Recommendations for the investigation and delivery of music programs aimed at achieving psychosocial wellbeing benefits in mainstream schools

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Abstract

The potential for music programs to promote psychosocial wellbeing in mainstream schools is recognised in both policy and research literature. Despite this recognition, there is a dearth of consistent research evidence supporting this link. Authors attribute this lack of consistent evidence to limitations in the areas of research design and method, as well as the attributes of school music programs investigated. In order to further explore and identify challenges in these areas, two critical reflection analyses were undertaken on the research methods and musical programs used in two Australian studies. One analyses identified several important challenges of reporting psychosocial wellbeing related to methodology, while the other identified challenges related to music program attributes. This article uses these identified challenges to present recommendations to inform the design of future research which aims to explore or demonstrate a link between musical participation in mainstream schools and psychosocial wellbeing. It also suggests a number of elements that should be considered for the design and delivery of music programs aimed at achieving such benefits students in mainstream schools.

Key words: school music, psychosocial wellbeing, research methods, musical participation, policy, music program.

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Introduction

Policy literature suggests musical participation in schools promotes student psychosocial wellbeing (PSWB) (Australian Government, DEST, 2005; Garrett, 2009; MCEETYA & CMC, 2007; Parliament of Victoria, 2013). However, research evidence supporting this link is both scarce (Gill & Rickard, 2012) and inconsistent (Anderson & Rickard, 2007; Rickard, Appelman et al., 2012; Rickard, Bambrick, & Gill, 2012). Analysis of the literature reveals this inconsistency is linked to research challenges in two main areas: research method and design, and the nature of the music programs under investigation. These challenges appear to be driven by assumptions that obscure the potential for research investigations to demonstrate a link between school music programs and psychosocial wellbeing (PSWB).

The first assumption is that the research methods commonly used to assess the PSWB benefits of music in schools are suitable for capturing these benefits. While a range of methods have been used in this area, including observer report (Rickson & Watkins, 2003) and reflexive methodologies (McFerran & Teggelove, 2011), the field is dominated by experimental designs using quantitative self-report methods

(Costa-Giomi, 2004; Currie & Startup, 2012; Rickard, Appelman et al., 2012; Schellenberg, 2004). Arts education scholars have frequently adopted a contrary stance, describing these methods as insufficient for assessing the subjective benefits of school based arts activities (Davis, 2008; Ewing, 2010; Hunter, 2005; Winner & Hetland, 2000). This assertion is supported by literature on social indicators, where it is explicitly stated that:

> a child's ability to provide a valid self-report depends on their cognitive capacity to understand the question and communicate a response [.] Although age is typically associated with particular stages of cognitive development, this varies from child to child and does not ensure a child's ability to provide a valid self-report. (AIHW, 2012, p. 27)

Scholars investigating the PSWB benefits of musical participation also report comprehension a limitation when using quantitative self-report methods with children (Michel & Farrell, 1973), and older students (Anderson & Rickard, 2007). The continued use of these methods can be seen as linked to suggestions from critical scholars that quantitative approaches are the preferred method in both academic (including universities and journals) (Finlay, 2002) and political spheres (Saunders, 2011; Torrance, 2011). To borrow from critical theory terminology (Lincoln, Lynham, & Guba, 2011), this suggests the continued domination of such research methods are driven by the fact they hold a privileged position which is embedded within the structure of the social institutions of policy and academia.

The second assumption driving research in the field is that generic music education programs (referring to training, curriculum, and classroom-based musical activities) will somehow facilitate student PSWB. This is evident both in the type of musical participation advocated in policy literature (Australian Government, DEST, 2005; Parliament of Victoria, 2013), and the programs typically investigated for evidence of PSWB benefits in schools (Michel & Farrell, 1973; Rickard, Appelman et al., 2012; Schellenberg, 2004; Teachout, 2005). While music education has been linked to academic (Kelstrom, 1998; Vaughan, Harris, & Caldwell, 2011) and cognitive benefits (Roden, Kreutz, & Bongard, 2012; Schellenberg, 2004), compelling evidence for its impact on PSWB is illusive (Rickard, Bambrick et al., 2012). Instead, evidence supporting this link predominantly emanates from investigations of therapeutic programs (Baker & Jones, 2006; Cheong-Clinch, 2009; McFerran & Teggelove, 2011), or programs containing non-generic attributes (Rusinek, 2008). Music therapy scholars suggest specific attributes are necessary for the acquisition of PSWB benefits, such as tailored and client-centred delivery (McFerran, 2010; Rolvsjord, 2010; Stige & Aarø, 2012), that are not easily accommodated by music education programs. However convenience of existing samples assumedly lures policymakers and researchers to collect data based on music education programs, thereby embedding an assumption that music education addresses PSWB. The notion that music education could provide a one-size-fits-all model for achieving cognitive, academic, and PSWB benefits also fits with a neo-liberal model of schooling; where school-based activities are most valuable when they contribute to economic outcomes (Bardsley, 2007). This model manifests in Australian schools through a focus on performance testing, academic achievement (Polesel, Dulfer, & Turnbull, 2012), preparation for economic participation (Wyn, 2009), and streamlined public expenditure on education (Vickers, 2005). The continued focus on music education, then, is likely driven by the neo-liberal preference for activities promoting these outcomes [1].

1. There is also an argument to be made for the dominance of music education programs in the field of the Arts and education, though one not addressed here.

The fact these two assumptions continue to dominate work in this area has serious implications for ongoing government support of music in schools. For decades, scholars in areas of policy (Buxton, 1981), education (Kelstrom, 1998; Russell-Bowie, 2009) and the social sciences (Karkou & Glasman, 2004) have lobbied for governments to support musical participation as a vital component of all students' school experience. In Australia it appears the message is finally being heard, as recent policy literature (Australian Government, DEST, 2005; Garrett, 2009; Hunter, 2005; MCEETYA & CMC, 2007; Parliament of Victoria, 2013) suggests political support for school-based musical participation is stronger than it has been for some time (Ewing, 2010; O'Toole, 2010). Of concern is the fact this support is based partly on the assumption that music education will achieve PSWB benefits. Given there is no convincing evidence of this link; programs implemented under this assumption are unlikely to achieve their intended goals. Therefore, any evaluation of the effectiveness of such programs will surely return unflattering results. This is further compounded by the fact that current models for assessing these benefits appear unsuited to capturing them. Given the current political climate of sweeping budget cuts (Kirby, 2014), any policy initiatives not seen to be performing as expected will surely be short lived. If these assumptions persist, instead of promoting music, they may serve to marginalise its role in mainstream education systems.

It is critical to determine which research approaches are suitable for capturing the PSWB benefits of school music participation, and which elements of a music program are appropriate for achieving them. By isolating challenges in each of these areas, and assessing their impact on attempts to demonstrate a link between PSWB and school music programs, this paper makes a number of recommendations for future work in this field. These recommendations aim to guide research that provides more realistic insights into the impact of music on student PSWB. Better research will go onto inform practitioners, schools, researchers, and policy makers about the best models for employing music to achieve PSWB benefits in schools, and the best methods for assessing the effectiveness of such programs.

The Project

The recommendations presented in this paper are based on the analysis of data from two separate critical reflection analyses (CRA) of the challenges in capturing reported PSWB benefits from musical participation in mainstream schools. The challenges identified in the analysis were used to deconstruct assumptions underlying research in this area in order to inform policymakers, schools and practitioners of appropriate models for delivering music programs in schools, and the evaluation of their impact on PSWB.

The Studies

The two studies that provided the data for the CRAs were conducted within a secondary school located in an inner-western suburb of Melbourne. These studies involved different participants and investigated the reported PSWB benefits of different music programs, but each used similar data collection tools and analysis techniques.

The choice to use these studies to inform the CRAs was because each aimed to provide empirical evidence for a link between a school music program in a mainstream setting and student PSWB. Also, each used a pre-post survey design to collect quantitative self-report data, and one used a quasi-experimental design. Therefore these studies employed many of the research method and design elements dominating this field. Each also collected qualitative data (including teacher report), enabling unique insight into both quantitative results, and participant perceptions of survey procedures.

These two studies also evaluated very different music programs. One was delivered in a classroom setting and contained elements of the music education programs advocated by policy literature

and frequently investigated by researchers who have returned inconsistent results. The other program followed a therapeutic approach more consistently linked to reported outcomes. These and other differences (and similarities) between the programs enabled reflection upon different program attributes, and their potential to impact the reporting of PSWB benefits.

Study 1

The program

The first study aimed to identify the PSWB benefits of a classroom-based music program called Keys to Success. This program ran for one hour per week for four weeks, and focused on delivering the curriculum content of an existing life-skills subject with students in Year 7. It was delivered by a music therapist, however did not follow a music therapy model. Instead it focused on the use of music to increase classroom engagement whilst delivering curriculum material.

The method

To investigate PSWB benefits, surveys were administered using a quasi-experimental design, with 20 students in the intervention class, and 22 in the control class. The control condition involved participation in the non-musical version of the Keys to Success program. Surveys were administered to both groups before and after the music program, and included scales from the Victorian Adolescent Health and Wellbeing (Department of Education and Early Childhood Development, 2010) survey, and the Communities That Care® Ltd. Youth Survey (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Bond, Thomas, Toumbourou, Patton, & Catalano, 2000). Eighteen scales measured PSWB in eight domains: community, school, peer and individual, emotional control, social support, psychological distress, psychological wellbeing, and psychological needs (see Appendix A for details).

Semi-structured interviews were conducted with nine participants in the intervention class and the teacher of the same class in order to further explore survey results. Observational reports were also collected throughout the study, including the documentation of practical issues that arose during data collection, contextual factors, comments from staff, and the personal reflections of researchers.

The results

Survey data showed no reported benefits. Improvement was reported on five of the 18 scales by the intervention class, and four by the control, yet these mean changes were minimal and not statistically significant. Mean change scores on remaining scales showed decreased functioning for both groups, only one of which reached statistical significance for each class (see Appendix B).

Some benefits were described in interviews, including comments classified as: increased social connection (reported by 4 of 9 students, n=4/9); school engagement (n=8/9); engagement with learning (n=4/9); positive affect (n=3/9); prosocial behaviour (n=2/9); and self-efficacy (n=5/9). However, few outcomes were reported widely or convincingly, suggesting most were not experienced by the group as a whole, or strongly by those that did report them. Non-committal (n=9/9), off-track (n=3/9), contradicting (n=5/9), suspicious responses (n=9/9), and the fact each student reported an absence of at least 3 different benefits, supported this suggestion. Interview data also indicated students didn't understand the program (n=9/9), and some didn't understand the survey (n=6/9).

Study 2

The program

The second study was an evaluation of a school-based music therapy program for bereaved students. This program ran weekly for 5 weeks

and used a traditional music therapy model to work with six students who were experiencing loss and grief in their personal lives. A qualified music therapist co-facilitated the group with the wellbeing coordinator in a private room where interruptions were unlikely.

The method

In order to evaluate the impact of the Bereavement Group on participant PSWB, surveys and interviews were carried out concurrently with five students. The survey used 14 scales taken from the Victorian Adolescent Health and Wellbeing (Department of Education and Early Childhood Development, 2010) survey and covered six domains: school, emotional control, social support, psychological distress, psychological wellbeing, and psychological needs, and was administered before and after the program (see Appendix C for details).

Interviews were conducted at follow-up in order to further evaluate the PSWB benefits of the program, and students' perceptions of program strengths and weaknesses. Observational reports were again collected from the music therapist and the primary researcher.

The results

No PSWB benefits were captured in the analysis of the survey data. Mean change scores did show improvement on 5 scales, yet no scale results were statistically significant.

Several benefits were reported in the interviews. These included increased social connection (n=5/5); social support (n=4/5); and affect (n=5/5). Students also reported the program helped them to let feelings out (n=2/5); deal with bereavement (n=4/5); remember the good things about the person in their life they had lost (n=3/5); and move on (n=2/5). These benefits were well endorsed by the number of participants who reported them and the nature of the responses. Students also reported to have a good understanding of and commitment to the program (n=5/5). Increased understanding of how music can help them in their everyday lives was also reported (n=5/5).

The Critical Reflection Analyses

To explore the impact of both reporting methods and the attributes of a musical program on the reporting of benefits in these studies, two CRAs were undertaken. Each analysis drew on all available data from both studies.

Critical reflection analysis 1

The first CRA reflected on how the PSWB benefits reported in each study were impacted by research method, design, and the contextual influences due to conducting research in a school. Identified challenges were classified into seven main areas: reporting inconsistency; comprehension; engagement; survey use; interviewing; therapeutic model; and conducting experimental designs in school settings. Systematic reflection on these challenges led to the development of a matrix of possible solutions that are compiled in Appendix D. These solutions can be divided into three categories: those involve the use of interviews, those that involve the use of surveys, and those relevant to all methods. Using this matrix as a guide, recommendations are presented here for future research using qualitative approaches, and research using quantitative approaches.

Recommendations for qualitative research designs

Results suggest qualitative research approaches present a logical way to address many challenges related to method and design. The most obvious rationale for this is that 23 of the 39 challenges identified in the matrix relate to the use of surveys to capture self-reported benefits. Simply put, taking a qualitative approach to data collection by default removes the majority of research challenges identified. However, while less problematic than surveys, this project has

shown qualitative self-report methods are not without challenges. Issues of comprehension, student engagement, the use of interviews, and misreporting also occur with interviews.

Choice of language

Any researcher aiming to collect student self-report data must make careful choices about the words and terminology used to discuss musical participation and PSWB. Using simplified language and avoiding unnecessarily academic or abstract terms would likely increase students' comprehension, thereby increasing their ability to both engage with content and offer meaningful responses.

Relationship building and engagement

Time is necessary to build rapport with students and engage them in the research process. This includes providing information about the project, how it relates to them, the importance of their contribution, and intentions of the researchers. Through becoming aware of the value of the research, it is reasonable to assume students would become more engaged, and committed to participating in research activities. Similarly, building a relationship between interviewer and student would promote trust and familiarity, which may assist students to discuss sensitive topics more confidently. An engagement period would give students the chance to learn about concepts of wellbeing or musical participation they may not have understood previously. All of these initiatives would potentially lead to more detailed responses, and thus richer data.

Setting

When asking students to discuss sensitive topics, the space should not compromise their sense of confidentiality. The interviewer should avoid spaces that potentially place them in a staff role in the eyes of the student, such as a teacher's office or meeting room used for disciplinary meetings. This is consistent with recommendations made by previous authors (Gutiérrez & Torres-Pereda, 2009; Leigh, Gillmore, & Morrison, 1998; Youn, 1996).

Multiple reporters

While the above recommendations provide important strategies for interviewing, they do not address what appear fundamental issues related to using any self-report method: the potential to misreport. One cannot force students to tell the truth, nor expect them to comprehend questions (even if you have gone to great lengths to explain them). Neither can one assume what one or more students report is representative of all students' experiences. Reflection on the Keys To Success study highlighted significant differences in reporting between relatively small numbers of individuals. Conceivably, the only way to minimise these effects is to triangulate data sources by collecting perspectives from multiple reporters. Yet, as the Keys To Success study also showed, teacher reports are not always congruent with the student experience. To use parent reports assumes they are sufficiently aware of what happens in the classroom, their child's life more generally, and that they are happy to report. Participant observation, where the researcher themselves partakes in and reports on the music programs, is another option, yet also assumes researchers have sufficient knowledge of students to detect benefits. Collecting diverse perspectives from multiple reporters allows the researcher to compare the benefits described by all reporters and systematically analyse similarities and congruities for meaning.

Recommendations for quantitative research designs

Despite the plethora of challenges related to survey use, pursuing quantified outcomes is often a priority for researchers. The need to communicate benefits to policymakers in order to advocate for government support of school music programs requires such evidence. In

light of such needs, it is possible to articulate a quantitative research approach that addresses as many challenges related these methods as possible.

Experimental design

Non-experimental designs could mitigate many challenges associated with using surveys in experimental designs. Cross-sectional designs would reduce problems related to using control groups, missing follow-up responses, burden on participants, limited school time and resources, and survey tools not designed for experimental research. However, to produce evidence that is convincing at the policy and academic level, support for a causal link between musical participation and PSWB is desirable, something correlational studies cannot provide (Shadish, Cook, & Campbell, 2002; Winner & Hetland, 2000). As such experimental designs are sometimes required.

Purpose of scales

Where experimental designs use surveys as the chosen reporting tool, scale choice is critical. Many survey instruments are designed to assess the prevalence of a condition in a population and do not necessarily function as well in capturing change in conditions over time. Therefore scales designed specifically to measure change should be used.

Scale content

Given varying levels of comprehension among adolescents, students may not understand question or response option wording. Students may also misunderstand academic terminology used to articulate specific concepts or constructs. Further, given the prevalence of culturally and linguistically diverse (CALD) students in Australian schools, language and concepts used in standard scales may not be congruent with different cultural understandings of a given construct. Therefore, scales should use culturally appropriate and simplified, or directed, wording suitable for the full range of student comprehension skills. Such scales should be developed where not available, preferably in consultation with target populations.

Constructs measured

Scales should be matched and targeted to the intended outcomes of a program. For example, programs targeting bereavement should use bereavement specific scales rather than relying on measures of self-esteem, anxiety, or depression to demonstrate the effectiveness of the program. Again, appropriate scales should be developed where necessary.

Using targeted scales, however, presents another challenge. Benefits reported in the Keys To Success and Bereavement Group studies varied between students. Using targeted scales would therefore capture benefits experienced by a proportion of a sample only, leaving remaining benefits unreported and underrepresenting program value. This is not easily reconcilable within this design, and is indicative of the inherent tensions of using surveys in this area.

Number of scales used

Using many scales may help capture a program benefit. It would increase the likelihood of including a scale that matched a relevant construct, or student comprehension. It may also increase chances of capturing the diversity of benefits. However, this would require a large survey instrument, increasing response burden, disengagement in the research process, rushed or missing responses, and increased burden on the school. Also, it is unlikely enough students would report improvement on scales aimed at periphery benefits to make results statistically significant. Therefore, researchers should only include scales suited to intended program outcomes. Scales should be piloted with relevant populations and programs beforehand to determine suitability.

Delivery by electronic devices

Delivering surveys using computers or electronic devices (i.e., tablets) can limit missing item responses (Langhaug, Sherr, & Cowan, 2010), and help collect follow-up data from students absent at follow-up. Authors also suggest young people are more engaged (Wylie et al., 2012) and comfortable when reporting electronically (Kauer et al., 2012; Ramo & Prochaska, 2012). Necessary equipment is readily accessible in schools and homes, and online survey software is cheap and widely available. Online surveys can also deliver content in multiple languages (Rhodes, Bowie, & Hergenrather, 2003), thus reducing language-based limitations for CALD students.

Despite these benefits, such methods cannot alone guarantee full student comprehension or engagement. Also, despite claims the increased anonymity of electronic methods encourages reporting on sensitive issues (Langhaug et al., 2010; Ramo & Prochaska, 2012; Rhodes et al., 2003), confidentiality remains problematic in classroom settings.

Supervised delivery

Delivering questions and responses orally would enable the explanation of survey terminology and concepts to the whole group for each question (Pfleeger & Kitchenham, 2001). This would take longer, however, and still not guarantee the comprehension of the whole class.

Where possible, one-on-one survey delivery should be used. Researchers can focus on the comprehension of each student, ensure all items are answered, and encourage increased engagement. This would also address confidentiality in classroom settings.

Again, however, this approach is problematic given the time needed, and claims face-to-face surveys reduce truthful responses on sensitive topics (Langhaug et al., 2010; Rhodes et al., 2003; Wylie et al., 2012). This again represents the tensions of scale use in this area.

Building researcher-student relationships

Regardless of delivery approach, building relationships with students and engaging them in research is essential. This would address engagement, some comprehension issues, and minimise challenges of face-to-face surveying.

Working with schools to facilitate randomised sampling

Despite challenges of accomplishing effective randomisation procedures in school settings, reported here and elsewhere (Currie & Startup, 2012; Rickard, Bambrick et al., 2012), their importance in experimental designs (i.e., collecting comparable baseline data between groups) is recognised here. To achieve effective randomisation, researchers need to collaborate with schools. This includes communicating the importance of randomisation procedures, and offering resource and practical support for their facilitation where possible.

Recruitment of at-risk population

Targeting at-risk populations reduces the risk of recruiting participants who will report high levels of PSWB at baseline, thus minimising the chance of ceiling and floor effects. This increases the chance that any increase on a given construct will reach statistical significance. Targeting participants from a particular at-risk population (i.e., socially isolated students) also enables the choice of scales targeted at their common risk factor.

Sample size

Typically, achieving statistical significance requires sufficient sample sizes. However, procuring large samples can create more problems than it solves (see Appendix D). Therefore, the targeted, or purposeful, sampling of smaller samples is recommended. This would enable recruitment of students expected to

benefit from a given program, enable the facilitation of more effective data collection, and reduce burden on schools.

Collaboration and consultation with school communities

It is critical researchers consult school communities when planning studies to identify their existing commitments and needs, as well any resources or school structures which may impede or support a research project. This would enable researchers to design programs that best fit the context and needs of a school, and ascertain how a research team could best support the school in delivering it. This would reduce burden on the school, while also showing them they are valued, and their needs are being considered. This may in turn increase support for, commitment to, understanding of, and the value attributed to research projects by a school. Such support would help in the facilitation of desired research designs, including effective randomisation, survey delivery, and sampling.

This recommendation is consistent with previous research. Grimmett, Rickard, Gill, and Murphy (2010) report insufficient consultation with schools in their study lead to low school engagement, and spurious results.

Critical reflection analysis 2:

The second CRA reflected on how the PSWB benefits reported in each study were impacted by the attributes of their respective music programs. Results identified several attributes that appeared to problematize, or prevent reporting benefits. By doing so, it also identified a number of attributes which, when present, appear to promote the reporting of benefits. Several attributes, or activities, were also linked to certain benefits.

Using these results, recommendations for necessary attributes to be included and avoided in programs specifically aimed at achieving PSWB benefits in mainstream schools are presented below. These attributes are divided into two main areas; participant group attributes, and attributes of programs delivered to these groups. Included in the last area are certain program activities recommended when attempting to facilitate specific benefits or outcomes in certain areas.

Recommendations for participant group recruitment and engagement

Recruit smaller groups

Programs should be kept small; a recommendation consistent with previous observations in this area (Rickard, Bambrick et al., 2012; Rickson & Watkins, 2003). Based on Keys To Success and Bereavement Group participant numbers, and recommendations from other fields (Malekoff, 2014; Yalom, 1995), groups should ideally include more than four and less than ten students. This would ensure a group big enough to facilitate group processes that contribute to benefits, yet small enough for each student to make a contribution, and experience these benefits (Hartford, 1971).

Recruit at-risk participants

Given mainstream students are by definition not identified as at-risk, and may already have reasonable levels of PSWB, they are less likely to experience benefits to the same magnitude as at-risk students. This is not to assume mainstream students will not experience PSWB benefits, only that they are less likely to report a significant (statistical or otherwise) increase in these benefits. This claim is also backed by existing literature (Rickard, Appelman et al., 2012; Rickard, Bambrick et al., 2012; Shields, 2001; Teachout, 2005). Targeting certain at-risk populations enables programs to have a specific focus, and increases the likelihood students will experience benefits in that area.

Engage participants in program

Steps should be taken to ensure students understand of the purpose and value of the program. This is likely to impact student

commitment to a program and its outcomes. This accords with previous claims that students need to be sufficiently engaged in a program to be committed (Bolger, 2013) and experience benefits (Hallam, 2010; Rickard, Bambrick et al., 2012).

Recommendations for the design and delivery of programs

Avoid delivering programs as a class activity

Students may associate programs delivered in classroom settings with regular class or curriculum activities, thus potentially impeding engagement. This setting also increases the chance that groups are diverse and lack common factors needed to facilitate bonding. Bonding and other group processes may also be inhibited by established classroom dynamics. Further, consistent with existing claims, classroom delivery may negatively impact facilitation given they are uncontrolled settings (Montello & Coons, 1998; Shields, 2001), and make it harder to cater to students' individual needs (Pitts & Davidson, 2000; Rickard, Bambrick et al., 2012)

Deliver program in private setting

Delivering programs in private settings enables the privacy needed to address sensitive issues and enables the group bonding and engagement linked to several outcomes reported in the Bereavement Group data. It also addresses challenges of classroom delivery by keeping groups small and manageable for facilitators and disconnects programs from a curriculum context – something authors suggest is necessary to facilitate sufficient engagement (Rickard, Bambrick et al., 2012).

Run programs of sufficient length

Programs need to be of sufficient length to achieve reportable benefits. This would give students more time to engage with a program, and may increase any effect of the program on PSWB. Again this recommendation confers with existing literature (Baker & Jones, 2006; Geretsegger, Holck, & Gold, 2012; Gold, Solli, Krüger, & Lie, 2009). While claims of optimal length vary, it seems programs should, at minimum, last between seven (Michel & Farrell, 1973) and 12 weeks (Anderson & Rickard, 2007; Montello & Coons, 1998).

Deliver programs that focus on wellbeing rather than curriculum

When aiming to achieve reportable PSWB benefits, programs designed and delivered specifically to target wellbeing are essential. Such programs contain attributes that are devised and intended for this purpose thus making them more suitable for achieving these outcomes. While curriculum based music classes, musical training, and music education programs have been linked to academic and or cognitive development (Gill & Rickard, 2012), they are not designed to achieve PSWB outcomes. This makes it unlikely these programs will produce a transfer of PSWB benefits at a reportable level. Again, this is not to claim that it is not possible for music education programs to promote PSWB. To *assume* this transfer, however, is unjustified.

Target needs of specific group

Programs targeting the PSWB needs of a specific group are also recommended. This promotes group coherence and establishes a common goal. Limited group coherence inhibits social support among participants and a shared interest in the program. Lack of a common goal will likely impede the ability to target an identified area of need, inevitably leading to a program focus that is either not relevant, or too broad to impact anything at a reportable level. Therefore, in accordance with previous claims (Gooding, 2011; Rickson & Watkins, 2003) programs should be both delivered to coherent groups sharing common needs or goal, and designed to address these.

Employ quality facilitator

While employing a quality facilitator is not enough in itself to guarantee reported benefits, it is a compulsory factor. This is supported by claims that facilitator characteristics can both limit (Grimmett et al., 2010) and promote (Rusinek, 2008) reported benefits. While music therapists would be an obvious choice for this role, considering the resources this would require, a facilitator skilled in engaging participants, and using music to address PSWB goals should be sufficient: an approach reported successful in previous programs (Rusinek, 2008; Vaughan et al., 2011).

Use participatory and democratic approach

A participatory and democratic, rather than didactic, approach to program delivery is optimal. The ability for students to make decisions about the structure and content of their program is empowering, and leads to increased engagement and ensures programs are suited to the needs of the individuals within the group, and the group as a whole. Such an approach is advocated in the music therapy literature (Stige & Aarø, 2012; Stige, Ansdell, Elefant, & Pavlicevic, 2010), and noted to promote ownership, a sense of control (McFerran, 2010), and participant investment in their own wellbeing (Bolger, 2013).

Foster the appropriation of music for wellbeing

Using a combination of the above recommendations, programs should also aim to promote the appropriation of music as a PSWB resource. This will increase student understanding of how and why music is important within a program, while also facilitating benefits within group sessions, and in students' daily lives. Consistent with existing theory (DeNora, 2000), it appears that it is when music is actively appropriated by individuals that the greatest transfer of wellbeing benefits takes place.

Avoid the use of music as skilled activity

Musical activities where participation is likened to an expert conception of musical mastery (e.g. skilled performance of a musical piece) should be used with caution. Activities that focus on instrumentation as a means of expression and fun (rather than a display of skill) allow unskilled or resistant students to experience instrumental use as engaging, enjoyable or useful in communicating feelings. Considering existing claims that emphasising musical skill in therapy groups can lead to anxiety and impede benefits (McFerran, 2010), activities which focus on musical ability should be avoided, unless specifically requested by participants.

Consider the use of certain activities for certain benefits

When a specific need or program goal has been identified, results suggest is possible to use certain musical activities to pursue these. The list below is not intended as an exhaustive account of activities or benefits, rather it presents an example of how activities within a music group can be appropriated for particular goals.

Group activities

Activities that require group participation can facilitate social connection, as they require students to work together. Music can serve as an 'icebreaker' in this process, and provide an opportunity for students to work towards a common goal.

Group activities can also increase communication between participants by providing an opportunity for students to talk to others they do not usually communicate with. Further, the need to work towards a common goal requires students to employ communication skills. Group activities such as song sharing and instrumental improvisation can also provide an appropriate way for students to communicate feelings to one another.

Working in a group also has the potential facilitate self-efficacy. This may occur when students are encouraged to get up and do things with or in front of others.

Instrumental activities

Instrumental activities such as improvisation provide an accessible, novel and non-confronting way for students to engage with difficult feelings, and express or share them with others. They are also reported as enjoyable, which can promote engagement.

Creating a musical product

Creating a musical product can create a sense of ownership, and pride and promote feelings of self-efficacy. To avoid the use of music as a skilled activity, the musical products should focus on aspects such as expression rather than musical skill.

Fun activities

Musical activities considered as fun can be linked to several benefits. These include increased engagement in school, class, and learning. They also provide a non-confronting way to approach and engage with issues of grief and loss. They can also provide a valuable balance to otherwise challenging program content.

Challenging activities

Challenging activities can be instrumental in the addressing the needs of at-risk groups, such as bereaved students. While they may be perceived as difficult, painful and confronting, they can also be seen as necessary or valuable given they enable students to face, tackle, and move past difficult issues.

Non-musical activities

Non-musical activities can also be beneficial. Such activities may include acting in, directing, or filming a music video, as it gives students who are uncomfortable with singing or instrumental roles a chance to participate. This suggests activities do not have to be strictly 'musical' to promote benefits. Rather, their ability to afford opportunities for students to participate in and be recognised as a valuable or contributing member of a group is what makes them valuable. This confers with more inclusive conceptualisations of musical participation, or 'musicking' (Small, 1998), where the focus is placed upon musical affordances, or participating in music related activities, rather than music itself.

Discussion

Embedded within the above recommendations is the identification and deconstruction of several assumptions underpinning both research and policy recommendations in this area. These link to two areas. The first relates to research methods, and include assumptions that; experimental designs, which have not been specifically adapted to specific mainstream school contexts, are suitable for capturing change on subjective constructs of wellbeing; students will understand the language and concepts used in research tools, and that through such tools, they will report responses that present legitimate reflections of their own experiences; and, one source of reporting is sufficient to gain a realistic picture of the presence and range of PSWB benefits in student populations. As this paper has shown, these assumptions are not only unwarranted, they serve to obscure the very reality such research approaches aim to uncover. To borrow from Beck (2002) and Plummer (2011), these assumptions represent 'zombie categories'; approaches to research and practice that are unhelpful or not useful in this area.

Other assumptions identified relate to attributes of a music program. These include assumptions that music programs which are; delivered in classroom contexts; designed to educate or train students; focus on musical skill; lack facilitators

skilled in achieving wellbeing through musical participation; are large in member size; are short in length; fail to sufficiently engage students; recruit mainstream populations; or have a generic focus, can be expected to impact student PSWB in a reportable way. Put simply, this can be seen as the assumption that music education programs will achieve PSWB benefits. Again, this assumption is both unrealistic, and dangerous at such a critical point in the ongoing struggle to promote support for music programs in schools.

Having identified and deconstructed assumptions impacting research in this area, this article has provided several recommendations for future research and practice that aim to minimise these impacts. It does not assume, however, these recommendations account for all potential challenges, nor that they will sufficiently address all those identified. Several challenges related to quantitative study designs illustrate the inherent tensions of using them in this area. For example: the need to access larger participant groups to achieve statistically significant results clashes directly with recommendations for small participant groups; recommendation for fewer scales is at odds with the observation reported benefits may vary significantly among participants of the same program; and the call for scales which are sensitive to the full range cultural groups will likely result in large survey tools, complicated study designs, increased burden on schools, or the collection of incomparable data. Therefore, while recommendations for quantitative designs are considered both valid and necessary for the acquisition of evidence needed to facilitate government support for music in schools, they should be seen as a 'best-approach-to-a-bad-situation'.

Ideally, future study in this area should be pre-empted by qualitative designs (following the recommendations for such designs stated above), in order to inform more effective scale choice and design. Such a claim is also supported by policy literature, which states there is:

> need for qualitative as well as quantitative research on children's [social and emotional wellbeing (SEWB)] (and particularly adolescents' SEWB) [.] The development of qualitative research with children and young people also holds out the possibility that they can become actively and critically involved in the research process, so that they can begin to design their own indicators, both of general wellbeing and of SEWB. (Hamilton & Redmond, 2010)

Developing scales that use language and concepts of PSWB understood by students themselves would potentially address many challenges related to their use in this context. The use of qualitative research methodologies in this process seems logical given their ability to explore the lived experiences of a phenomenon, and determine the language used by participants to articulate them (Denzin & Lincoln, 2011).

Further, in accord with previous claims for the need to use mixed method designs in this area (Davis, 2008; Ewing, 2010; Hunter, 2005; Winner & Hetland, 2000) it is also recommended *any* future study (quantitative or qualitative) use multiple reporting methods. This would allow the triangulation of data from multiple sources, and address challenges of misreporting.

Recommendations for the design and facilitation of music programs are also intended as a guide. It is not proposed that following each recommendation in this area will guarantee students experience benefits, nor is it proposed that failure to address one or more of these factors will prevent benefits outright. It may often not be possible to follow each recommendation in the real world. In these cases, it becomes a matter of finding the right balance or combination of these factors. For example, Rusinek (2008) found several reportable benefits from a music program which was delivered within a class setting, and focused on musical training and performance as a skilled activity. However, this was an ongoing program, lasting over six months, which employed a skilled facilitator, targeted the needs of a specific

group that was both at-risk and engaged, used a participatory and democratic approach, and targeted activities to intended outcomes. This suggests, when enough recommended program attributes are combined in way suitable for a given context, observable benefits are more likely to be reported.

There are also several recommendations that appear vital in any situation. Recruiting smaller groups, targeting at-risk students, and taking the time to engage students in the purpose and value of a program emerged as recommendations in both CRAs. Other recommendations, including the need to consult and collaborate with schools, not only present the potential to address a long list of challenges, it also has no perceivable negative impacts. This indicates these recommendations should be a priority for the delivery and investigation of any program aimed at achieving PSWB benefits in schools.

By following, or at least being aware of, this and other recommendations made here, we can approach a more realistic understanding of how and when students experience PSWB benefits through participation in school music programs.

Conclusion

This article presents several recommendations which may potentially address challenges that have so far hampered efforts to demonstrate a link between musical participation in schools and PSWB. These included suggested approaches for designing research aimed at further exploring the nuances of this link, and research that aims to validate this link in a quantifiable and empirically rigorous way. Claims are also made regarding the attributes of a school music program which are most likely to promote student PSWB. In combining these recommendations, it is proposed researchers will be well placed to gather evidence from which to make a strong argument for the role of music in promoting student PSWB.

Being able to make the argument that school music programs are capable of achieving PSWB being is critical given the current policy situation surrounding the place of music in schools. It would appear that we are better placed than ever to secure policy support for school music programs. Yet, this support is endangered by two main assumptions in policy literature and research practice in this area: that generic music education programs will achieve the full range of potential benefits attributed to musical participation in schools, and that standard quantitative reporting methods are capable of capturing these benefits. Informed by critical reflections on two studies, this paper illustrates these assumptions are not only unwarranted when applied to PSWB benefits, but they have the potential to threaten support for school music programs overall. It is proposed the continuation of such assumptions will not only mean music programs supported by policy fail to achieve intended outcomes, any attempt to evaluate their impact on PSWB will be hampered by unhelpful research designs.

This article has aimed to first illustrate the presence of these assumptions, their origins, and illustrate their potential impact on the decades-long struggle to see music supported in schools at a policy level. It then, through the recommendations mentioned above, aims to provide a guide to reversing the impact of these assumptions, and strengthening this support. While it is not proposed that recommendations presented here address (or identify) all potential challenges in this area, it is proposed that those that are presented provide an important basis from which to move forward. It provides important information for policymakers as to the type of music program that can be expected to promote PSWB, and how the effectiveness of such programs may best be evaluated. It provides researchers in this field, whether driven by policy or theoretical motivations, an important insight into the tensions in investigating this phenomenon, and how they might be addressed through careful planning.

It also provides a valuable guide for schools or musical practitioners wanting to deliver music programs in mainstream educational contexts with the goal of supporting the PSWB needs of students. Most importantly, it is the expressed hope of the authors that it goes someway to improving the lives of young people in our schools.

References

AIHW. (2012). Social and emotional wellbeing: Development of a Children's Headline Indicator. Canberra AIHW.

Anderson, H. K., & Rickard, N. S. (2007). A preliminary examination of short-term effects of an active class-based music program on young adolescents' self-esteem and anger expression. *Australian Journal of Music Education,* (1), 4-16.

Arthur, M. W., Hawkins, J. D., Pollard, J. A., Catalano, R. F., & Baglioni, A. (2002). Measuring Risk and Protective Factors for Use, Delinquency, and Other Adolescent Problem Behaviors The Communities That Care Youth Survey. *Evaluation Review, 26*(6), 575-601.

Australian Government, DEST. (2005). *National Review of School Music Education: Augmenting the diminished*. Canberra, Australia: Department of Education, Science and Training, Australian Government.

Baker, F., & Jones, C. (2006). The effect of music therapy services on classroom behaviours of newly arrived refugee students in Australia—a pilot study. *Emotional and Behavioural Difficulties, 11*(4), 249-260.

Bardsley, D. K. (2007). Education for all in a global era? The social justice of Australian secondary school education in a risk society. *Journal of Education Policy, 22*(5), 493-508. doi: 10.1080/02680930701541691

Beck, U. (2002). The Cosmopolitan Society and Its Enemies. *Theory, Culture & Society, 19*(1-2), 17-44.

Bolger, L. (2013). *Understanding and articulating the processa and meaning of collaboration in participatory music projects with marginalised young people and their supporting communities.* (PhD), University of Melbourne. Retrieved from http://hdl.handle.net/11343/39742

Bond, L., Thomas, L., Toumbourou, J., Patton, G., & Catalano, R. (2000). Improving the Lives of Young Victorians in Our Community: a survey of risk and protective factors. Melbourne: Centre for Adolescent Health.

Buxton, R. (1981). *Policy Making in Music Education*. Paper presented at the Growing with Music: Report of the Fouth National Conference, Parkville, Vic. https://ezp.lib.unimelb.edu.au/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsihs&AN=551511037294493&scope=site

Cheong-Clinch, C. (2009). Music for engaging young people in education. *Youth Studies Australia, 28*(2), 50-57.

Costa-Giomi, E. (2004). Effects of three years of piano instruction on children's academic achievement, school performance and self-esteem. *Psychology of Music, 32*(2), 139-152.

Currie, M., & Startup, M. (2012). Doing Anger Differently: Two controlled trials of percussion group psychotherapy for adolescent reactive aggression. *Journal of Adolescence, 35*(4), 843-853.

Davis, D. (2008). First we see: The national review of visual arts education. Sydney: Science and Training Department of Education, The Australian Council for the Arts.

DeNora, T. (2000). *Music in everyday life*: Cambridge University Press.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The SAGE handbook of qualitative research* (4th ed.). Thousand Oaks, CA: SAGE Publications Inc.

Department of Education and Early Childhood Development. (2010). The State of Victoria's Children 2009: Aboriginal children and young people in Victoria. Victoria, Australia: Department of Education and Early Childhood Development.

Ewing, R. (2010). The Arts and Australian Education: Realising potential. In C. Glascodine (Ed.), *Australian Education Review* (Vol. 58, pp. 76). Camberwell, Victoria: Australian Council for Educational Research.

Finlay, L. (2002). Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative Research, 2*(2), 209-230.

Garrett, P. (2009). Arts in Australia's national curriculum (Media Release). Retrieved 23/01/2013 http://www.environment.gov.au/minister/archive/env/2009/pubs/mr20090417b.pdf

Geretsegger, M., Holck, U., & Gold, C. (2012). Randomised controlled trial of improvisational music therapy's effectiveness for children with autism spectrum disorders (TIME-A): study protocol. *BMC Pediatrics, 12*(1), 2.

Gill, A., & Rickard, N. (2012). Non-musical benefits of school-based music education and training. In S. N, Rickard & M. K (Eds.), *Lifelong engagement with music: Benefits for mental health and well-being* (pp. 57-72). Hauppauge NY, United States: Nova Science Publishers, Inc.

Gold, C., Solli, H. P., Krüger, V., & Lie, S. A. (2009). Dose–response relationship in music therapy for people with serious mental disorders: Systematic review and meta-analysis. *Clinical Psychology Review, 29*(3), 193-207.

Gooding, L. F. (2011). The effect of a music therapy social skills training program on improving social competence in children and adolescents with social skills deficits. *Journal of Music Therapy, 48*(4), 440-462.

Grimmett, H., Rickard, N. S., Gill, A., & Murphy, F. (2010). The Perilous Path from Proposal to Practice: A Qualitative Program Evaluation of a Regional Music Program. *Australian Journal of Music Education*(2), 52-65.

Gutiérrez, J. P., & Torres-Pereda, P. (2009). Acceptability and reliability of an adolescent risk behavior questionnaire administered with audio and computer support. *Revista Panamericana de Salud Pública, 25*(5), 418-422.

Hallam, S. (2010). The power of music: Its impact on the intellectual, social and personal development of children and young people. *International Journal of Music Education, 28*(3), 269-289. doi: 10.1177/0255761410370658

Hamilton, M., & Redmond, G. (2010). Conceptualisation of social and emotional wellbeing for children and young people, and policy implications. Canberra: ARACY & AIHW.

Hartford, M. E. (1971). *Groups in social work*. New York: Columbia University Press.

Hunter, M. (2005). Education and the Arts: Research overview. A summary report prepared for the Australia Council for the Arts, Australia Council for the Arts, Sydney. Canberra: Australian Government and Australian Council for the Arts.

Karkou, V., & Glasman, J. (2004). Arts, education and society: the role of the arts in promoting the emotional wellbeing and social inclusion of young people. *Support for Learning, 19*(2), 57-65.

Kauer, S. D., Reid, S. C., Crooke, A. H. D., Khor, A., Hearps, S. J. C., Jorm, A. F., . . . Patton, G. (2012). Self-monitoring using mobile phones in the early stages of adolescent depression: randomized controlled trial. *Journal of Medical Internet Research, 14*(3), e67.

Kelstrom, J., M. (1998). The untapped power of music: Its role in the curriculum and its effect on academic achievement. *National Association of Secondary School Principals. NASSP Bulletin, 82*(597), 34.

Kirby, T. (2014). Health and science suffer major cuts in Australia's budget. *The Lancet, 383*(9932), 1874-1876.

Langhaug, L. F., Sherr, L., & Cowan, F. M. (2010). How to improve the validity of sexual behaviour reporting: systematic review of questionnaire delivery modes in developing countries. *Tropical Medicine & International Health, 15*(3), 362-381. doi: 10.1111/j.1365-3156.2009.02464.x

Leigh, B. C., Gillmore, M. R., & Morrison, D. M. (1998). Comparison of diary and retrospective measures for recording alcohol consumption and sexual activity. *Journal of Clinical Epidemiology, 51*(2), 119-127.

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (4th ed., pp. 97-128). Thousand Oaks, CA: SAGE Publications Inc.

Malekoff, A. (2014). *Group work with adolescents: Principles and practice* (3rd ed.). New York, NY: The Guilford Press.

MCEETYA, & CMC. (2007). *National Education and the Arts Statement*. Canberra: Department of Communication, Information Technology and the Arts Retrieved from http://www.mceecdya.edu.au/verve/_resources/National_Education_Arts_Statement.pdf.

McFerran, K. (2010). *Adolescents, Music and Music Therapy*. London. UK: Jessica Kingsley Publishing.

McFerran, K., & Teggelove, K. (2011). Music Therapy with Young People in Schools: After the Black Saturday Fires. *Voices: A World Forum for Music Therapy, 11*(1).

Michel, D. E., & Farrell, D. M. (1973). Music and Self-Esteem: Disadvantaged Problem Boys in an All-Black Elementary School. *Journal of Research in Music Education, 21*(1), 80-84. doi: 10.2307/3343983

Montello, L., & Coons, E., E. (1998). Effects of Active Versus Passive Group Music Therapy on Preadolescents with Emotional, Learning, and Behavioral Disorders. *Music Therapy, 35*(1), 49-67.

O'Toole, J. (2010). Forward. In C. Glascodine (Ed.), *The Arts and Australian Education: Realising Potential*. Camberwell, Victoria: ACER Press.

Parliament of Victoria. (2013). *Inquiry into the extent, benefits and potential of music education in Victorian schools*. (Parliamentary paper No. 277). Victorian Government Printer Retrieved from http://www.parliament.vic.gov.au/file_uploads/Music_Education_Final_041113_FJWsJhBy.pdf.

Pfleeger, S. L., & Kitchenham, B. A. (2001). Principles of survey research: part 1: turning lemons into lemonade. *ACM SIGSOFT Software Engineering Notes, 26*(6), 16-18.

Pitts, S., & Davidson, J. (2000). Supporting musical development in the primary school. *Research Studies in Music Education, 14*, 76–84.

Plummer, K. (2011). Critical humanism and queer theory. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (4th ed., pp. 195-207). Thousand Oaks, CA: SAGE Publications Inc.

Polesel, J., Dulfer, N., & Turnbull, M. (2012). The experience of education: The impacts of high stakes testing on school students and their families. Melbourne Graduate School of Education, and the Foundation for Young Australians: Whitlam Institute.

Ramo, D. E., & Prochaska, J. J. (2012). Broad reach and targeted recruitment using Facebook for an online survey of young adult substance use. *Journal of Medical Internet Research, 14*(1), e28.

Rhodes, S. D., Bowie, D. A., & Hergenrather, K. C. (2003). Collecting behavioural data using the world wide web: considerations for researchers. *Journal of Epidemiology and Community Health, 57*(1), 68-73. doi: 10.1136/jech.57.1.68

Rickard, N. S., Appelman, P., James, R., Murphy, F., Gill, A., & Bambrick, C. (2012). Orchestrating life skills: The effect of increased school-based music classes on children's social competence and self-esteem. *International Journal of Music Education*. doi: 10.1177/0255761411434824

Rickard, N. S., Bambrick, C. J., & Gill, A. (2012). Absence of widespread psychosocial and cognitive effects of school-based music instruction in 10–13-year-old students. *International Journal of Music Education, 30*(1), 1-22.

Rickson, D. J., & Watkins, W. G. (2003). Music therapy to promote prosocial behaviors in aggressive adolescent boys-a pilot study. *Journal of Music Therapy, 40*(4), 283-301.

Roden, I., Kreutz, G., & Bongard, S. (2012). Effects of a school-based instrumental music program on verbal and visual memory in primary school children: a longitudinal study. *Frontiers in Psychology, 3*, 572.

Rolvsjord, R. (2010). *Resource-Oriented Music Therapy in Mental Health Care*. Gilsum, NH: Barcelona Publishers.

Rusinek, G. (2008). Disaffected learners and school musical culture: an opportunity for inclusion. *Research Studies in Music Education, 30*(1), 9-23.

Russell-Bowie, D. (2009). What me? Teach music to my primary class? Challenges to teaching music in primary schools in five countries. *Music Education Research, 11*(1), 23-36.

Saunders, P. (2011). *Down and Out: Poverty and Exclusion in Australia*. Bristol: The Policy Press.

Schellenberg, E. G. (2004). Music lessons enhance IQ. *Psychological Science, 15*(4), 511–514.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and Quasi-Experimental Designs for Generalized Causal Inference* (2nd ed.). New York, NY: Houghton Mifflin Company.

Shields, C. (2001). Music Education and Mentoring as Intervention for At-Risk Urban Adolescents: Their Self-Perceptions, Opinions, and Attitudes. *Journal of Research in Music Education, 49*(3), 273-286. doi: 10.2307/3345712

Small, C. (1998). *Musicking*. Hanover, NH: Wesleyan University Press.

Stige, B., & Aarø, L. E. (2012). *Invitation to Community Music Therapy*. New York, NY: Routledge.

Stige, B., Ansdell, G., Elefant, C., & Pavlicevic, M. (2010). *Where Music Helps: Community Music Therapy in Action and Reflection*. Burlington, USA: Ashgate Publishing Company.

Teachout, D. J. (2005). The impact of music education on a child's growth and development. In D. A. Hodges (Ed.), Sounds of learning. Carlsbad, CA: International Foundation for Music Research. Retrieved from http://skylinekids.com/documents/GrowthDevelopment.pdf.

Torrance, H. (2011). Qualitative research, science and government: Evidence, criteria, policy and politics. In N. Denzin & Y. Lincoln (Eds.), *The SAGE handbook of qualitative research* (pp. 569-580). Thousand Oaks, CA: SAGE Publications Inc.

Vaughan, T., Harris, J., & Caldwell, B. J. (2011). Bridging the gap in school achievement through the Arts: Summary report (pp. 36). Melbourne: Song Room.

Vickers, M. (2005). In the common good: the need for a new approach to funding Australia's schools. *Australian Journal of Education, 49*(3), 264-277.

Winner, E., & Hetland, L. (2000). The arts in education: Evaluating the evidence for a causal link. *Journal of Aesthetic Education, 34*(3), 3-10.

Wylie, S. A., Hassan, A., Krull, E. G., Pikcilingis, A. B., Corliss, H. L., Woods, E. R., & Fleegler, E. W. (2012). Assessing and referring adolescents' health-related social problems: qualitative evaluation of a novel web-based approach. *Journal of Telemedicine and Telecare, 18*(7), 392-398. doi: 10.1258/jtt.2012.120214

Wyn, J. (2009). Touching the future: Building skills for life and work *Australian Education Review* (Vol. 55). Melbourne: Australian Council for Education Research Press.

Yalom, I. D. (1995). *The theory and practice of group psychotherapy* (4th ed.). New York: Basic Books.

Youn, G. (1996). Sexual activities and attitudes of adolescent Koreans. *Archives of Sexual Behavior, 25*(6), 629-643.

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Appendix A: Details of Scales Used for Keys to Success Study

Domain	Scale	No. of items	Item wording example	Response option example	Scale score range
Community	Low neighbourhood attachment	3	I like my neighbourhood	'YES!' (1) to 'NO!' (4)	1-4
Community	Opportunities for prosocial involvement	4	Which of the following activities for people your age are available in your community? 'Sports teams'	'Yes' (1) to 'No' (2)	1-4
Community	Rewards for prosocial involvement	3	There are people in my neighbourhood who encourage me to do my best	'YES!' (1) to 'NO!' (4)	1-4
School	Academic failure	2	Are your school marks better than the marks of most students in your class?	'YES!' (1) to 'NO!' (4)	1-4
School	Low commitment to school	9	How interesting are most of your school subjects to you?	'Very interesting' (1) to 'Very boring' (5)	1-5
School	Opportunities for prosocial involvement	5	Teachers ask me to work on special classroom projects	'YES!' (1) to 'NO!' (4)	1-4
School	Rewards for prosocial involvement	4	The school lets my parents know when I have done something well	'YES!' (1) to 'NO!' (4)	1-4
Peer and individual	Social skills	4	You're looking at CD's in a music store with a friend. You (…) see her slip a CD under her coat (…) What do you do now?	'Ignore her' (1) to 'Act like it's a joke and ask her to put it back' (4)	1-4
Peer and individual	Belief in the moral order	4	I think it is okay to take something without asking if you can get away with it	'YES!' (1) to 'NO!' (4)	1-4
Emotional control	Emotional control	4	I know how to relax when I feel tense	'YES!' (1) to 'NO!' (4)	1-4
Social support	MSPSS-SO	4	There is a special person who is around when I am in need	'Very strongly disagree' (1) to 'Very strongly agree' (7)	1-7
Social support	Trusted adult in life	1	I have an adult(s) that I trust and would turn to for advice if I was having problems	'Very strongly disagree' (1) to 'Very strongly agree' (7)	1-7
Psychological distress	K10	10	Did you feel worthless?	'None of the time' (1) to 'All of the time' (5)	10-50
Psychological wellbeing	MHI-PWB	14	Were you a happy person	'All of the time' (1) to 'None of the time' (6)	14-84
Psychological needs	BPN-SF (whole score)	9	I feel like I am free to decide for myself how to live my life	'Not at all true' (1) to 'Very true' (7)	9-63
Psychological needs	BPN-SF (autonomy subscale)	3	I feel like I am free to decide how I live my life	'Not at all true' (1) to 'Very true' (7)	3-21
Psychological needs	BPN-SF (competence subscale)	3	Most days I feel a sense of accomplishment from what I do	'Not at all true' (1) to 'Very true' (7)	3-21
Psychological needs	BPN-SF (relatedness subscale)	3	People in my life care about me	'Not at all true' (1) to 'Very true' (7)	3-21

Appendix B: Keys To Success Survey Results

Table B1: Protective factors: mean change by group and difference of means between groups

Mean change scores for risk factors								Mean Difference		
Scale	**Domain**	**Group**	**n**	**p**	**M**	**SD**	**95% CI**	**p**	**M**	**95% CI**
Opportunities for prosocial involvement	Community	Intervention	12	0.01	-0.50	0.58	-0.87, -0.13	0.07	-0.63	-1.32, 0.06
		Control	17	0.65	0.13	1.19	-0.48, 0.75			
Rewards for prosocial involvement	Community	Intervention	13	0.17	-0.26	0.63	-0.63, 0.12	0.78	-0.08	-0.65, 0.49
		Control	17	0.43	-0.18	0.89	-0.63, 0.28			
Opportunities for prosocial involvement	School	Intervention	14	0.84	0.01	0.27	-0.14, 0.17	0.30	-0.15	-0.45, 0.14
		Control	16	0.20	0.17	0.50	-0.10, 0.44			
Rewards for prosocial involvement	School	Intervention	13	0.05	-0.29	0.48	-0.58, 0.00	0.24	-0.21	-0.58, 0.15
		Control	17	0.55	-0.07	0.50	-0.33, 0.18			
Social skills	Peer and individual	Intervention	13	0.55	0.07	0.42	-0.18, 0.32	0.63	0.09	-0.28, 0.47
		Control	17	0.89	-0.02	0.58	-0.32, 0.28			
Belief in the moral order	Peer and individual	Intervention	14	0.71	0.04	0.35	-0.17, 0.24	0.17	0.26	-0.12, 0.63
		Control	17	0.17	-0.22	0.64	-0.55, 0.11			
Emotional control	Emotional control	Intervention	14	0.17	-0.13	0.32	-0.31, 0.06	0.91	-0.02	-0.40, 0.36
		Control	17	0.53	-0.10	0.67	-0.45, 0.24			
MSPSS-SO	Social support	Intervention	11	0.93	-0.02	0.85	-0.59, 0.55	0.88	0.07	-0.84, 0.97
		Control	17	0.81	-0.09	1.48	-0.85, 0.67			
Trusted adult in life	Social support	Intervention	14	0.27	-0.36	1.15	-1.02, 0.31	0.75	0.17	-0.94, 1.28
		Control	17	0.25	-0.53	1.84	-1.48, 0.42			
MHI-PWB	Psychological wellbeing	Intervention	13	0.10	-4.00	8.07	-8.88, 0.88	0.47	2.56	-4.56, 9.68
		Control	16	0.03	-6.56	10.60	-12.21, -0.91			
BPN-SF (whole score)	Psychological needs	Intervention	11	0.37	-2.27	8.01	-7.66, 3.11	0.94	-0.34	-9.69, 9.00
		Control	14	0.62	-1.93	14.19	-10.12, 6.26			
BPN-SF (autonomy)	Psychological needs	Intervention	12	0.17	-1.67	3.89	-4.14, 0.81	0.49	-1.27	-5.01, 2.48
		Control	15	0.78	-0.40	5.53	-3.46, 2.66			
BPN-SF (competence)	Psychological needs	Intervention	14	0.32	-0.79	2.86	-2.44, 0.87	0.83	0.27	-2.33, 2.88
		Control	17	0.31	-1.06	4.19	-3.21, 1.10			
BPN-SF (relatedness)	Psychological needs	Intervention	13	0.42	-0.62	2.66	-2.22, 0.99	0.97	0.07	-3.26, 3.41
		Control	16	0.64	-0.69	5.71	-3.73, 2.36			

Note. CI = confidence interval. Mean change scores calculated using paired sample t-tests with baseline scores subtracted from follow-up scores. Mean difference scores calculated using independent sample t-tests with control group scores subtracted from intervention group scores and equal variances not assumed.

Table B2: Risk factors: mean change by group and difference of means between groups

		Mean change scores for risk factors						Mean Difference		
Scale	**Domain**	**Group**	***n***	***p***	***M***	**SD**	**95% CI**	***p***	***M***	**95% CI**
Low Neighbourhood Attachment	Community	Intervention	14	0.14	-0.19	0.45	-0.45, 0.07	0.57	-0.15	-0.68, 0.39
		Control	16	0.86	-0.04	0.92	-0.53, 0.45			
Academic failure	School	Intervention	13	0.94	0.01	0.42	-0.24, 0.26	0.86	-0.04	-0.43, 0.36
		Control	14	0.77	0.04	0.56	-0.28, 0.37			
Low commitment to school	School	Intervention	14	0.22	-0.13	0.37	-0.34, 0.09	0.27	-0.19	-0.53, 0.15
		Control	17	0.65	0.06	0.55	-0.22, 0.34			
K10	Psychological distress	Intervention	13	0.06	2.15	3.69	-0.08, 4.39	0.59	1.15	-3.18, 5.49
		Control	17	0.59	1.00	7.57	-2.89, 4.89			

Note. CI = confidence interval. Mean change scores calculated using paired sample t-tests with baseline scores subtracted from follow-up scores. Mean difference scores calculated using independent sample t-tests with control group scores subtracted from intervention group scores and equal variances not assumed.

Appendix C: Details of Scales Used for Bereavement Group Study

Domain	Measure	No. of items	Item wording example	Response option example	Range
School	Academic failure	2	Are your school marks better than the marks of most students in your class?	'YES!' (1) to 'NO!' (4)	1-4
School	Low commitment to school	7	How interesting are most of your school subjects to you?	'Very interesting' (1) to 'Very boring' (5)	1-5
School	Opportunities for prosocial involvement	5	Teachers ask me to work on special classroom projects	'YES!' (1) to 'NO!' (4)	1-4
School	Rewards for prosocial involvement	4	The school lets my parents know when I have done something well	'YES!' (1) to 'NO!' (4)	1-4
School	Educational expectation	1	What is the highest level of education you would like to get	Year 10' (1) to 'University' (6)	1-6
Emotional control	Emotional control	4	I know how to relax when I feel tense	'YES!' (1) to 'NO!' (4)	1-4
Social support	MSPSS-SO	4	There is a special person who is around when I am in need	'Very strongly disagree' (1) to 'Very strongly agree' (7)	1-7
Social support	Trusted adult in life	1	I have an adult(s) that I trust and would turn to for advice if I was having problems	'Very strongly disagree' (1) to 'Very strongly agree' (7)	1-7
Psychological distress	K10	10	Did you feel worthless?	'None of the time' (1) to 'All of the time' (5)	10-50
Psychological wellbeing	MHI-PWB	14	Were you a happy person	'All of the time' (1) to 'None of the time' (6)	14-84
Psychological needs	BPN-SF (whole score)	9	I feel like I am free to decide for myself how to live my life	'Not at all true' (1) to 'Very true' (7)	9-63
Psychological needs	BPN-SF (autonomy subscale)	3	I feel like I am free to decide how I live my life	'Not at all true' (1) to 'Very true' (7)	3-21
Psychological needs	BPN-SF (competence subscale)	3	Most days I feel a sense of accomplishment from what I do	'Not at all true' (1) to 'Very true' (7)	3-21
Psychological needs	BPN-SF (relatedness subscale)	3	People in my life care about me	'Not at all true' (1) to 'Very true' (7)	3-21

Appendix D: Correlation matrix of challenges related to study method and design and potential solutions.

Distillation of Challenges /potential solutions	Use interviews only	Use surveys only	Use culture sensitive surveys	Target scales to intended outcomes	Use many scales	Use less scales	Use scales w/ many response options
Benefits only reported via QL methods	✓	×					
Inconsistencies b/w QL & QN data sets	✓						
Inconsistency b/w different students' data		×					
Inconsistency b/w students & teacher data		×					
Developmental stage limits students' understanding of survey Q's	✓	×			✓		
Survey language diff for CALD students	✓	×	✓		✓		
Students don't understand interview Q's	×	✓			✓		
Students struggle to answer interview Q's	×	✓			✓		
CALD students may see PSWB differently	✓	×	✓		✓		
Disparity b/w student & researcher vocab	×	×			✓		
Students unfamiliar w/ academic concepts	×	×			✓		
Students 'play up' in survey sessions	✓	×			×	✓	
Students don't take surveys seriously	✓	×			×		
Students resistant to completing surveys	✓	×			×	✓	×
Students skip/rush survey responses	✓	×			×	✓	×
Students non-committal during interviews	×	✓					
Students give short answers in interviews	×	✓					
Students don't understand study purpose	×	×					
High variability of responses in QN data	✓	×		✓	✓	×	×
Ceiling & floor effects	✓	×		✓	✓		✓
Some scales not designed for experimental research	✓	×		✓			
Scale item wording doesn't match students' experience of constructs	✓	×	✓		✓		
Scales don't match benefits	✓	×		✓	✓	×	
Scales don't cover all program benefits	✓	×		×	✓	×	
Long surveys lead to response burden	✓	×		✓	×	✓	×
Reluctance to respond 'strongly' to items	✓	×			✓		✓
Sensitive content limits student expression in interviews	×	✓	✓				
Unfamiliar interviewer limits student expression	×	✓	✓				
Insufficient seclusion from staff during interviews limits student expression	×	✓					
Curriculum & resource issues limit access to ample sample sizes in school setting	✓	×					
Lack of student & parent commitment limit sample size outside school hours					×		
School setting limits access to appropriate control groups	✓						
School setting limits facilitation of appropriate randomised sampling	✓						
Non comparable baseline data b/w groups	✓			✓			
Low student engagement leads to missing data at individual scale item level	✓	×	✓		×		×
Lack of confidentiality in classrooms limits survey response validity	✓	×					
Limited school time offered for research					×	✓	
Student absence leads to missing data		×					
Better PSWB benefits w/ smaller groups	✓	×					

Note. Challenges listed in left-hand column, potential solutions in top row. Ticked dark cells show where a solution addresses a challenge, crossed light cells show wher
QL = qualitative; QN = quantitative; Q = question; PSWB = psychosocial wellbeing; CALD = culturally and linguistically diverse; w/ = with.

Use non-experimental QN design	Use random sampling	Use online/ assisted surveys	Track participants at follow-up	Use multiple data sources/ reporters	Use simple wording, explain Q's & concepts	Build rapport/ engage students	Use bigger sample	Recruit at-risk students	Use targeted/ specific wording	Control research setting	Facilitate school research support	Conduct research outside schools	Use small sample
				✓									×
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re a solution exacerbates a challenge, and blank cells suggest no effect.