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## It Is Not Just Music and Rhythm . . . Evaluation of a Drumming-Based Intervention to Improve the Social Wellbeing of Alienated Youth

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The Discovering Relationship Using Music, Beliefs, Emotions, Attitudes & Thoughts (DRUMBEAT) program used drumming as a way of engaging at risk youth in a form of musical expression, while simultaneously incorporating themes and discussions relating to healthy relationships with others. The program targeted young people who are alienated from the school system. An evaluation was undertaken with a sample of 60 program participants in Western Australia's Wheatbelt region. The evaluation used both quantitative and qualitative methods, including informal discussions with staff and participants, observation, participant and teacher questionnaires, and school attendance and behavioural incident records. Pre- and postintervention data were collected on self-esteem, school attendance, antisocial behaviour, and levels of cooperation and collaboration. Students participating in DRUMBEAT increased their scores over a range of social indicators that act to increase connection with the school community. The results support the underlying program theory, that combining the therapeutic potential of musical expression with basic cognitive-behavioural therapy can be used successfully to deliver a range of social learning outcomes, including emotional control, improved relationships and increased self-esteem. Further longitudinal studies are required to assess the sustainability of the measured outcomes and their vulnerability to external factors.

■ **Keywords:** music therapy, drumming, arts and health, at-risk youth, health promotion

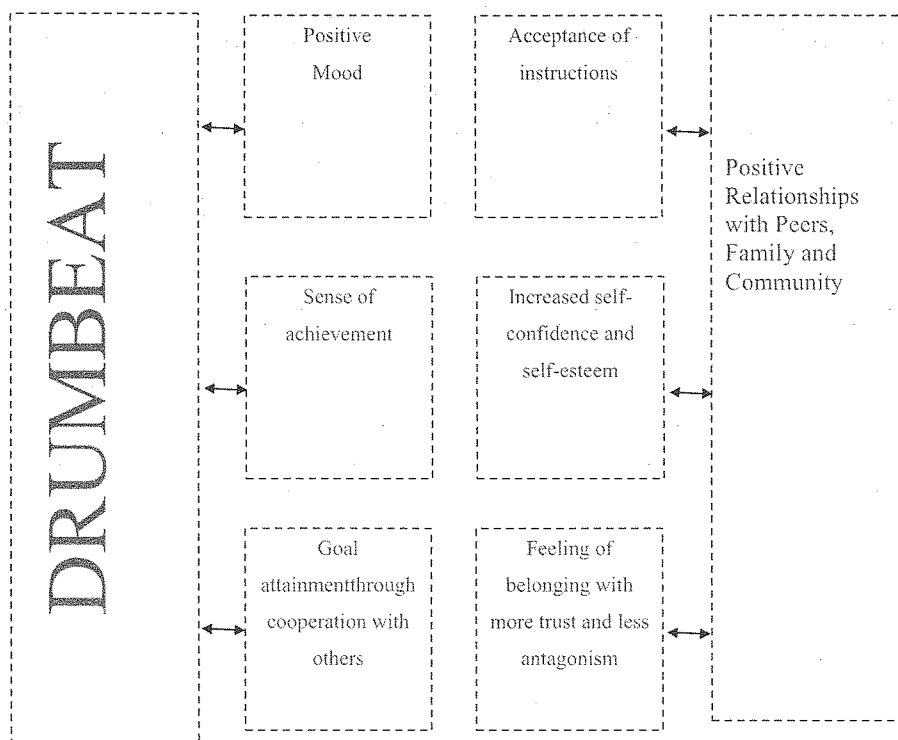
A great deal of research has gone into identifying the factors that influence a young person's interaction and experience with drug use (Kellam & Van Horn, 1997). These factors are commonly classified into two groups: those that increase the likelihood of problematic drug use, termed *risk factors*; and those that reduce the risk, termed *protective factors*. An important goal of prevention is to change the balance between risk and protective factors so that protective factors outweigh risk factors. One of the most consistent risk factors found in drug and alcohol research is *alienation*, namely that a high level of alienation from both the school environment and the broader community is a strong predictor of future drug and alcohol misuse (Resnick et al., 1997; Silburn, 2002).

The Discovering Relationship Using Music, Beliefs, Emotions, Attitudes & Thoughts, (DRUMBEAT) program is an early intervention devised by the West Australian drug and alcohol treatment agency, Holyoake. The program was developed in 2003 in response to the difficulties that traditional interventions, based on cognitive-behavioural therapy, had in engaging young people, particularly those of Indigenous descent. The DRUMBEAT program combines

the therapeutic potential of musical expression with basic cognitive-behavioural therapy to deliver a range of social learning outcomes, including emotional control, improved relationships and increased self-esteem.

The potential of music therapy to develop social skills has been acknowledged for some time (Skewes & Thompson, 1998). Increasing social competencies is seen as a means of reducing alienation and increasing a young person's ability to form important social support networks (Christopher, Nangle, & Hansen, 1993).

Two programs previously run in the Northern Territory highlighted the potential of this kind of music therapy initiative with young people considered 'at risk'. In a 2001 program, a group of boys with identified behavioural issues, of whom approximately 40% were Aboriginal, were engaged in a proactive music-making activity that resulted in notable improvements in both classroom cooperation and self-esteem (Smith, 2001). Among the musical curricula offered, the drumming exercises were some of the most popular and connected closely to participants' sense of maleness (Smith, 2001). Smith concluded that, as well as



**FIGURE 1**  
DRUMBEAT Program Theory

being fun for the boys, these sessions also provided opportunities for students to enhance positive values, such as group cohesion and self-esteem, along with their behavioural and social competence (Smith, 2001). Student feedback acknowledged their freedom within this program to express themselves without fear of embarrassment (Smith, 2001).

Drumming has long formed part of traditional healing rituals in many cultures worldwide and is now being increasingly used as a contemporary therapeutic strategy (Bittman et al., 2001). Therapeutic purposes, to which drumming has been applied, provide a way to treat a variety of behavioural issues such as anger management, team building, substance abuse recovery, increasing self-esteem and developing leadership skills (Mikenas, 2003). Group drumming can foster a sense of cohesion as it teaches individuals coordination and team work, with participants assuming different roles and having to work together to coordinate their parts (Drake, 2003).

Music, generally, has a strong association with therapeutic healing, and more recently, with academic achievement (Hallam, 2009). Multiple studies have demonstrated that participation in music programs are closely identified with improvements in literacy, numeracy, intellectual development and general attainment (Hallam, 2009). For disaffected pupils, in particular, music can lead to greater social

adjustment, improved self-reliance and positive attitudes (Spychiger, Patry, Lauper, Zimmerman, & Weber, 1993). Participation increases a sense of belonging, social networks are expanded, social skills refined, and confidence and self-discipline improve (Hallam & Prince, 2000). Music provides young people with a strong source of emotional support when they feel troubled or lonely and contributes strongly to their sense of identity and connection to the world around them (Zillman & Gan, 1997).

The development of the DRUMBEAT program builds on the therapeutic value of musical expression, integrating themes and discussions into the program structure that raise awareness of the social factors that are critical in developing healthy relationships with others. These themes are drawn from analogies made between the drumming experience and everyday life, including communication, problem solving, dealing with peer pressure, individuality, self-expression, emotions, feelings, and teamwork.

The underlying model for the program is depicted in Figure 1.

This article describes the evaluation that was undertaken of the DRUMBEAT program. The evaluation was based on the underlying model of the program and sought to investigate the impact of program participation on participants' self-esteem, social competencies, relationships with others and school attendance and behaviour.

## Methods

### Participants

For this evaluation study, participants were recruited into either an intervention or a control group. Overall, 60 students were selected to participate in the evaluation study by the student services managers from three government schools in the Western Australian Wheatbelt region. The students were from years 6 and 7 with the average age being 12 years. Approximately 40% of participating students were of Aboriginal descent. All students had a behavioural history that placed them at increased risk of a range of negative health outcomes in later life. These histories (as provided by teachers and schools) included one or more of the following: social isolation, low academic performance, low self-esteem, family conflict, antisocial behaviour, sensation seeking, rebelliousness, high absenteeism, experimental drug use. No student had any experience playing drums and most had very limited exposure to music education.

Students were assigned to either a control group or an intervention group (referred to hereafter as the DRUMBEAT program group). There were three control groups and three intervention groups, each comprising of ten students. Two intervention and two control groups comprised male students only, while the other intervention and control group had equal numbers of males and females. The subjects chosen for the control groups were assigned to existing school 'options' courses — domestic science (sewing and cooking) at one school, dance at another, and computing at the third.

Of the 30 students participating in the DRUMBEAT groups, three students failed to complete the full 10-week program; one was due to a lengthy suspension from school, while two others were given, and accepted, a choice to leave the group after the first session.

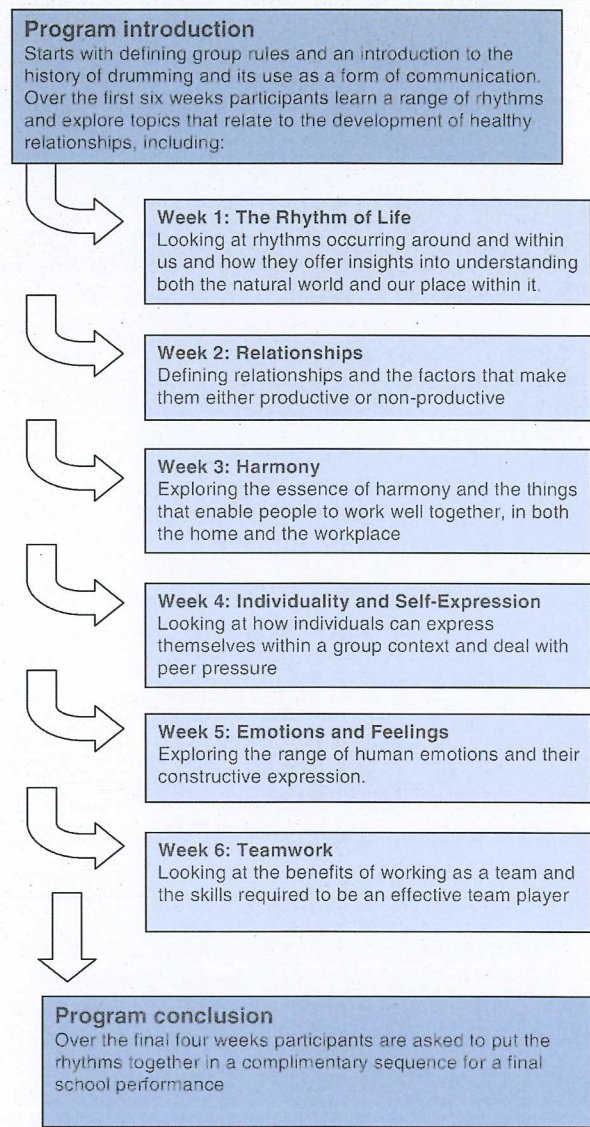
### DRUMBEAT Program Facilitators

The DRUMBEAT program was delivered by trained DRUMBEAT program facilitators — one a program officer from the Wheatbelt Community Drug Service Team (WCDST) and the other an Aboriginal liaison officer from the West Australian Department of Education and Training (Midlands Education District, Aboriginal Education office). Both facilitators had delivered the DRUMBEAT program in primary schools on a regular basis over the previous 12 months. Teachers were involved in identification of program participants and in providing feedback on program outcomes, but were not involved in delivery of the DRUMBEAT program. Activities engaged in by the control groups were, however, run by teachers within the participating schools.

### Core Elements of the DRUMBEAT Program

An outline of the program content is provided in Figure 2.

The key difference between the activities engaged in by the DRUMBEAT groups and the control groups was the focus on socioemotional learning. The activities undertaken in DRUMBEAT involved teamwork, social interaction among participants to achieve a group outcome and discussion of



**FIGURE 2**

(Colour Online) Core elements of the DRUMBEAT program

themes related to socioemotional learning. These themes included values, empathy, altruism, social responsibility, feelings and emotions, and social harmony. In the control groups, apart from the dance class at one of the schools, the activities were undertaken individually, with the focus primarily on the task, its completion and standard. In the DRUMBEAT groups, the emphasis was on group-based activity, cooperation and collaboration. Another difference was that students in control group activities received a grading for their work, while the DRUMBEAT group focus was on more informal affirmation through participation.

### Measures

The evaluation used a range of quantitative and qualitative data collection techniques to gather information about student engagement in the program and the impact of the

program on participating students and on their behaviour. Data collection methods included informal discussions with teaching staff, program staff and participants; observation of the program activities; written questionnaires to participants; school records of behavioural incidents and attendance; and a behaviour observation scale completed by teachers. Pre- and postintervention data were collected for measures relating to self-esteem, school attendance, antisocial behaviour, and levels of cooperation and collaboration.

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to obtain a measure of self-esteem from each participant prior to commencement of the program and again immediately after its completion. This is a 10-item Likert scale, which measures participant self-esteem through a number of questions in which the participants can select responses from *strongly agree* to *strongly disagree* (Faulkner, 2006). The wording of this questionnaire was altered slightly to make it readily understandable to the chosen age group (see Appendix A). These changes were made after interviews with the children revealed they had trouble understanding the original wording.

The Behavioural Observation Scale asked for teacher feedback on behavioural changes over the 10-week period across five domains: relationships with their peers; relationships with adults and teachers; emotional control; participation in group activities and self-esteem. The scale comprised of five items, with response options rated from one to ten with '5' indicating no change, '10' a highly positive change and '1' a highly detrimental change. These were necessarily subjective judgements made by teachers who had the most interaction with the students.

Two other questionnaires were specifically designed to elicit participant feedback on the program: one at the half-way stage, Session 5 (see Appendix B), which focused on participant understanding of the goals of the program and the performance of the facilitators; and the other at the completion of the program, Session 10 (see Appendix C), which looked at participants' perceptions of their own learning, as well as their enjoyment of the program itself. These questionnaires were worded carefully to ensure understanding by the students involved and completed individually with assistance from their classroom teacher.

### Evaluation Procedure

A meeting was held with each of the managers of student services for the three schools. At this meeting the goals of the program and the requirements of the evaluation were discussed.

Both DRUMBEAT students and those in the control groups were given the Rosenberg Self-Esteem Scale at the commencement of the first session. Facilitators were on hand to explain the questions when doubts about their meaning arose. During Session 5, the first questionnaire was given to DRUMBEAT participants to gauge feedback on the way the program was being delivered. At this stage a meeting was held with classroom teachers of both groups

to introduce them to the demands of the behavioural scale they would complete at the end of the ten sessions.

At the completion of Week 10 (the tenth session) participants from both groups were again given the Rosenberg Self-Esteem Scale and those participating in the DRUMBEAT program were given the second questionnaire that focused on their perception of their own progress during the ten sessions, as well as their overall satisfaction with the program. Certificates of completion were given to those who had completed the DRUMBEAT program. The teacher behaviour observation scale was distributed at this stage and returned to the researchers the following week.

In the week following the completion of the program a separate meeting was held with each of the student services managers to gauge their impression of the program and to recover school records of attendance, behavioural incidents, and suspensions for each student over the period of the intervention as well as the preceding ten weeks. Individual meetings were held with teachers and school principals to obtain qualitative feedback. This was particularly important for insight into behaviours that might not be severe enough to appear through standard recording arrangements. Finally, interviews were held with participating facilitators to ascertain their perceptions on both the delivery of the program itself and group dynamics throughout the life of each group.

### Data analysis

A range of techniques were used to analyse and interpret the data collected. These included computation of descriptive statistics, comparison of aggregated responses between control and intervention groups, and comparison where applicable of data collected pre, during and at completion of the program. Qualitative data from interviews with teachers was also drawn upon in interpretation of findings.

### Results

The results are presented under the four areas of self-esteem, levels of school attendance, levels of antisocial behaviour, and levels of cooperation and collaboration. A further area of inquiry related to participant satisfaction with the DRUMBEAT program.

#### Levels of Self-Esteem

The self-esteem scale responses were aggregated and averaged to provide a pre- and postprogram measure for intervention and control groups. Overall, the results indicated a mean increase of 16% in self-esteem across the three groups participating in the DRUMBEAT program, compared with a drop of 7% in the mean self-esteem score for the control groups (see Figure 3). DRUMBEAT students' scores increased from the low range to average, while the control group remained within the boundary of average self-esteem. Teacher feedback indicated that 77% of DRUMBEAT participants had improved their feeling of self-worth while

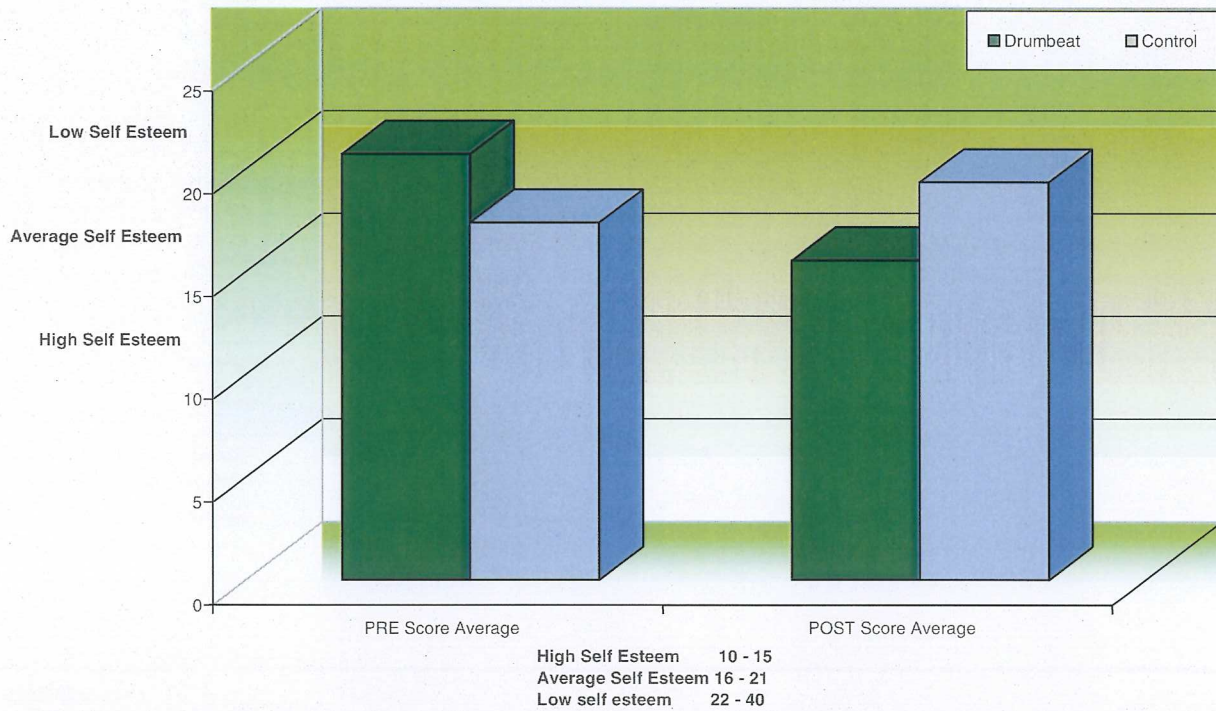
ROSENBERG SELF ESTEEM QUESTIONNAIRE PRE v POST  
ALL STUDENTS

FIGURE 3

(Colour Online) Rosenberg Self Esteem Questionnaire Before and After Intervention in All Students

participant feedback also supported increased levels of confidence and recognition of achievement.

#### Levels of School Attendance

Levels of school attendance and absenteeism were also measured as group averages. For DRUMBEAT participants the average half-day absence rate dropped from 13 over the ten weeks prior to the program to 8 over the course of the intervention, while the control group remained steady at 6 (see Figure 4). At one school, this led to an increase in attendance of 80 half days for 10 high risk students over a period of ten weeks (four extra school days per child).

#### Levels of Antisocial Behaviour

Levels of antisocial behaviour were measured by consulting school behavioural incident records as well as teacher and facilitator feedback. Qualitative feedback obtained from interviews with teachers indicated that the number of classroom behavioural incidents warranting teacher intervention had fallen significantly, although certain individual students continued to exhibit strong defiance towards teacher authority, bullying and other aggressive behaviours. No significant difference was found in documented incidents of student suspension, but this seems attributable to the fact that there was a very low number of suspensions prior to, and during, the program period for both the control and intervention groups.

#### Levels of Cooperation and Collaboration

Increases in levels of cooperation were measured through the teacher behaviour scale and indicated that 16 of the 27 DRUMBEAT participants (60%) had increased their scores in this area compared to 11 of the 30 control group members (40%; see Figure 5). Participants themselves recorded a strong positive response to participation in the drumming group and feedback from teacher interviews pointed to marked improvements in individual students, particularly those who had previously been shy or withdrawn.

#### Participant satisfaction with the DRUMBEAT program

The participants overwhelmingly enjoyed the DRUMBEAT program, with 26 of the 27 indicating they would highly recommend it to others (96%). Although a small number of students failed to complete the program, this was not deemed unusual given the chosen demographic and the voluntary nature of attendance. There were a number of findings related to the conduct of the program that included positive feedback on the role of the presenters and the inclusiveness of their facilitation; high participant awareness of the goals of the program, and their progress towards those goals; positive feedback on the involvement of an Indigenous presenter as a positive role model for participants, and

ALL SCHOOLS - ATTENDANCE STATISTICS

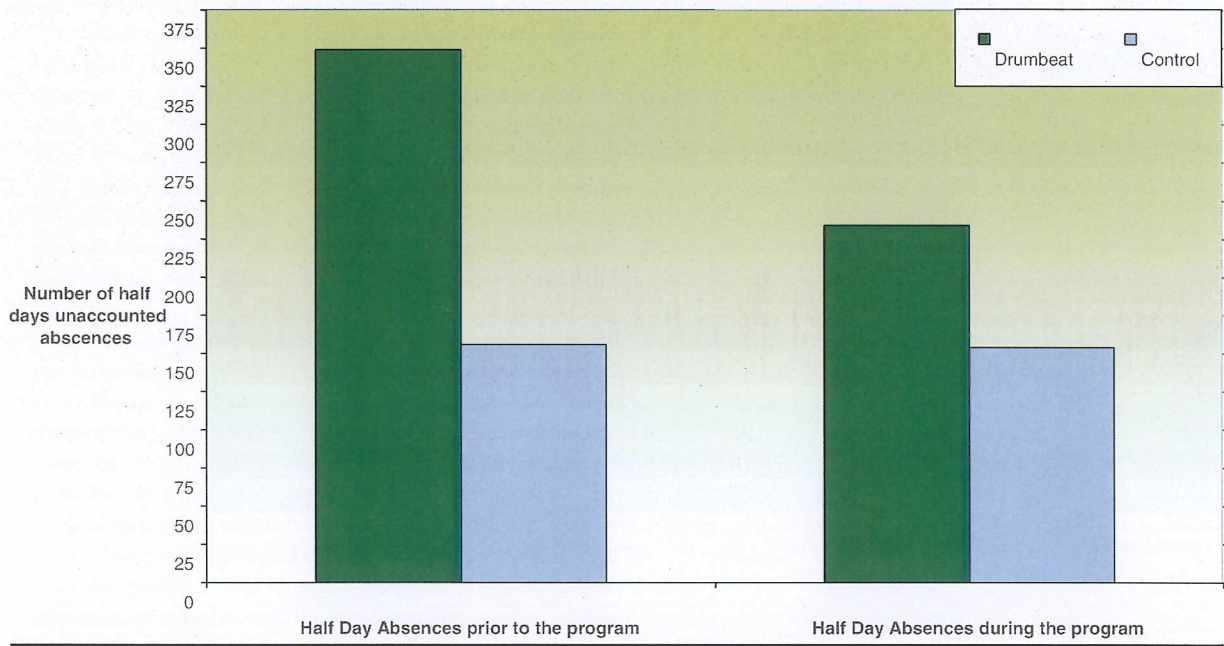


FIGURE 4

(Colour Online) Absenteeism of DRUMBEAT and Control Students Before and After the Program at All Schools

DRUMBEAT PROGRAM  
TEACHER EVALUATION - ALL SCHOOLS 2005

This graph displays the number of students who have demonstrated positive change in the areas listed below over the 10 week period of the Drumbeat Program

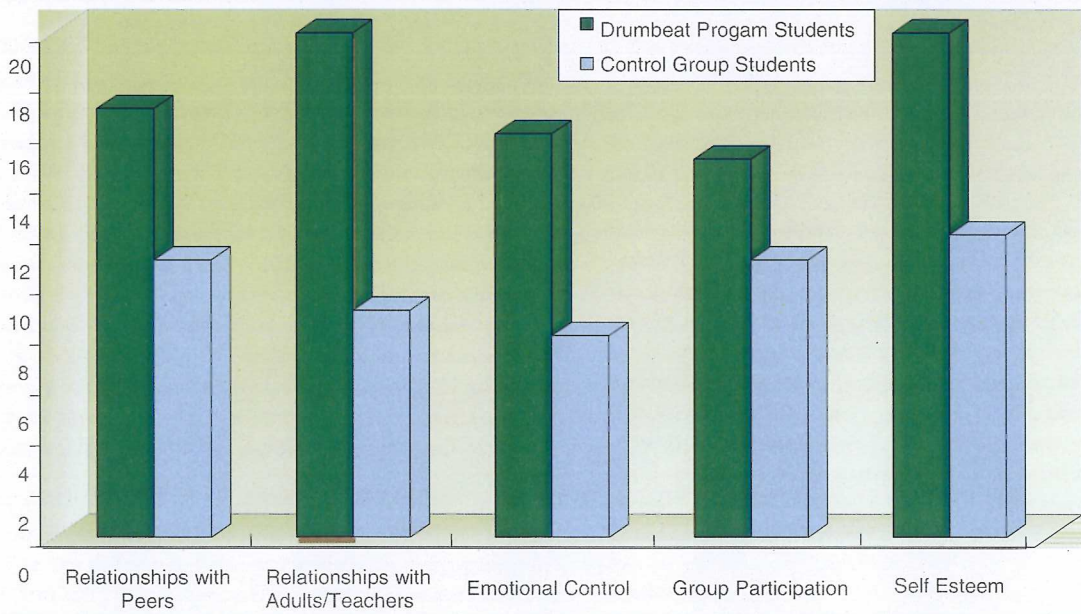


FIGURE 5

(Colour Online) Teacher Evaluation at All Schools of Positive Change in Students

to broaden the cultural relevance of relationship issues during discussions; and confidence in being able to talk freely within the group.

## Discussion

The findings of this evaluation are congruent with previous research demonstrating the potential of music to engage young people at risk of alienation from mainstream society (Smith, 2001), and provide further insight into the compositional nature of an effective music therapy program and the benefits that can accrue at the individual, group, and school level.

Several limitations exist within the methodology of the study, including the nonrandom assignment of participants. It is evident from the results that those participants allocated to the DRUMBEAT program had stronger histories of antisocial behaviour and lower self-esteem at the start of the program than members of the control group, despite efforts to make the groups as similar as possible. In addition there is always the potential for external variables, beyond the control of the researchers, to influence change. While qualitative feedback was obtained from teachers, postprogram interviews with participants would have yielded additional insight and is recommended as a consideration for future research.

Despite these limitations, it is clear that the program engages a group notoriously difficult to engage, and does so in a way that transfers learning that can be of benefit in reducing their alienation. As well as positively engaging in a prosocial activity, participants increased their capacities in a range of social skills, as well as their feelings of self-worth. These positive changes have the potential to build a level of resilience within those young people who attended the program, reconnecting them with the school community and protecting them from the harms associated with social isolation.

The implication of increased attendance is a favourable one, having been identified as a strong predictor of social health (Resnick et al., 1997). Detachment from school, poor academic performance and an unsupportive or rigid school culture are all predictors of increased risk of criminality and substance misuse (National Crime Prevention, 1999). The DRUMBEAT program had overwhelming participant endorsement, engaging young people quickly through the mode of music. Presented in a nonthreatening manner that differs markedly from many other cognitive-behavioural interventions and designed with Indigenous youth in mind, it recognises the difficulties traditional interventions have with the cultural differences surrounding communication and learning in Aboriginal society.

In keeping with findings from the recently completed Western Australian Aboriginal Child Health Survey (2005), the program provided opportunities for the development of several key components of optimal child development,

including self-efficacy and the regulation of emotions, and reduced one of the key barriers to social and emotional well being, namely social exclusion.

## Conclusion

This study demonstrates the potential of the DRUMBEAT program as an early intervention to help stem young people's alienation from the school community. The program provides for re-engagement through provision of a range of skills that may enable participants to establish better relationships with those around them, and this was observed to have a positive ripple effect on classroom behaviour and school engagement. The program also offers opportunities for prosocial activity combined with rewards for prosocial involvement, including recognition of achievement, a factor missing from many other targeted interventions that run the risk of stigmatising their participants.

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### Appendix A

#### Rosenberg Self Esteem Scale Including Re-Worded Items

Statement	Original item	Amended item
1.	'Most of the time I am satisfied with myself'	'Most of the time I am happy with myself'
2.	'At times, I think I am no good at all'	Left unchanged
3.	'I feel that I have a number of good qualities'	Left unchanged

4.	'I am able to do things as well as most other people'	Left unchanged
5.	'I feel I do not have much to be proud of'	Left unchanged
6.	'I certainly feel useless at times'	'I feel useless at times'
7.	'I feel that I'm a person of worth, at least on an equal plane with others'	'I feel I'm as good a person as anybody else'
8.	'I wish I could have more respect for myself'	Left unchanged
9.	'Basically I think I'm a failure'	'All in all I'm inclined to feel I'm a failure'
10.	'I take a positive attitude towards myself'	'I feel pretty good about myself'

### Appendix B

#### DRUMBEAT

##### Participant Feedback — Mid Program (Week 5)

Students were asked to circle a response to the following questions\*

Were the goals of the group made clear to you from the start? Do you feel you are making progress towards these goals as a group?

Do you think the group is working well together?

Have you enjoyed the drumming part of the program?

Do you get enough time to master a beat before moving onto the next one?

Do you feel supported and valued by the presenters?

Do you feel comfortable talking in the group

Note: \* Response options: Yes, Sort of, No.

### Appendix C

#### DRUMBEAT Program

##### End of Program Feedback Questions

Students were asked to circle a response to the following\*

Have you enjoyed being part of the DRUMBEAT program?

Have you learned new skills?

Do you feel you now know more about people and how they socialise with each other?

Are you more aware of the connection between music and emotional expression?

Did you enjoy being part of a group?  
Did you impress yourself with the beats you could master?  
Do you feel you are more aware of the importance of listening in relation to both music and developing relationships?  
Were the presenters helpful and understanding?

Was your input encouraged?  
Would you recommend the DRUMBEAT program to others?  
Note: \* Response options: 1 *Strongly agree*, 2 *Agree*, 3 *Neither agree nor disagree*; 4 *Disagree*; 5 *Strongly disagree*.