"To the beat of a different drum": improving the social and mental wellbeing of at-risk young people through drumming

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Abstract

Purpose – *There is growing interest in the use of music and other arts mediums as a way of addressing mental health and social wellbeing issues in a non-clinical or therapy setting. This can be particularly apt for more at-risk young people who may not engage readily with other approaches. Published evaluation of such interventions is however sparse. This paper aims to describe an evaluation of the DRUMBEAT program which uses drumming as a way to engage at-risk youth, whilst simultaneously incorporating themes relating to mental wellbeing and healthy relationships.*

Design/methodology/approach – *An evaluation was undertaken in 19 schools participating in the ten-week DRUMBEAT program. Pre, interim and post-program surveys were administered to participating students (n = 180). School-based data on student behaviour and teacher feedback was also collected.*

Findings – *Positive changes were observed on several measures, including a 10 per cent increase in self-esteem scores by program completion. School data showed a decrease in reported behaviour incidents for 29 per cent of participants. Overall, the evaluation indicated that the DRUMBEAT program provides a creative medium for working with at-risk young people and helps develop self-esteem and social relationship skills.*

Originality/value – *There is a paucity of published evaluations of interventions of this kind. Also novel is the delivery of the program in a school-based rather than clinical therapy setting. The paper also demonstrates how a "real world" intervention program can go beyond basic process evaluation to collect outcome data that helps build the evidence base for mental health promotion.*

Keywords *Social development, Mental health, Arts, Music, Drumming, Mental health services*

Paper type *Research paper*

Introduction

While humankind has always been intrinsically drawn to music and engagement in the arts (Hamilton *et al.*, 2003), there is growing research interest in the nexus between the arts, health and wellbeing, and in the use of the arts as an intervention medium. People engaging in arts-related activities (e.g. music, painting, drama), often experience a sense of wellbeing, including a combination of social, emotional and physical outcomes, but not all of which can be easily described or quantified (Rosenberg, 2008). Moreover, as noted in a review of the literature undertaken for the Arts Council in England, the beneficial role of the arts in health may be anecdotally evident, but there has been a relative dearth of empirical evaluations until recently, and more rigorous research is needed (Staricoff and Clift, 2011).

Interventions coupling arts with health vary in focus, with some targeting individuals or groups of individuals with particular health issues (e.g. Alzheimer's, Schizophrenia) while others have a broader remit and seek to influence wellbeing in a more general way (Staricoff and Clift, 2011).

While many health promotion interventions seek to influence decisions and behaviour in the future, participation in the arts may have a more immediate or concurrent impact on mental or social wellbeing. As such, measuring changes to participants during or immediately after an intervention is an appropriate form of evaluation for arts engagement programs (Rosenberg, 2008). This is particularly pertinent for programs, which embed a therapy component within an arts activity. Indeed there have been recent calls for greater practice-informed research to capture more innovative and creative approaches to child and adolescent mental health, including interventions that have been implemented in "real world" settings (Norton, 2010).

Drumming is an art form with a long history and cross-cultural heritage, and there is a small but growing evidence-base relating to its mental health and wellbeing benefits. Drum circles have been used as a healing ritual in many cultures worldwide for years, and drumming is being increasingly used as a contemporary therapeutic strategy (Bittman *et al.*, 2001; Bensimon *et al.*, 2008; Friedman, 2000) for a number of different therapeutic purposes, including treating a variety of behavioural issues, such as anger management, team building, substance abuse recovery, as well as increasing self-esteem and developing leadership skills (Mikenas, 2003; Friedman, 2000). Drumming has also been used in therapeutic interventions with specific population groups, including the elderly (Fleming Cottrell and Gallant, 2004); substance misusers (Blackett and Payne, 2005); children with disabilities (Wigram and Lawrence, 2005) or who have experienced trauma (Hospice, 2001); adult trauma patients (Bensimon *et al.*, 2008) and prisoners (Holyoake, 2010).

There are a number of possible ways in which drumming might lead to improved social and/or health outcomes. Drumming has been described by participants as having calming influence (Winkelman, 2003) and it has been associated with stress reduction (Friedman, 2000; Blackett and Payne, 2005). In addition, drumming is said to simply make individuals feel good and can help people feel they "fit in" without bearing the stigma of more overt counselling or therapy (Ho *et al.*, 2011; Winkelman, 2003). Emerging research into the neural development of adolescents suggests innovative interventions that couple physical involvement (e.g. drumming) with other cognitive and behavioural elements can help to bring together experience and emotions that can create strong neural pathway connections (Norton, 2010). However, most of the published drumming intervention studies to date have been undertaken with adults, and there are only a handful relating specifically to children and adolescents.

As a group-based intervention, participation in drumming can also provide participants with a sense of group identity and group cohesion (Longhofer and Floersch, 1993) positive socialisation (Kalani, 2005) and experiences of accomplishment (Longhofer and Floersch, 1993). Group drumming can also offer children a safe and supportive environment for the development of emotional and social competencies, such as listening, problem solving, sharing and acceptance of diversity (Kalani, 2005). Wigram *et al.* (2002) further notes that drumming can benefits children's social development as it facilitates group processes such as reciprocal interaction, leadership, sharing and taking turns.

Some of the non-adult studies of drumming interventions that have been undertaken have focused on the efficacy of drumming as a rehabilitation or treatment approach for at risk young people. As noted by Snow and D'Amico (2010), group drumming can provide learning and social experiences for more at risk or alienated individuals, who can be isolated from the school or social systems that may otherwise provide these experiences. Bittman *et al.* (2009) evaluated a drumming program implemented as part of a juvenile court referred treatment program and reported statistically significant improvements in negative self-evaluation, anger, depression and school/work role performance. The Whittier Drum Project in Colorado also began as an intervention in a residential treatment setting with troubled teens (Stone, 2005), with the drumming model subsequently incorporated into a multi-family therapy group program for young offenders and their care givers, with the aim of reducing at-risk behaviours in the community (Stone, 2005).

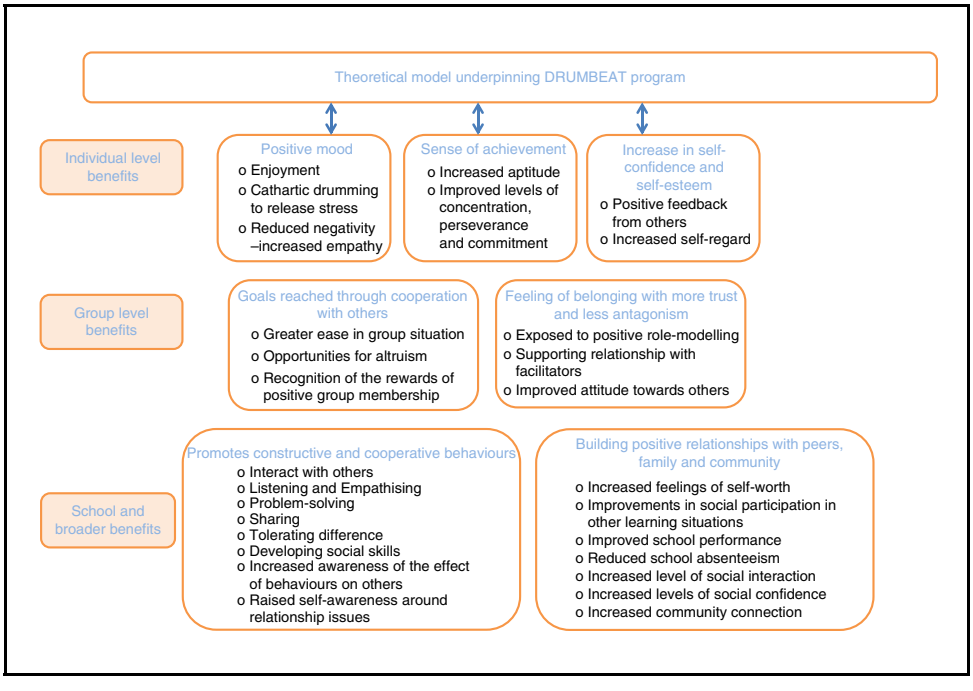
A more upstream approach to adolescent wellbeing and mental health promotion, however, supports the need for earlier intervention with programs addressing protective and risk factors (Patel *et al.*, 2007), and schools are an ideal setting in this regard, yet there have been only a

couple of published studies of drumming based interventions in schools. An exception to this is a study by Ho *et al.* (2011) that reported improved social and emotional behaviours in a sample of low-income primary school children in Los Angeles, who had participated in school-based drumming, integrated with group counselling activities. They observed significant improvements in the intervention group compared with the control group on numerous measures, and statistically significant differences were found for total problems, internalising problems, withdrawn/depression, attention problems, inattention subscale, anxiety problems, attention deficit/hyperactivity problems, oppositional defiant problems, post-traumatic stress problems and sluggish cognitive tempo (Ho *et al.*, 2011). Another intervention that combined drumming with dance resulted in improved cultural appreciation, healthier gang-related attitudes and involvement, and greater health awareness in predominantly Latino high school aged youths (Conklin-Ginop *et al.*, 2011).

In Australia, the DRUMBEAT (Discovering Relationships Using Music -Beliefs, Emotions, Attitudes, & Thoughts) program was developed in 2003 by Holyoake (a drug and alcohol treatment service) initially as an early intervention program to prevent and build up resilience to drug and alcohol use (Faulkner *et al.*, 2012). The essence of the program is its combination of musical expression and its potential therapeutic benefit with cognitive behavioural therapy to deliver social learning outcomes, including emotional control, improved relationships and self-esteem (Faulkner, 2006). One of the primary aims of the program is to reduce levels of alienation by increasing self-esteem and social competencies of participants. The underlying model for the program is depicted in Figure 1.

The program is run in schools over a ten-week period, and uses hand drumming (with participants forming a "drum circle") as a medium enabling participants to explore connections between making music together as a group and the development of healthy relationships. Building on the therapeutic value of music, the program incorporates themes, discussions and drumming analogies relating to, self-expression, communication, emotions and feelings, self-worth, problem solving, confidence and teamwork (Faulkner *et al.*, 2012). Embedded into the drumming sessions are discussions with the participants on issues commonly faced by young people, including peer pressure, bullying, dealing with emotions, tolerating diversity and self-identity (Faulkner, 2011). Students selected by schools to participate in DRUMBEAT are

Figure 1 DRUMBEAT program



often disengaged with school and may struggle in relationships with others hence the program has a strong focus on using group processes and activities to build collaboration, group cohesiveness and to foster trust, acceptance and understanding of others. Drumming as a group provides a medium for developing skills in listening, sharing, empathy, perseverance, commitment and expression of thoughts and emotions (Faulkner, 2011), As such the DRUMBEAT program aims to help young people transfer the lessons from the drum circle to their everyday lives.

A small-scale evaluation with a control group ($n = 30$ intervention and 30 control group) was undertaken when the program was originally developed (Faulkner *et al.*, 2012). Pre- and post-program measures reported improvements in self-esteem and levels of school attendance only in the intervention group, along with greater improvements in teacher reported cooperation and collaboration in the DRUMBEAT intervention group (Faulkner *et al.*, 2012). To further investigate the effectiveness of the program, a larger scale evaluation using both quantitative and qualitative measures was undertaken in 2008, and this forms the basis of this paper.

Method

In total, 19 schools (primary $n = 10$, secondary $n = 5$, Intensive English Centres (provide intensive English to students who have English as a second language) $n = 4$) were involved in the Holyoake DRUMBEAT program evaluation. Within each school the number of students participating ranged from nine to 27, with a total of 180 students participating across all schools.

The recruitment for the DRUMBEAT program and its evaluation targeted students from more high-risk backgrounds, with the risk status of participants established through assessment using the Holyoake pilot risk questionnaire. This questionnaire uses a variety of indicators to identify young people "at risk" of negative social and health outcomes including poor school attendance, violence and threats of violence, negative self-image, failing to respond to reasonable requests, experimentation with drugs/alcohol and class disrupting behaviours.

All participants completed a Rosenberg self-esteem scale (Rosenberg, 1965), prior to commencement and again at the end of the program, with the wording of the scale altered slightly to make it more understandable for the program participants (Faulkner, 2006). The scale is a ten-item Likert scale, which measures participant self-esteem through a number of questions to which the participants select responses from strongly agree to strongly disagree (Faulkner, 2006). Questions include for example, "most of the time I am happy with myself" and "I feel I have a number of good qualities".

In addition participants completed a feedback questionnaire at Week 5 (half-way through the program) and another at Week 10 which was the end of the program (Faulkner, 2006). These questionnaires were designed to elicit participant feedback on the program and covered perception of participants' own learning and program enjoyment (Faulkner, 2006). The Week 5 questionnaire included questions such as "Were the goals of the group made clear from the start?" and "Do you feel supported and valued by the presenters?" to which participants responded "yes", "sort of" or "no". The Week 10 questionnaire contained similar questions, although it had an overall focus on the overall enjoyment of the program and used a five-point response scale from strongly agree to strongly disagree. Questions included "Have you enjoyed being part of the DRUMBEAT Program?" and "Would you recommend the DRUMBEAT Program to others?".

A total of 15 schools provided information in relation to student absenteeism and behaviour incidents, during the ten weeks in which the students participated in the DRUMBEAT program. In addition teachers were asked to complete a Social Development Program Evaluation for each participant, where they identified how the participant had changed over the past term across a variety of measures such as relationships with peers and self-esteem.

Teachers from 18 of the 19 schools involved also provided additional written feedback. This included an overview of the issues facing students involved in the program, specific changes or influences that the program had made to an individual in the group, and overall impressions of the impact the program had on group members.

The DRUMBEAT program and all of its evaluation and intervention components were submitted to the central Holyoake research and development committee, which is charged with evaluating research projects carried out by the organisation. This included the protocols relating to schools and confidentiality. No ethical concerns were raised by the Committee.

The evaluation questionnaires had no identifying markers (i.e. students and staff completed them anonymously) and therefore no participants were identifiable from the evaluation instruments. Furthermore, the identity of schools involved in the program also remained confidential. In addition to informing them of the purpose of the questionnaire and that completion of the questionnaires was voluntary, participants were also informed that all responses were confidential, they were not to write their name on the questionnaire and that at no stage would individual responses be identified.

Results

All data were analysed using SPSS version 17 and primarily involved computation of descriptive statistics. *T*-tests were conducted to test for the significance of differences between means.

Of the 180 student participants, $n = 179$ completed the Rosenberg scale prior to commencement of the program, and $n = 150$ completed the scale at the end of the program. With respect to the Week 5 and Week 10 feedback questionnaires, $n = 155$ completed the Week 5 and $n = 157$ completed the Week 10 questionnaire. The variation in numbers mainly reflects attendance on the days on which the measures were taken. However, it is to be noted that there was a drop out of students for reasons beyond the control of the study, for example students changing schools, suspension and participants having to attend other classes which affected their participation in some DRUMBEAT sessions. Students were given the option to discontinue the program after the first session if they did not enjoy it.

Pre-post changes in self-esteem

Prior to participation, the average Rosenberg self-esteem score for all participants ($n = 179$) was 20.61 (SD 5.19; range 6-30) (scale range 0-30). At the completion of the program the average score for participants ($n = 150$) was 23.92 (SD 4.19; range 14-30), showing a 10 per cent increase in self-esteem scores observed among participants following completion of the program ($p = 0.00$). It is also noteworthy that the minimum score increased from 4 to 14.

Participant feedback at course midpoint and conclusion

The evaluation at the five-week midpoint found that the majority of participants were responding positively to the program (see Table I), particularly with respect to the sheer enjoyment of drumming (87 per cent "yes") and "feeling supported and valued by the presenters" (81 per cent "yes"). There was less "yes" agreement that the group was working well together (47 per cent), but a further 47 per cent considered there was some progress here (sort of) rather than "no" (6 per cent). Very few responded "no" to any of these questions.

Table I Week 5 participant feedback

Question	*Yes (%)*	*Sort of (%)*	*No (%)*	*Not answered (%)*
Have you enjoyed the drumming part of the program? ($n = 155$)	87	8	4	1
Do you feel supported and valued by the presenters? ($n = 155$)	81	16	3	0
Were the goals of the group made clear from the start? ($n = 155$)	68	25	6	1
Do you feel comfortable in the group? ($n = 155$)	65	27	8	0
Do you feel you are making progress towards the goals of the group? ($n = 155$)	61	34	3	3
Do you get enough time to master a beat before moving on to the next one? ($n = 155$)	57	37	5	0
Do you think the group is working well together? ($n = 155$)	47	47	6	0

The midpoint evaluation items were expanded in the end of program feedback questionnaire to collect additional information and the response scale changed to a five-point Likert scale to enable greater variability in response options. As shown in, Table II, overall the feedback was positive, with almost two-thirds or more "strongly" agreeing with six of the nine statements. Very few participants disagreed with any of these statements. Overall, there was most agreement for enjoyment of being part of the program and the team, learning new skills and the presenters being helpful and understanding.

Responses to questions about the more complex concepts of relationships were not unexpectedly somewhat lower than measures relating to enjoyment or team work. Nevertheless, 41 per cent "strongly" agreed that their knowledge of relationship issues had increased (know more about people and how they get on with each other; more aware of what things make relationships work).

Overall, nearly two-thirds (63 per cent) "strongly" agreed that they would recommend the DRUMBEAT program to others.

Behaviour incidences and absences

All of the participating schools had systems for recording behaviour incidents and absences. Behaviour incidents are incidents of a serious nature and usually involve aggression or violence; incidents of a minor nature do not get recorded. Teachers provided this data for the duration of the program.

Comparison of the number of behaviour incidents prior to and during participation in the program showed that there were significantly less behaviour incidents whilst participants were in the program than prior to the program (mean 1.24, SD 3.43 and mean 2.38, SD 6.70, respectively; $p = 0.00$). Of 162 students for whom data were obtained, 29 per cent had a decrease in behaviour incidents, 61 per cent had no change in behaviour incidents and 10 per cent had an increase in behaviour incidents.

A similar pattern was seen in relation to half-day absences, with the number of half-days absences showing a near significant decrease whilst participants were taking part in the program as opposed to prior to the program (mean 3.74, SD 6.32 and mean 4.49, SD 7.52, respectively; $p = 0.92$). Of the 162 students for whom data were obtained, 39 per cent had no change in the number of half-day unexplained absences, 28 per cent had an increase and 33 per cent had a decrease in half-day unexplained absences.

Table II Week 10 participant feedback

Question	*Strongly agree (%)*	*Agree (%)*	*Neither agree nor disagree (%)*	*Disagree (%)*	*Strongly disagree (%)*	*Not answered (%)*
Have you enjoyed being part of the DRUMBEAT program? ($n = 157$)	71	24	4	0	1	0
Do you feel you were part of the DRUMBEAT team? ($n = 157$)	68	21	8	2	2	0
Did you enjoy being part of a group? ($n = 148$)	67	25	5	1	1	1
Have you learnt new skills? ($n = 157$)	62	31	4	2	1	0
Did you impress yourself with the beats you could master? ($n = 148$)	53	29	10	2	3	3
Were the presenters helpful and understanding? ($n = 148$)	62	28	6	2	1	2
Was your input encouraged? ($n = 148$)	50	35	9	2	2	2
Do you feel you know more about people and how they get on with each other? ($n = 157$)	41	36	17	5	1	0
Do you feel you are more aware of what things make relationships work? ($n = 148$)	41	31	22	3	0	2
Would you recommend the DRUMBEAT program to others? ($n = 148$)	63	20	10	3	2	1

Social development evaluation

Teachers completed a Social Development Program Evaluation, identifying how participants had changed over the past term across a variety of measures (see Table III). Teachers responded through use of a scale whereby; 1: a detrimental change, 5: no change and 10: most positive change. The average of all measures indicated a positive change in participants, with self-esteem being the most positive (mean 6.87, SD 1.53). The results are shown in Table III.

Additional teacher feedback

Teachers provided additional feedback identifying the issues participants faced, the way in which students had been influenced by the program, along with their overall impressions of the program's impact on participants. Feedback established that the majority of participants faced issues that impacted negatively on their schooling. Issues faced by participants included, though were not limited to family breakdowns, behaviour problems, learning difficulties, aggression and social isolation. The teacher feedback was overwhelmingly positive, with observed benefits including positive changes in behaviour, outlook on future opportunities, willingness to learn and follow instructions, confidence, interactions with others, sense of pride and belonging and group cohesion. As one teacher noted:

> Group realisation that whole performance relied on each individual's ability to co-operate and work as part of a team, each one had a role to play in the group's success.

While the drumming *per se* was seen to provide much fun and enjoyment, feedback from teachers reflected the broader ripple effect for students who participated:

> One student came up to me after the performance […] he said he couldn't believe that he had taught the high school kids a rhythm and the high school kids had listened to him.
>
> They were really proud of themselves for mastering difficult rhythms.

Discussion

The evaluation of the Holyoake DRUMBEAT program adds to the growing evidence base around the positive benefits of engagement in the arts, and the role that the arts, including drumming, can play in addressing health issues and support social and emotional development. The program also demonstrates how cognitive therapy principles can be integrated into a program that is delivered in a school-based and group setting – this is an important outcome as part of the original impetus for developing the DRUMBEAT program was overcoming the difficulties traditional cognitive behaviour therapy interventions often have in engaging young people, particularly more alienated or at-risk youth (Faulkner, 2006).

The results reported here indicate that the ten-week DRUMBEAT program has the potential to make a substantial difference to the emotional health and wellbeing of already high-risk youth. Overall, the evaluation reflected positive changes on a number of measures that serve as indicators of "risk" for young people. There was a 10 per cent increase in self-esteem scores by

Table III Social development changes observed by teachers

Measure	*Score range*	*Mean*	*SD*
Self-esteem	4-10	6.87	1.53
General mood	4-10	6.86	1.45
Group participation	4-10	6.79	1.64
Relationships with peers	3-10	6.66	1.44
Relationships with adults/teachers	3-10	6.58	1.41
Focus and concentration	4-10	6.50	1.45
Emotional control	4-10	6.31	1.41

Notes: Missing responses were excluded, $n = 169$ (scale: 1 = detrimental change, 5 = no change, 10 = positive change)

the end of the program, with a minimum score increase from 4 to 14. Furthermore, there were significant declines in the average number of behavioural incidents (decreased in 19 per cent of participants) and unexplained absenteeism's (decreased in 5 per cent of participants). These data are particularly encouraging given that the reductions occurred in probably long-established recurring behaviours.

The collection of feedback from teachers provided an insightful compliment to the participant evaluation data, as teachers were able to reflect on the changes observed in participating students. Of relevance to their broader engagement in the education system were other teacher observations about improved willingness to learn and follow instructions, and a more positive outlook about school. Group cohesion, sense of pride and belonging and improved cooperation and interaction with others were among observed benefits that have been noted elsewhere in the literature (Conklin-Ginop *et al.*, 2011; Ho *et al.*, 2011). From the teachers' perspective, students also benefited from the sheer enjoyment of the drumming, the drumming skills learned, the feeling of being involved in and successfully achieving a group task, and the resulting self-esteem enhancement.

While drumming as an arts medium is the tool through which students are engaged in the program, it is important to note that the other elements relating to communication skills, interacting with others and working as a group are just as integral to the program, although more off stage. Moreover, while the program may not be overtly addressing problem behaviours, such as drinking or drug use, many of the principles and core elements of the program are designed around enhancing protective factors and reducing risk factors among students. Self-esteem, school participation, social alienation and truancy are among risk factors for alcohol and drug misuse identified in the literature (Galanter, 2006) embedded within the Holyoake DRUMBEAT program. Both the content and mode of delivery have been developed with sound consideration of evidence relating to risk factors, student learning models, group processes and behavioural outcomes.

Although many arts programs report anecdotal accounts of positively impacting on participants' wellbeing, there is a relative dearth of published evaluations and evidence. This lack of evidence is exacerbated by the fact that real world interventions often struggle to get published because they may not have the same level of evaluation rigour as a full research study. Yet they have an important contribution to make to current efforts to increase the links between research and practice, and to disseminate effective health promotion interventions more broadly.

This evaluation of the DRUMBEAT program in a schools setting has a number of acknowledged limitations. A control group would have clearly strengthened the rigor of the evaluation, but logistic, budget and school time-tabling constraints meant that collecting pre- and post-measures from a comparable sample of non-participants was not possible. Unfortunately different items and scales precluded comparison of the participant feedback obtained at program midpoint and program completion. Notwithstanding these limitations, unlike many arts-based programs that often rely on "process" evaluation measures (such as participation numbers, self-reported satisfaction with program), the DRUMBEAT program did have a strong evaluation framework in-built into the program delivery, and used a range of measurement and evaluation tools to also collect "impact" and "outcome" measures (Nutbeam and Bauman, 2006). As demonstrated in this paper, such evaluation adds powerful weight to anecdotal accounts of the effectiveness of such interventions. And while there is clearly scope to further strengthen some of these measures, they serve as a useful example to other arts-based interventions seeking to develop an evaluation framework.

The evaluation findings have a number of implications for schools or other organisations working with young people, particularly those who may be considered more "at-risk" or who would stand to benefit from enhanced social and emotional skills and resilience. Feedback from participating schools indicates the DRUMBEAT program provides a fun and non-threatening way to engage young people who may be reluctant to participate in more formal cognitive behavioural therapy, counselling or mental health programs. From a school perspective, the teamwork focus of the program is highly valued and has a positive ripple effect for the classroom setting. More broadly, the program has been shown to be effective in helping to re-engage some students who have

previously had negative attitudes towards school, or had erratic attendance patterns. As the program incorporates a focus on understanding others and acceptance of diversity, the program is also being run in a number of schools where there is wide racial or socio-economic diversity.

In a decade where concerns about the mental and social wellbeing of children and young people is high on the public radar, evidence-based programs that can tackle both risk and protective factors for mental health are very much needed, and the DRUMBEAT program serves as a promising example of this.

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