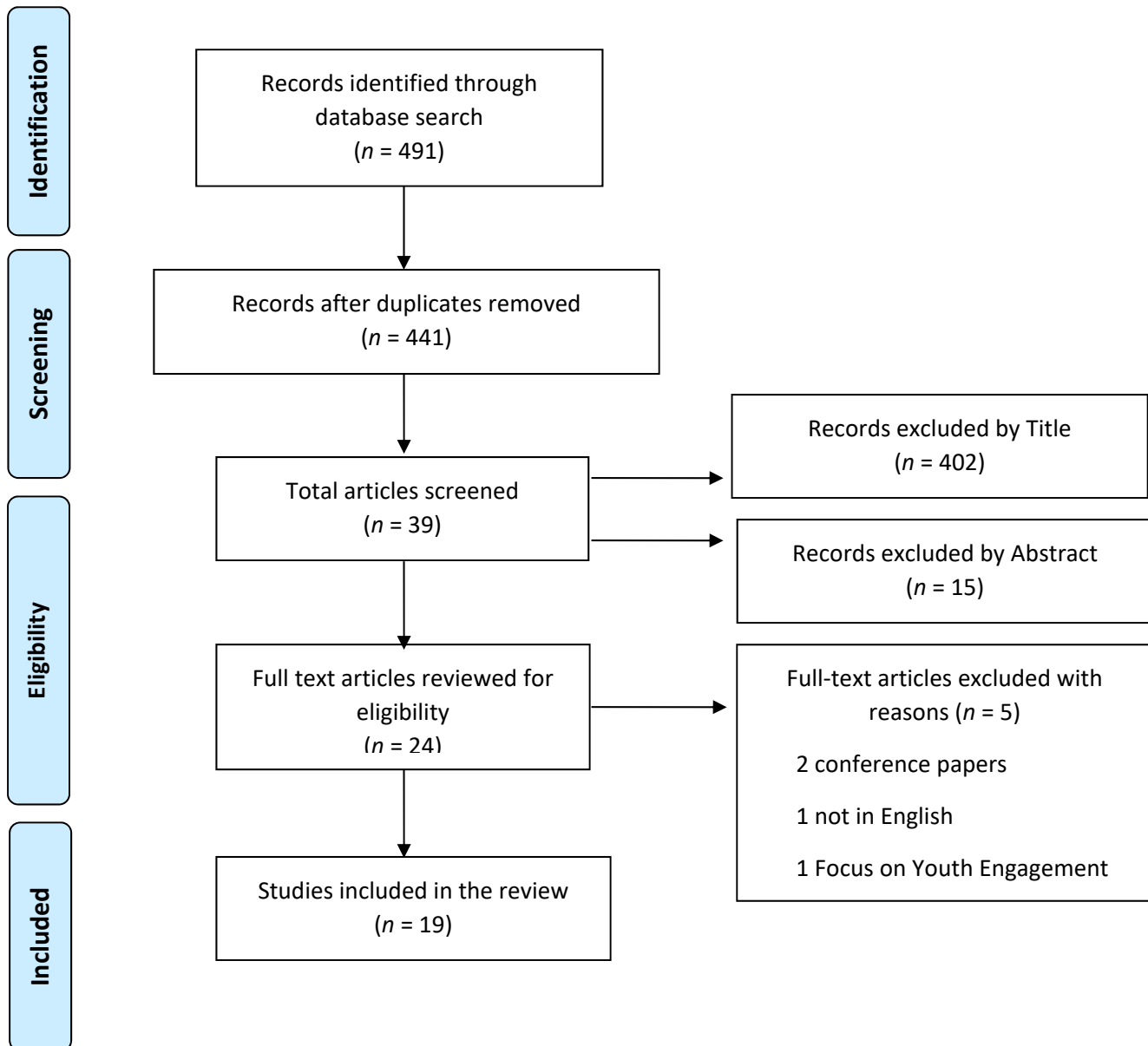
The following Table provides information on programs that we identified were included in online evidence lists and that we established were also operating in Australian schools. These programs have all been well evaluated and a number also include economic evaluations.

Table A2.

Information on evidence-based school alcohol and drug education and social emotional learning programs operating in Australia.

Program	Evaluation Outcomes	Target Population	Components	Workforce Requirements	Cost Effectiveness
Families And Schools Together (FAST)	http://www.cebc4cw.org/program/baby-fast-groups-for-young-mothers/ (Efficacy unable to be evaluated for infants and early childhood). https://www.kidsmatter.edu.au/primary/programs/families-and-schools-together-fast (Good evidence of efficacy for enhanced family functioning, preventing children at-risk from experiencing school failure, preventing alcohol and other drug abuse,). http://whatworksforkids.org.au/program/families-and-schools-together-fast-0 (Well supported) http://wsipp.wa.gov/BenefitCost/Program/150 (WSIPP, 2018: Meta-analysis from 7 studies shows the program reduces externalising (Cox effect size post intervention = – 0.027 and at first follow-up = -0.015).	Children universally targeted in primary schools (with some trials in secondary schools). Mostly children who are at risk for educational failure or other turmoil will be targeted.	FAST is a multi-family after school program intended to increase parents' involvement in school and their child's education, increase parent-child bonding and communication, and enhance parents' self-efficacy. Groups of 8 to 12 families meet weekly for eight consecutive weeks. Sessions last about 2½ hours and take place after school or early in the evening. Trained facilitators conduct the meetings, which involve experiential learning, parent-child play, and a shared meal. The initial eight weeks are followed by two years of monthly parent-led meetings" (WSIPP, 2018).	Program is delivered by trained facilitators, who first undergo an internship of at least 5 days (2 days training, 3 days on site workshop delivery).	Costing at around $5,500 per three phases of training, implementation, and on-site review by staff. Benefits minus cost = Minus $US 497 per participant = Costs $US -928, Benefits $US 497 (WSIPP, 2018). These economic benefit estimates were affected by negative findings in one study on academic text scores.
Strengthening Families Program	http://whatworksforkids.org.au/program/strengthening-families-program (supported) http://wsipp.wa.gov/BenefitCost/Program/138 (WSIPP, 2018, 7 included studies, 2 included for high school alcohol use, Cox effect size post-intervention = - 0.045, at first follow-up = -0.045. Positive effects also evident for reducing cannabis and tobacco use).	Either universally to all parents or for selected families with children experiencing behaviour problems, Different age	MANUALISED CURRICULA FOR (1) PARENTS; (2) STUDENTS; AND (3) GROUPS. -Culturally adapted versions with different languages were tested and found effective in 36 countries including Australia (WW4K, 2018).	Within a municipality, a family service agency obtains the license to operate the program after completing training and	Benefits minus cost = $US 4,547 per participant = Costs $US -835, Benefits $US 5,381 (WSIPP, 2018)

Program	Evaluation Outcomes	Target Population	Components	Workforce Requirements	Cost Effectiveness
		versions from birth to 17 years of age.	Eight and fourteen week versions have been trialled in Australia (Burns et al, 2019).	accreditation requirements.	
Resilient Families *	http://whatworksforkids.org.au/program/the-resilient-families-program (promising) Toumbourou et al. (2013) reported reduced heavy and regular alcohol use 24 months from baseline. Toumbourou & Gregg (2002) reported reduced alcohol and drug use at 3-month follow-up. 12 months from baseline there were no significant effects on alcohol or drug use (Mewton et al, 2018).	Universal program for secondary school students and parents	Includes 1- 10 week student curriculum covering social and emotional skills. 2- Brief parent education using a 2-hour social evening for parents 3- PACE (Parenting Adolescents: A Creative Experience): an 8-week parenting program. 4- Parent Education Book.	The program is delivered by school staff following half day training courses.	The program costs approximately $5,000 for a community to implement. The benefits have not been monetised.
Promoting Alternative Thinking Strategies (PATHS)	http://whatworksforkids.org.au/program/promoting-alternative-thinking-strategies-paths (well supported) https://www.blueprintsprograms.org/factsheet/promoting-alternative-thinking-strategies-paths (rated as a Model program) http://www.wsipp.wa.gov/BenefitCost/Program/94 (WSIPP, 2018, 9 included in the meta analysis for externalising Cox effect size post-intervention = -0.033, follow-up = 0.018).	Pre-school and primary school children, ages 3 to 11 (WW4K, 2018).	The PATHS curriculum is a classroom socioemotional learning program designed to improve self-control, emotional understanding, interpersonal relationships, and social problem-solving skills for [primary school students]. The PATHS curriculum provides scripts to guide lessons that classroom teachers or counselors teach two to three times a week." (WSIPP, 2018). Each grade level undertakes different components using an overall scope and sequence. New developmental topics are added each year to a basic curriculum model that is focused on emotional awareness, self-control,	Classroom teachers deliver the curricula following a "2-3 day training workshop and … bi-weekly or monthly consultation and observation from project staff as they deliver the PATHS curriculum to their students" (WW4K, 2018). The curricula is delivered based on manuals that	Benefits minus cost = "$US 7,127 per participant = Costs $US -360, Benefits $US 7,487 " (WSIPP, 2018)

Program	Evaluation Outcomes	Target Population	Components	Workforce Requirements	Cost Effectiveness
			interpersonal problem solving, empathy development, and healthy peer relationships. Implemented two or three times per week. Each session is designed to last approximately 30 minutes (WW4K, 2018).	are purchased from the developer.	
Good Behaviour Game	http://www.wsipp.wa.gov/BenefitCost/Program/82. WSIPP (2018) meta analysis showed prevention effects on alcohol use disorder (Cox effect size post-intervention = – 0.118 and first follow-up – 0.118, 1 study and illicit drug use disorder post-intervention = – 0.095 and first follow-up – 0.095, 2 studies).	Delivered to universal primary school age students.	MANUALISED TEACHER CURRICULA. A classroom behaviour management game providing a strategy to help elementary teachers reduce aggressive, disruptive behaviour and other behavioural problems in children, particularly highly aggressive children, while creating a positive and effective learning environment In GBG classrooms, the teacher assigns all children to teams, balanced with regard to gender; aggressive, disruptive behavior; and shy, socially isolated behaviour (www.blueprintsprograms.org/factsheet/good-behavior-game).	The program is delivered by teachers following training from the program developer.	Benefits minus costs $USD 10,850 per participant = Benefits $11,002 – Costs $153.
Mentoring: Community-based for	http://www.wsipp.wa.gov/BenefitCost/Program/819. WSIPP (2018) meta analysis showed effects in preventing behaviour disorders (Cox	Delivered to selected children diagnosed with	MANUALISED CURRICULA FOR MENTORS. "In community-based mentoring	The program is delivered by paraprofessio-	Benefits minus costs $USD 4,085 per

Program	Evaluation Outcomes	Target Population	Components	Workforce Requirements	Cost Effectiveness
children with disruptive behaviour disorders	effect size post-intervention = – 0.275 and first follow-up – 0.151, 2 studies).	disruptive behaviour disorders.	programs for children with disruptive behavior disorders, paraprofessional mentors are paired with youth with diagnosed disruptive behavior disorders. These youth are referred to mentoring by their mental health care providers. Paraprofessional mentors receive training on program guidelines, discipline strategies, structured activities, and mentor-parent interactions and receive regular supervision (WSIPP, 2018).	nals mentors who receive training on program guidelines, discipline strategies, structured activities, and mentor-parent interactions and receive regular supervision (WSIPP, 2018).	participant = Benefits $5,727 – Costs $1,641.
Communities for Children	Edwards et al (2011) reported some impacts on child adjustment	Service delivery plans are implemented in selective geographic target areas identified with high socioeconomic disadvantage	<u>POLICIES AND FUNDING GUIDELINES DELIVERED TO COMMUNITY COALITIONS</u>. Communities for Children is a community coalition model that seeks to change service delivery within a socioeconomic disadvantaged geographic area by using funding incentives and training to encourage services to adopt evidence-based service models. Whole community approaches support and enhance early childhood development and wellbeing from birth to 12 years. (https://apps.aifs.gov.au/cfca/guidebook/programs). (Toumbourou et al., 2017).	The program is implemented by community coordinators that receive training and assistance from the Australian Institute for Families.	Pezzullo et al. (2010) estimated the program returned $4.77 returned for every $1 spent.

Program	Evaluation Outcomes	Target Population	Components	Workforce Requirements	Cost Effectiveness
Communities That Care **	http://whatworksforkids.org.au/program/communities-that-care (Supported – Question mark for internalising) http://www.wsipp.wa.gov/BenefitCost/Program/115 (WSIPP, 2018: Preventative effects are reported for alcohol in high school; Cox effect size post-intervention = -0.059, first follow-up = -0.019 and for illicit drug use and smoking)	Universal effects on children and adolescents across a geographic target area.	MANUALISED CURRICULA DELIVERED TO COMMUNITY COALITIONS. Communities That Care (CTC) is a process designed to enhance the healthy development of children and young people. CTC uses a public health approach to decrease the prevalence of youth-related problems such as substance abuse, violence, mental illness, school failure and antisocial behaviour. Through the training provided, communities develop the skills to identify and minimise the risk factors for these health and behaviour outcomes, whilst simultaneously promoting protective factors, to improve well-being for young people in the community. Communities undertaking the CTC process are provided with extensive training and technical assistance to guide them through five phases of planning and delivery (WW4K, 2018).	The program is implemented by community coordinators that receive training and assistance from the Communities That Care staff.	Benefits minus cost = "$US 2,555 per participant = Benefits $US 3,148 - Costs $US 593" (WSIPP, 2018). Program benefits are calculated from positive effects in preventing tobacco use, and crime and increasing school completion.
Online cognitive behavioural therapy	http://wsipp.wa.gov/BenefitCost/Program/64 (WSIPP, 2018) Cox effect size five studies Substance use post-intervention = -0.439, first follow-up = -0.203. Major depression post-intervention and first follow-up = 0.000. Internalising effects unknown.	Children with high anxiety symptoms	MANUALISED CURRICULA DELIVERED ONLINE. "These treatments utilise the same principles and techniques as those of other Cognitive Behaviour Therapy (CBT) treatments for anxiety (e.g.,	Online programs are hosted by a variety of health and mental health organisations.	Benefits minus cost = "$US 7,599 per participant = Costs $US 791 (using a sliding fee scale agencies run these

Program	Evaluation Outcomes	Target Population	Components	Workforce Requirements	Cost Effectiveness
			strategies to control physiological responses to anxiety, cognitive restructuring and self-talk, exposure to feared stimuli, and positive reinforcement). However, they are unique insofar as clients have reduced (if any) face-to-face time with therapists. Clients are supported remotely via email or phone contact. A manual or online program helps to guide progress of the intervention (WSIPP, 2018).		programs at a profit), Benefits $US 6,808"

* Conflict of Interest Declaration: Author Toumbourou holds intellectual property responsibility for the Resilient Families program.
** Conflict of Interest Declaration: Author Toumbourou is a Director and Rowland is the Chief Executive Officer of Communities That Care Ltd

Best practice approaches to engage students in prevention and early intervention related to alcohol and drug use

A systematic review of reviews revealed 16 studies, since 2016, that evaluated school-based, family-based and community-based programs

68 school staff provided responses to determine what programs are currently being implemented in Australian schools to teach alcohol and drug use, and social emotional learning

A review of information on alcohol and drug programs were identified on state government websites

Recommended Websites

PROGRAMS WITH A STRONG EVIDECNE BASE

- Strengthening Familes
- Climate Schools

PROGRAMS WITH SOME EVIDENCE

- Resilient Familes
- SHAHRP

WHAT TO AVOID WHEN LOOKING FOR PROGRAMS

- Unevaluated programs, and broad frameworks are popular, but do not change behaviour

W | www.positivechoices.org.au

W | www.whatworksforkids.org.au

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