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# BRIDGING THE GAP IN SCHOOL ACHIEVEMENT THROUGH THE ARTS

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summary report



the  
song  
ROOM

# ACKNOWLEDGEMENTS

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Educational Transformations Pty Ltd offers a range of services to lead and support efforts to achieve significant, systematic and sustained change in education that secures success for all students in all settings.

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The Song Room is a national not for profit organisation that provides free, tailored, long-term music and arts-based programs for children in disadvantaged and high need communities to enhance their educational and developmental outcomes.

## Acknowledgements

This independent research was commissioned by The Song Room and conducted by Educational Transformations with the generous support of the Macquarie Group Foundation and cooperation of participating schools.

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## Cover photo

The Song Room program, photography by Estelle Grunberg, courtesy of The Age.



Engaging Young People  
Through Creativity

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# FOREWORD

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Our standard of living in Australia is one of the highest in the world according to the UN Human Development Index, including our ranking in education.

Unfortunately, however, we have large gaps in equity of educational and social outcomes, for example the significant disparities in school completion and attainment for students from low socio-economic circumstance, non-English speaking or Indigenous backgrounds.

Addressing social and economic disadvantage has been an increasing focus for school education in Australia, given the growing evidence of the positive impact of school outcomes in reducing continued systemic disadvantage and other risk factors.

There has also been a growing recognition by educational leaders that improving educational outcomes is not simply achieved with a focus on numeracy and literacy, but that positive school engagement as well as social and emotional wellbeing are also fundamental building blocks to success.

The Song Room is pleased to present this independent research report, **Bridging the Gap in School Achievement through the Arts**. This groundbreaking research has made an important advancement in demonstrating that arts education not only has intrinsic value, but when implemented with a structured, innovative and long-term approach, it can also provide essential extrinsic benefits, such as improved school attendance, academic achievement across the curriculum as well as social and emotional wellbeing.

Having demonstrated a significant and quantitative impact of an educational intervention, this research is of international significance. There is nevertheless a particular relevance to the Australian context, given our challenges of disparity in educational outcomes for students such as those who participated in this research who came from disadvantaged, marginalised and high risk backgrounds.

The research outcomes also provide topical program evidence on an effective model of program delivery in light of the current development of a new national curriculum to include the arts.

As a not-for-profit organisation, The Song Room is very grateful for the generous support of the Macquarie Group Foundation, the exceptional research expertise of the team from Educational Transformations as well as the contribution of participating schools, students and teachers who all made this project possible.

We hope that these findings will assist in realising our vision that all Australian children have access to the arts to improve their education and development.

Caroline Aebersold  
Chief Executive Officer  
The Song Room  
March 2011

# PREFACE

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Educational Transformations Pty Ltd was commissioned by The Song Room (TSR) to conduct a study on the impact of TSR programs in government schools in relatively disadvantaged communities in New South Wales (NSW) on indicators of student performance that have been identified in previous research as related to potential engagement in juvenile crime. Students in Grades five and six were the subjects of study. There is no implication in the study reported in the pages that follow that students for whom outcomes are reported have been or are likely to be involved in juvenile crime.

This summary report provides a synopsis of related research, the findings of which helped shape the selection of matters for investigation, an overview of the methodology, illustrative findings and a discussion of the implications and limitations of the project. It draws from the full report of Educational Transformations submitted to TSR in late 2010 authors of which were Dr Tanya Vaughan, Dr Jessica Harris and Professor Brian Caldwell. Dr Vaughan, Senior Consulting Researcher at Educational Transformations based in Melbourne was the Chief Investigator for the study and was the key researcher in every stage as well as the senior author of the report. Dr Harris, Senior Consulting Researcher at Educational Transformations based in Brisbane helped in the design and conduct of the case studies.

Educational Transformations welcomed the commission from TSR to conduct the study. We had no previous involvement in programs of TSR and were able to design and deliver the project in a genuinely independent manner. Given that student participation was limited to one hour per week, it was reasonable to expect that there would be no significant difference in outcomes for students engaged in TSR programs and those in a matched set of schools that do not participate. However, subject to limitations set out in the report, the findings are particularly striking. Schools participating in TSR programs outperform those that are not participating on most indicators selected for investigation, including outcomes in NAPLAN and student wellbeing. Those in the longer-term program tend to outperform those in the initial short-term program. The higher rate of attendance of students in participating schools on days when the TSR program is offered is especially persuasive. The implications for policymakers at all levels and for school leaders are significant. Schools in similar settings should be encouraged to consider participation in TSR if they are not already engaged or do not have a similar program in the arts.

We extend our appreciation to the Department of Education and Training in New South Wales for approval to conduct the study, and to the principals, staff, students and parents of schools that agreed to participate. These schools cannot be named but all have received a copy of the Executive Summary of the full report.

Professor Brian J. Caldwell  
Managing Director and Principal Consultant  
Educational Transformations

7 March 2011

# CONTENTS

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Introduction	7
Synopsis of related research	8
Risk factors associated with juvenile crime	9
Participation in the arts	10
Methodology	12
Indicators of student performance	13
Selection of schools	13
Research questions	14
Data collection and analysis	14
Illustrative findings	15
Attendance and academic achievement	15
Social-Emotional Wellbeing	19
Case Studies	29
Implications and limitations	32
References	33

## List of Figures

Figure 1: The 95 percent confidence intervals for academic grades for individual subjects according to TSR participation status	16
Figure 2: Percentage of students above the national minimum for the literacy domains in Year 5 NAPLAN 2009 (longer-term and non-participating)	17
Figure 3: Percentage of students below the national minimum for the literacy domains in Year 5 NAPLAN 2010 (longer-term, initial and non-participating)	17
Figure 4: Percentage of students absent on a TSR day according to TSR participation category	18
Figure 5: Percentage comparisons of SEWB according to TSR participation status	21
Figure 6: Percentage comparisons of the distribution of student resilience according to TSR participation category	22
Figure 7: Percentage of boys who agreed with the statement 'I feel very stressed' according to TSR participation category	23

# CONTENTS

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Figure 8: Percentage of students who agreed with the statement 'During the past six months, I have felt so hopeless and down almost every day for one week that I have stopped doing my usual activities' according to TSR participation category	23
Figure 9: Percentage of students who agreed with the statement 'I get along with most of my teachers' according to gender and TSR participation category	24
Figure 10: Percentage of students who agreed with the statement 'I get into too much trouble' according to gender and TSR participation category	24
Figure 11: Percentage of students who agreed with the statement 'I feel safe and free from danger' according to gender and TSR participation category	25
Figure 12: Percentage of girls who agreed with the statement 'I am someone who loves to learn' according to TSR participation category	25
Figure 13: Percentage of boys who agreed with the statement 'When I do badly in my schoolwork, I think I'm a failure' according to TSR participation category	26
Figure 14: Percentage of boys who agreed with the statement 'I can't stand having to behave well and follow the rules' according to TSR participation category	27
Figure 15: Comparison of the percentage of girls who agreed with the statement 'I feel confident when doing difficult schoolwork' according to TSR participation category	27
Figure 16: Percentage of boys who agreed with the statement 'There are things that I study in my classes that interest me' according to TSR participation category	28
Figure 17: Percentage of boys who agreed with the statement 'Teachers remind students about the importance of doing their best in their schoolwork' according to TSR participation category	28

## List of Tables

Table 1: Characteristics of schools in the study	13
Table 2: Descriptions of the six levels of SEWB	20
Table 3: Summary of the findings of the case studies	30

# INTRODUCTION

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Educational Transformations Pty Ltd was commissioned by The Song Room (TSR) to conduct a study of the impact of TSR programs in government schools in relatively disadvantaged communities in New South Wales (NSW) on indicators of student performance that have been identified in previous research as related to potential engagement in juvenile crime. Students in Grades 5 and 6 were the subjects of study.

TSR is a not-for-profit organisation in receipt of grants from public and private sources that conducts free programs in the performing arts in schools where these are not currently offered. These programs are conducted by mutual agreement between TSR and participating schools. Across Australia, approximately 200 schools and 40,000 students are engaged for a minimum of six months each year. Students typically participate for approximately one hour per week in each class. Instruction is provided by a Teaching Artist (TA), contracted to TSR and working in partnership with the classroom teacher at the school of placement.

TSR received a three-year grant from the Macquarie Group Foundation to investigate the efficacy of its interventions in improving social and education outcomes for children in a range of high need target group areas participating in its program.

The current study was conducted in communities that had been identified in earlier research by the Department of Justice and Attorney-General in NSW as having relatively high levels of juvenile crime. However, there was no implication in the study reported here that students for whom outcomes are reported have been or are likely to be involved in juvenile crime. They were involved in the study because they were in programs offered by TSR in schools in the aforementioned communities that agreed to participate or were in a matching sample of schools that did not offer the TSR program. Anonymity was assured for all students and the names of participating schools have been changed.

While the findings are of particular interest to TSR there are many other stakeholders. The Department of Education and Training (DET) in NSW that gave its approval to the study has a particular interest because of two of its goals (DET, 2006): to increase levels of attainment for all students and to ensure that students are meeting or exceeding benchmarks in literacy and numeracy. DET has related strategies to implement targeted programs to improve outcomes for all students, with a system-wide focus on effective transitions for at-risk groups, and to increase the early intervention effort. Nationally,

there is agreement among all levels of government, as set out in the Melbourne Declaration on Educational Goals for Young Australians, to promote equity and excellence and 'to ensure that socioeconomic disadvantage ceases to be a significant determinant of educational outcomes' (MCEETYA, 2008, p.8).

This summary report provides a synopsis of related research, the findings of which helped shape the selection of matters for investigation in the current study, an overview of the methodology, illustrative findings and a discussion of the implications and limitations of the project. It draws from the full report of Educational Transformations submitted to TSR in late 2010.





Risk factors associated with juvenile crime are low school attendance (Baker, 1998 and Pasko, 2006), low academic achievement (Baltodano, Harris & Rutherford, 2005; Farrington, 2003; Maguin & Loeber, 1996; Pasko, 2006; and Zabel & Nigro, 2001) and impulsivity (Carroll et al., 2006; Farrington, 2003). A low rate of school attendance has been shown to be a strong predictor of crime (Baker, 1998 and Pasko, 2006). A study of nearly 400 juvenile crime offenders in NSW found that only one-third were still at school at the time they committed their first offence and more than one-third had been suspended or expelled (Weatherburn, Cush & Saunders, 2008). Attendance at school as well as suspension or expulsion was significantly related to the risk of re-offence in NSW juvenile offenders (Weatherburn, Cush & Saunders, 2008). A peak in crime has been observed for secondary students aged 14 to 16 years (Years 9 and 10) (Baker, 1998). Baker (1998) suggested that the link between truancy and crime may be a manifestation of poor school performance. Low academic achievement at high school has been shown to be associated with risk of juvenile offence (Baltodano, Harris & Rutherford, 2005; Farrington, 2003; Maguin & Loeber, 1996; Pasko, 2006 and Zabel & Nigro, 2001). Baltodano, Harris & Rutherford (2005) found that, although male youth from juvenile correction facilities were found to be below the mean on all measures of achievement, the majority were not more than one standard deviation below the mean.

In one study there was no gender difference between boys and girls, with both groups equally likely to have failed academically (Pasko, 2006). In contrast, a meta-analysis of 118 research studies found that academic performance and delinquency were more strongly associated in males rather than in females (Maguin & Loeber, 1996).

Early-onset offenders tended to display high impulsivity (Carroll et al., 2006 and Farrington, 2003), poor concentration (Farrington, 2003), risk-taking (Farrington, 2003), rapid cognitive tempo and poor mental inhibitory control (Carroll et al., 2006) and were unpopular with their peers (Farrington, 2003). Anti-social child behaviour such as 'troublesomeness' and aggressiveness were predictors of later offending for boys aged 8 to 10 years (Farrington, 2003).

The beginning of high school represents a key transition point that has been identified as important in the prevention of juvenile crime (National Crime Prevention, 1999). Students who had committed an offence in Year 7 formed 62.4 percent and 43.3 percent of the NSW secondary student population of boys and girls respectively (Baker, 1998). Early onset age for the first offences (10 to 14 years) has been linked to a higher rate of repeat offences (Chen, Matruglio, Weatherburn & Hua, 2005) which take place over longer time periods (Farrington, 2005).

The transition to high school is thought to be particularly difficult to traverse as it involves a 'transition to a new, larger, more demanding and less supportive school structure; the transition to puberty, with the associated need to establish one's own identity as an adult, independent of parents; and a transition to a new neighbourhood or peer group' (Homel, 2005, p. 95). Increased juvenile participation has been observed in regions of economic and social disadvantage, which is thought to increase the rate of child neglect (Weatherburn & Lind, 1997). Weatherburn and Lind (1997) described the benefit of preventative programs outside the justice system:

... agencies responsible for the health, education and welfare of children may actually be much better placed to deliver programs designed to prevent juvenile involvement in crime than those who are gatekeepers to the criminal justice system (Weatherburn & Lind, 1997, p.48).

## Synopsis of related research

### PARTICIPATION IN THE ARTS

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Involvement of students in arts and music programs has been shown to increase academic achievement (Bamford, 2006; Catterall, Chapleau & Iwanaga, 1999 and Wetter, Koerner, Schwaninger, 2009), IQ (Schellenberg, 2006), attendance (Dreezen, Aprill & Deasy, 1999), attitude to attendance (Uptis & Smithrim, 2003), performance on standardised reading and verbal tests (Butzlaff, 2001), verbal skills (Hetland & Winner, 2001), reading for pleasure (Uptis & Smithrim, 2003) and literacy (Bamford, 2006; Hunter, 2005 and Spillane, 2009). Catterall, Chapleau & Iwanaga (1999) employed the National Educational Longitudinal Survey, which involved over 25,000 students in American secondary schools for 10 years, and found that students that engage in the arts developed academically between 8th and 10th and between 10th and 12th grades (Catterall, Chapleau & Iwanaga, 1999). Students of low SES involved in arts showed increased reading proficiency (Catterall, Chapleau & Iwanaga, 1999). Improvement in literacy across multiple studies showed a range of 18 to 24 percent improvement, with an average of 22 percent (Bamford, 2006). Students in Grades 4 to 6 significantly improved their grades in all subjects except physical education compared to students who were not practising music (Wetter, Koerner & Schwaninger, 2009). Student involvement in extra-curricular music lessons was significantly related to reading for pleasure (Uptis & Smithrim, 2003). A meta-analysis of 80 reports found a causal link between classroom drama and increased verbal skills (Hetland & Winner, 2001).

The abovementioned gains in academic outcomes may be driven by changing attitudes towards school. Uptis and Smithrim (2003) found that Grade 6 girls involved in Learning through The Arts (LTTA) were significantly happier to come to school than similar students at schools without LTTA programs. LTTA was a Canadian longitudinal study with a sample size of 6,667, with students that spanned Grades 1 to 6 (Uptis & Smithrim, 2003).

Music instruction has been shown to significantly increase spatial-temporal reasoning skills (Hetland, 2001), encourage mathematics reasoning (Vaughn, 2001), improve numeracy (Hunter, 2005 and Spillane, 2009) and improve mathematics (Bamford, 2006; Catterall, Chapleau & Iwanaga, 1999; Hunter, 2005 and Uptis & Smithrim, 2003). Improvement in mathematics was found in many studies and showed a range of 3 to 15 percent improvement with an average of 6 percent (Bamford, 2006). Catterall, Chapleau and Iwanaga (1999) found that students involved with instrumental music (middle and high school) had significantly higher levels of ability in mathematics by Grade 12. Students from low SES settings who were involved with music achieved significantly higher mathematics results than their peers from similar settings who were not involved with music (Catterall, Chapleau & Iwanaga, 1999). The absolute differences in mathematics skills between students participating in instrumental music compared to those not participating were found to increase significantly over time (Catterall, Chapleau & Iwanaga, 1999). Analysis of LTTA initiatives revealed that there was significantly higher mathematics achievement for Grade 6 students at LTTA schools than those at schools without arts programs (Uptis & Smithrim, 2003). Mathematics skills were found to be significantly linked to music initiatives across many longitudinal studies.

Participation in arts programs was found to be associated with psychological indicators such as resilience (Oreck, Baum & McCartney, 1999), self-regulation (Oreck, Baum & McCartney, 1999; Hunter, 2005), self-esteem (Brice Heath, 1999; Hunter, 2005 and Uptis & Smithrim, 2003), identity (Oreck, Baum & McCartney, 1999), self-concept (Catterall, Chapleau & Iwanaga, 1999), self-efficacy (Deasy, 2001), motivation (Bamford, 2006; Catterall, Chapleau & Iwanaga, 1999 and Hunter, 2005), and the ability to experience 'flow' (Oreck, Baum & McCartney, 1999). Students' learning in the arts was described as 1) independent and intrinsically motivating, 2) fostering learning for understanding, and 3) transforming students' 'characterisations of learning barriers' into "challenges" to be solved' (Bamford, 2006, p.108).

## Synopsis of related research

### PARTICIPATION IN THE ARTS

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Students from low SES settings who were involved in the performing arts showed an increase in self-concept and motivation from Years 8 to 10, which peaked at Year 12, compared to students not involved in arts programs (Catterall, Chapleau & Iwanaga, 1999). The qualities of resilience, self-regulation, identity and the ability to experience 'flow' observed in 26 case studies were found to be 'correlated and interact reciprocally, each having the effect of strengthening the other' (Oreck, Baum & McCartney, 1999 p.70).

The 'high-demand high-risk' atmosphere of rehearsal and performance encourages the growth 'of skills and capacities rooted in their personal recognition of themselves as competent, creative, and productive individuals' (Brice Heath, 1999 p.29). Self-esteem showed increases of about 15 percent, as measured in items such as 1) feels good about him/herself, 2) feels she/he is a person of worth, 3) is able to do things as well as others and 4) on the whole is satisfied with self in the arts group compared to the National Educational Longitudinal Survey control group (not participating in the arts) (Brice Heath, 1999). The observed difference in self-esteem becomes particularly relevant when it is considered that students in arts programs were about twice as likely as those that were not to be in situations that exacerbate feelings of insecurity and uncertainty such as parental relationship change, frequent moves, and parents losing or starting a job and going on or off welfare (Brice Heath, 1999).

Improvement in the behavioural indicators of empathy (Catterall, Chapleau & Iwanaga, 1999 and Hunter, 2005), tolerance (Catterall, Chapleau & Iwanaga, 1999), cooperation (Hunter, 2005), collaboration (Hunter, 2005), and communication (Hunter, 2005) were observed in students who actively participated in various arts programs. Sustained student involvement in theatre arts was shown to be significantly related to increased tolerance and empathy to others (measured through the question 'is it ok to make a racist remark') in Grade 10 students compared with 'no drama' students of similarly low SES background (Catterall, Chapleau & Iwanaga, 1999).



## METHODOLOGY

### Indicators of student performance

The indicators of student performance selected for study were as follows, reflecting the background of research findings summarised above:

- Attendance, dropout, detention and suspension
- Results on school tests and national tests in National Assessment Plan – Literacy and Numeracy (NAPLAN)
- Social-Emotional Wellbeing (SEWB) as measured by the SEWB Survey designed and validated by the Australian Council for Educational Research (ACER)

### Selection of schools

The study was conducted in government schools in relatively disadvantaged communities in three regions in NSW. Three groups of schools were created to achieve a quasi-experimental design, with six schools offering TSR programs and a control group of four schools not offering TSR programs. The former were divided into two groups of three, with one offering the initial shorter program of six months and the other offering the longer program of 12 to 18 months. Students in Grades 5 and 6 were the subjects of study. The ten participating schools were thus of three kinds:

1. Three schools offering the initial six-month TSR program ('initial')
2. Three schools offering the longer TSR program extending over 12 to 18 months ('longer-term')
3. Four schools serving as a control group that were matched on key school community characteristics but were not participating in the TSR program ('non-participating')

Table 1 summarises the characteristics of the 10 schools that agreed to participate in the study, including the nom de plume of school, the length and date of commencement for the six schools that were participating in the TSR program, the number of students at the school, and the school's ICSEA (Index of Community Socio-Educational Advantage) score as calculated by ACARA in 2010 (ICSEA1) and 2011 (ICSEA2). ICSEA is a measure of SES that includes, among other variables, school remoteness and numbers of Indigenous students. ICSEA is scaled to a mean of 1000 with a standard deviation of 100 (ACARA, 2009). The schools not participating in TSR programs were chosen by the research team from a list of schools provided by TSR to match schools offering TSR programs. Weighted mean enrolments of the three groups were 439 (longer-term), 359 (initial) and 444 (non-participating). Weighted mean ICSEA scores were 910 (longer-term), 905 (initial) and 883 (non-participating). The weighted mean in each instance takes account of the relative numbers of students in each school that participated in the study.

Table 1: Characteristics of schools in the study

Category	School (nom de plume)	Date of TSR commencement	Enrolment	ICSEA 1	ICSEA 2
Longer-term	Cooper Stone Public School	2009 Semester 1	296	918	937
	Willow Brook Public School	2009 Semester 1	493	907	886
	Margaret Park Public School	2009 Semester 2	289	929	973
		Weighted mean	439	910	903
Initial	Curraburra Public School	2010 Semester 1	340	819	827
	Alfield Public School	2010 Semester 1	204	1100	1058
	Bonvilla Public School	2010 Semester 1	330	992	990
		Weighted mean	359	905	903
Non-participating	Banksia Public School		479	955	959
	Docks Creek Public School		332	862	915
	Shornville Public School		477	813	867
	Pinlowe Public School		387	948	942
		Weighted mean	444	883	913

### Research questions

1. What were the effects of student participation in the TSR program on selected indicators (attendance, dropouts, suspension and detentions); literacy and numeracy (NAPLAN, school test results) and SEWB?
2. What was the difference in the effects for students in the initial TSR program and the longer-term TSR program?
3. What are stakeholder (students, parents, teachers, and principals) perceptions of the effects of the TSR program?
4. What are the important elements of TSR program that enable its success?

### Data collection and analysis

Data on attendance and academic achievement, including school tests and NAPLAN results, were provided by the school for each student. The means of the three groups were compared [Analysis of Variance (ANOVA) with Bonferroni Post Hoc Comparison] to determine which pairs of cohorts were driving the significance of differences among the means. The ACER Social Emotional Wellbeing (SEWB) survey was administered by the research team and analysed by ACER and the research team. Case studies were conducted at Bonvilla and Curraburra (initial) and Willow Brook and Margaret Park (longer-term). Interviews were conducted by members of the research team with the principal, teachers, parents and students, as selected by participating schools. All participants completed consent forms as required for research in NSW government schools.



# Illustrative findings

## ATTENDANCE AND ACADEMIC ACHIEVEMENT

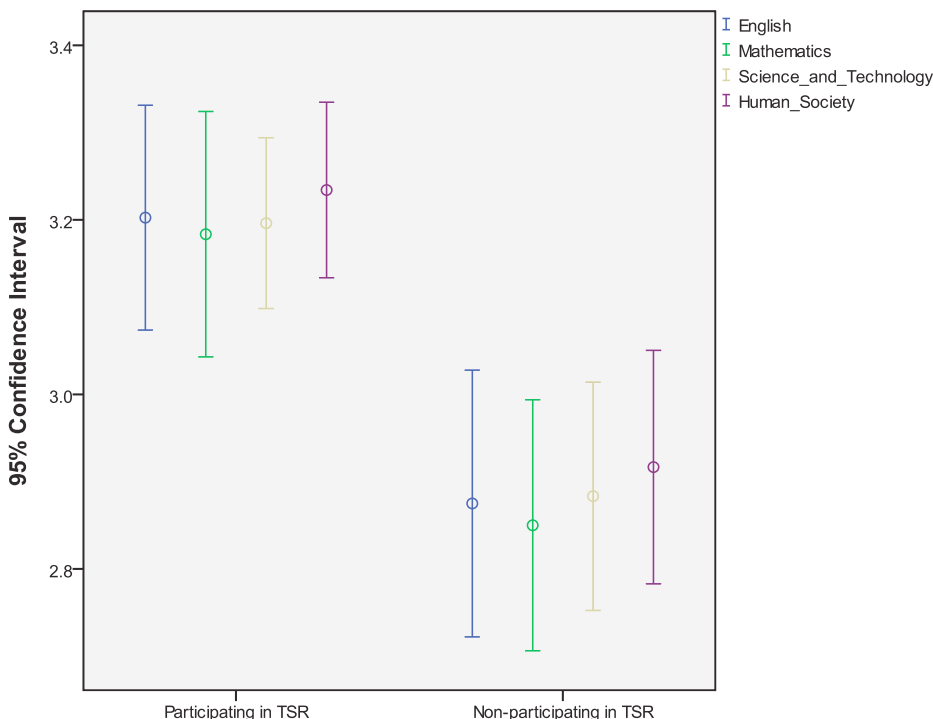
Data on gender, grade level, attendance, detentions, suspensions, grades and NAPLAN results were collected from the 10 schools and categorised according to participation in TSR program. The data was gathered from a total of 370 students with more than 100 students from each of the longer-term TSR, initial TSR and non-participating in TSR. The means of the three cohorts were compared [Analysis of Variance (ANOVA) with Bonferroni Post Hoc Comparison] to determine which pairs of cohorts were driving the observed significance.

Students that participated in TSR showed significantly higher grades in their academic subjects (English, Mathematics, Science and Technology and Human Society) in comparison to those who had not participated in TSR ( $p=0.022$ ) (The  $p$  value of 0.022 indicates that there was a probability of 2.2 percent that there was no difference between the grades of the students who had participated in TSR and those who had not participated in TSR). Students' grades in Science and Technology and Human Society were significantly higher for students who had participated

in TSR in comparison to those who had not participated in TSR with  $p$  values of  $p=0.0001$  and  $p=0.002$ , respectively. These findings were illustrated in Figure 1. The 95 percent confidence intervals are indicated by the vertical lines, which show the predicted range of 95 percent of the grades within the cohorts, and circles, which indicate the mean grades of the cohorts (A, B, C, D, E were assigned the numerical values of 5, 4, 3, 2, 1 respectively).

Significantly higher Year 5 NAPLAN 2009 results for the longer-term TSR cohort were observed in Reading and Overall Literacy ( $p<0.01$ ), in comparison to students who did not participate in TSR, with the largest effect size of 0.79 for reading, which was within the "zone of desired effects" for educational research. The comparison of the Year 5 2009 NAPLAN results found lower percentages of students below the minimum national level for the longer term TSR and initial TSR cohorts in Writing, Spelling and Grammar and Punctuation in comparison students who had not participated in TSR. Figure 2 illustrates the differences in the literacy domains for students in the longer-term TSR

**FIGURE 1:**  
The 95 percent confidence intervals for academic grades for individual subjects according to TSR participation status





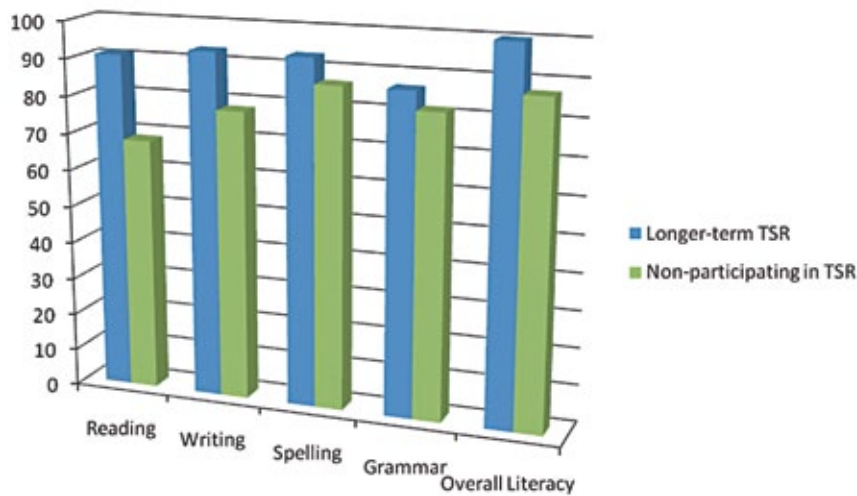
## Illustrative findings

### ATTENDANCE AND ACADEMIC ACHIEVEMENT

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**FIGURE 2:**

Percentage of students above the national minimum for the literacy domains in Year 5 NAPLAN 2009 (longer-term and non-participating)

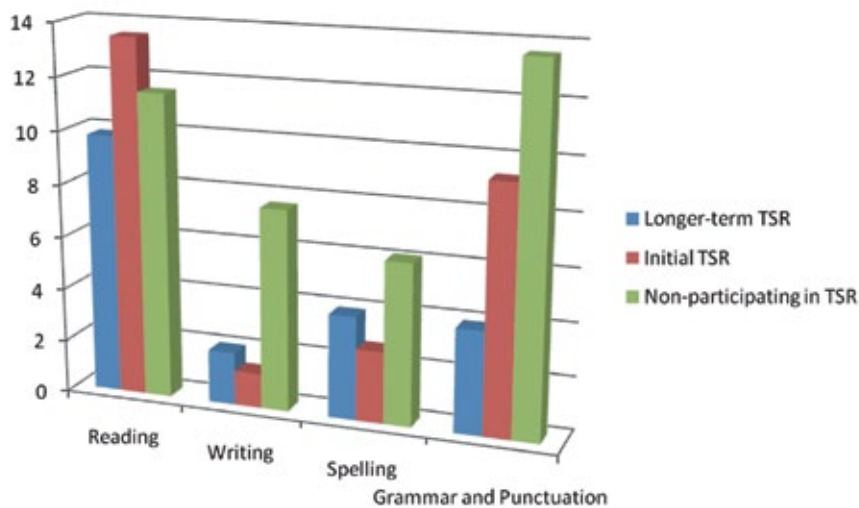


program and for students in non participating schools.

Analysis of the results of Year 5 NAPLAN 2010 revealed that a lower percentage of students in the longer-term TSR program were below the national minimum in Reading, Writing, Spelling and Grammar and Punctuation in comparison to students who had not participated in TSR, as illustrated in Figure 3.

**FIGURE 3:**

Percentage of students below the national minimum for the literacy domains in Year 5 NAPLAN 2010 (longer-term, initial and non-participating)



## Illustrative findings

### ATTENDANCE AND ACADEMIC ACHIEVEMENT

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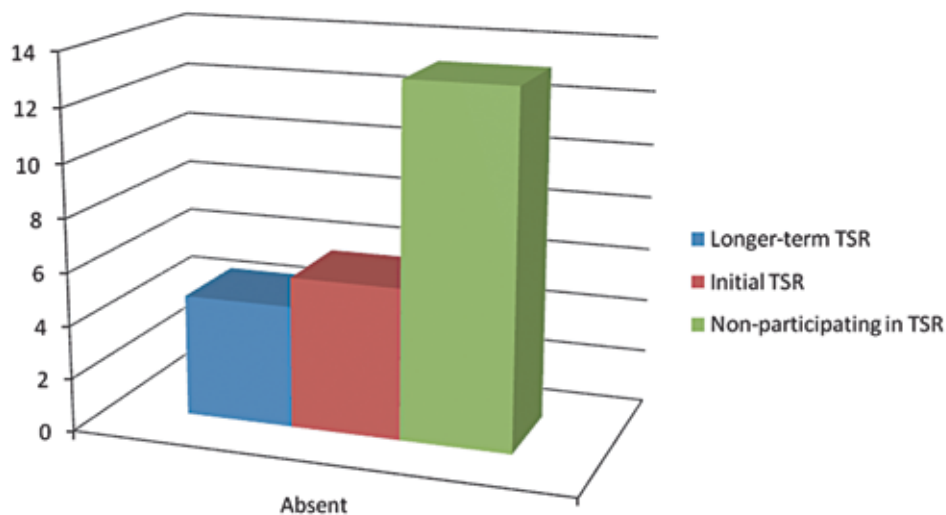
The comparison of the Year 5 NAPLAN 2010 results showed the initial TSR schools had a lower percentage of students below the national minimum in Writing, Spelling and Grammar and Punctuation, as illustrated in Figure 3.

Attendance was significantly higher for the longer-term TSR and initial TSR cohorts in comparison to the non-participating in TSR ( $p=0.003$ ). The longer-term TSR showed the highest attendance, with initial TSR at an intermediate level and non-participating in TSR with the

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**FIGURE 4:**

Percentage of students absent on a TSR day according to TSR participation category



lowest level. The percentage of students who were absent on a TSR day was lower for the initial and longer-term TSR cohorts compared to students who had not participated in TSR, as illustrated in Figure 4.

In summary, significantly higher attendance and levels of academic achievement were found for students who participated in TSR in comparison to the students who had not participated in TSR.

## Illustrative findings

### SOCIAL-EMOTIONAL WELLBEING

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Six schools were involved in the analysis of Social-Emotional Wellbeing (SEWB), two schools from each of the three cohorts of longer-term TSR, initial TSR and those who had not participated in TSR. The SEWB survey was administered to a total of 271 students. The seven components of the SEWB construct included three external components of School Life, Home Life and Community Life and four internal components of Resilience, Positive Social Skills, and Positive Work Management and Engagement Skills. Descriptions of the six levels of SEWB are contained in Table 2. The variability of the characteristics of students at various levels of SEWB was described by ACER in these terms:

Students assigned to a given level of SEWB are likely to be characterised by many but not necessarily all of the social emotional characteristics that define that level. Students are also likely to endorse all the statements at the levels below their nominated level. For example, students at Level 2 on the SEWB scale are likely to endorse the statements at that level. Students at Level 5 are likely to endorse the statements at Level 5, more likely to endorse the statements at Level 4 and extremely likely to endorse the statements at Level 2 (ACER, 2010, p.11)

The distribution of positive school indicators showed the highest percentage of students from the longer-term TSR cohort in the top levels of five and six, with an intermediate percentage for the initial TSR and the lowest for those students who had not participated in TSR indicating an influence of TSR on positive school indicators.

## Illustrative findings

### SOCIAL-EMOTIONAL WELLBEING

Table 2: Descriptions of the six levels of SEWB (ACER, 2010, p.20)

Level	Description
6	Students are highly likely to demonstrate a full range of positive indicators (emotional, social and behavioural) of SEWB in different areas of their lives. They are unlikely to experience behavioural, emotional or interpersonal difficulties and are likely to achieve to the best of their ability. They are also likely to often experience a range of positive emotions (e.g. enthusiasm and energy, curiosity in the way things are, hopeful about future, love of learning).
5	Students are likely to display most positive indicators of SEWB in many areas of their lives. Emotionally they are not likely to feel very stressed, worry too much and to lose their temper a lot. Socially, they are likely to volunteer to do things to make their school and community safer. Educationally, they are likely to perceive they are doing their best in their schoolwork
4	Students are likely to display many positive indicators of SEWB. Emotionally, students are likely to feel they now belong in school and they are not likely to have felt very helpless and down for extended periods. However, they are still likely to get stressed, worry a lot and lose their temper. Behaviourally, they are not likely to be mean to others or to get in trouble. Socially, they are likely to participate in many activities inside and outside of school but they are not likely to volunteer. Educationally, they are not likely to be doing their best in their schoolwork.
3	Students are likely to display some positive indicators of SEWB and a few negative indicators. Emotionally they are likely to feel safe and they are not likely to feel lonely. Behaviourally, they are no longer likely to yell (younger children). However they are still likely to get into trouble and be mean to others. Socially, they are likely to be getting along with members of their family and teachers and they are likely to help others who are unhappy. However, they are not likely to participate in a range of activities. Educationally, they are likely to be doing well in school; however they are not likely to be doing their best in their schoolwork.
2	Students are likely to display few positive indicators of SEWB and a large number of negative indicators. Emotionally, students are likely to feel happy and like the kind of person that they are. However, students are likely to feel lonely, very down and hopeless for a week or more, lose their temper, worry a lot and feel unsafe. Behaviourally, most are not likely to drink excessively or use drugs. However, they are likely to be mean to others and to break things. Socially, students are likely to perceive themselves as getting along with most of their classmates. However, they are likely to have difficulty getting along with members of their family as well as teachers and they do not like to help people who seem unhappy.
1	Students are not at all likely to display indicators of positive SEWB (e.g. do not likely themselves, are not happy, do not get along with classmates, do not like engaging in play, do not enjoy meeting new people, do not believe that it is important to treat everyone with respect, do not want to do their best in school). They are very likely to display many negative social and emotional indicators (e.g. take drugs, drink too much alcohol). They many also be likely to display other negative indicators of SEWB not surveyed (e.g. suicidal ideation, sleep difficulties, eating disorders).

# Illustrative findings

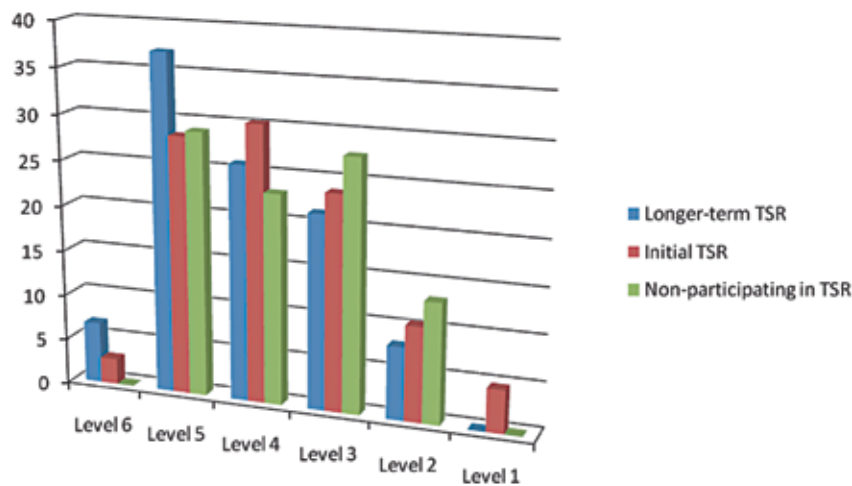
## SOCIAL-EMOTIONAL WELLBEING

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The percentage of students at the highest levels of overall SEWB (levels five and six) was highest for the longer-term TSR, at an intermediate level for initial TSR, and lowest for those who had not participated in TSR. The longer-term TSR showed the highest percentage of students at levels five and six for each of the internal components of SEWB (Resilience, Positive Social Skills, and Positive Work Orientation and Engagement Skills), with the highest percentage difference for Resilience at 8 and 16 percent in comparison to the initial TSR and

non-participating in TSR cohorts, respectively. The longer-term TSR schools showed an 8 percent increase in the percentage of students in the two highest levels of positive work orientation and engagement in comparison those schools who had not participated in TSR. The initial TSR had a higher percentage of students at levels five and six for Indicators of SEWB and Resilience in comparison to those schools who had not participated in TSR. Overall comparisons are illustrated in Figure 5.

**FIGURE 5:**  
Percentage comparisons of SEWB according to TSR participation status



## Illustrative findings

### SOCIAL-EMOTIONAL WELLBEING

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The percentage of students at the highest levels of resilience (levels 6 and 5) shows a gradual decrease from the highest level of 28.1 percent for the longer-term TSR students, to an intermediate level of 19.8 percent for the initial TSR students and the lowest level 11.8 percent for the non-participating in TSR students, which represents a change of about eight percent between each cohort as illustrated in Figure 6.

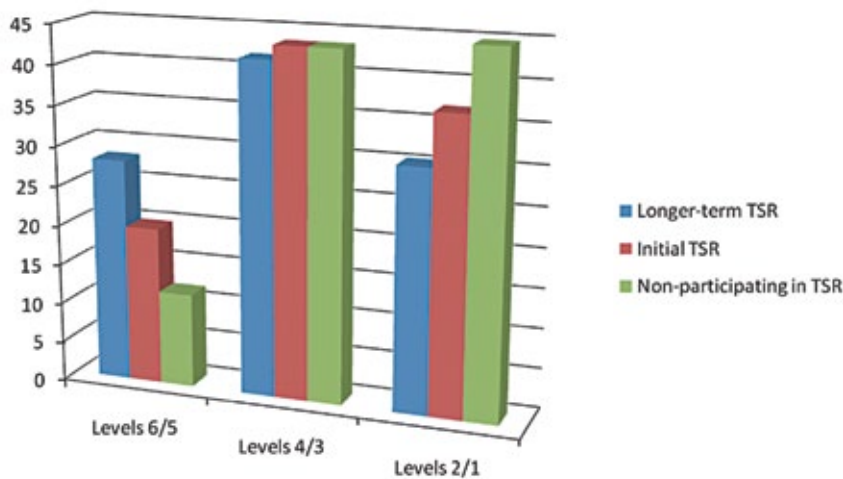
The analysis of student responses to the various statements in the SEWB survey indicated how TSR had apparently influenced SEWB through decreased lack of

control in anger, decreased stress and worry, increased feelings of safety, increased self esteem and confidence, increased love of learning, increased positive teacher-student relationships, increased confidence towards school work, increased social skills and increased self expression. Male students that participated in TSR showed significantly lower agreement with the statement 'I feel very stressed' ( $p=0.002$ ) in comparison to male students who had not participated in TSR, as illustrated in Figure 7.

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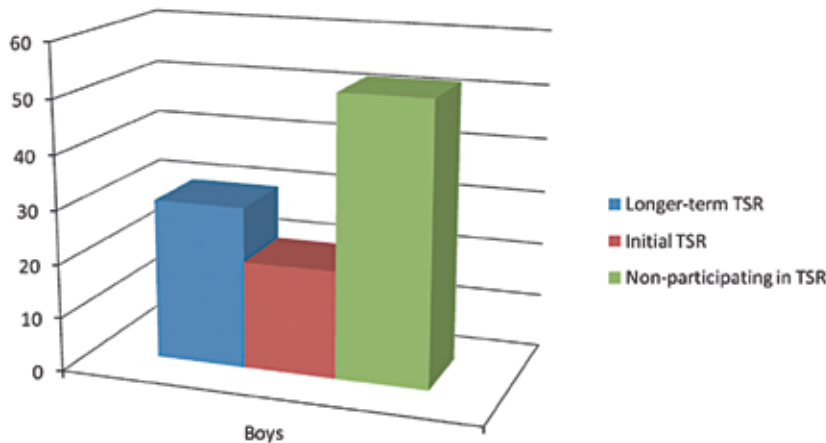
**FIGURE 6:**

Percentage comparisons of the distribution of student resilience according to TSR participation category



**FIGURE 7:**

Percentage of boys who agreed with the statement 'I feel very stressed' according to TSR participation category

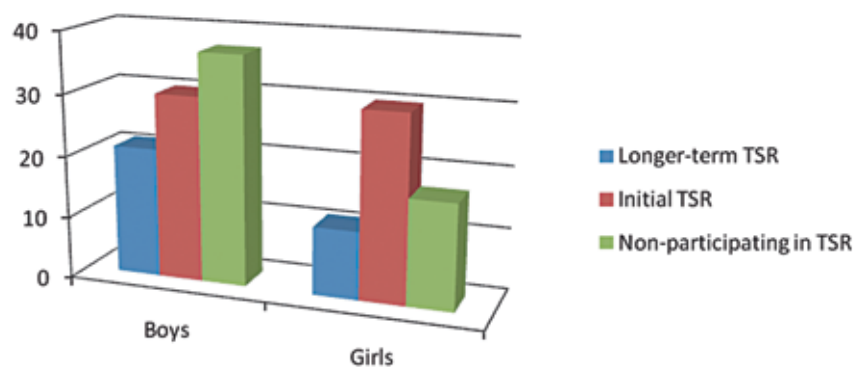


The boys in the longer-term TSR had the lowest percentage of agreement with the statement 'During the past six months, I have felt so hopeless and down almost every day for one week that I have stopped doing my usual activities'. At an intermediate level were the initial TSR cohort and then at the highest level were the non-participating in TSR. The girls in the longer-term TSR showed the lowest percentage who agreed with the statement 'During the past six months, I have felt

so hopeless and down almost every day for one week that I have stopped doing my usual activities'. At an intermediate level was the non-participating in TSR and the highest level was for the initial TSR. These findings, illustrated in Figure 8, suggest that increased length of time in TSR has an association with reduced depression in boys and that the longer-term TSR program is associated with a significantly reduced depression in girls ( $p=0.048$ ).

**FIGURE 8:**

Percentage of students who agreed with the statement 'During the past six months, I have felt so hopeless and down almost every day for one week that I have stopped doing my usual activities' according to TSR participation category



# Illustrative findings

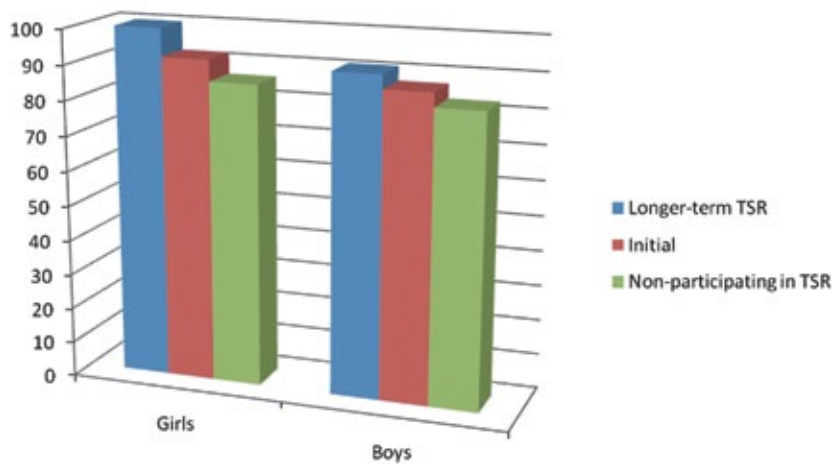
## SOCIAL-EMOTIONAL WELLBEING

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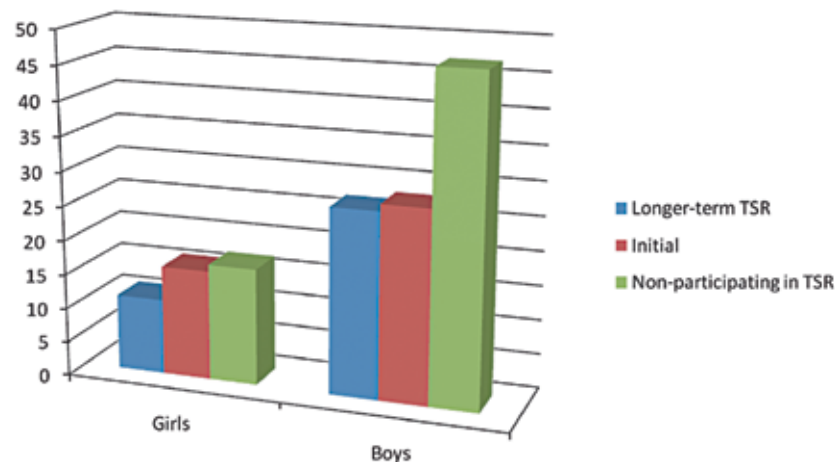
The longer-term TSR cohort showed the highest percentage of students who agreed with the statement 'I get along with most of my teachers', the initial TSR program showed an intermediate level below and above the longer-term TSR and non-participating in TSR, respectively. These findings, as summarised in Figure 9, suggest that the longer students were associated with TSR the greater their perceived ability to get along with their teachers.

The percentage of students who agreed with the statement 'I get into too much trouble' was highest in those schools that did not participate in TSR, intermediate in the initial TSR and lowest for longer-term TSR, as illustrated in Figure 10. These data indicate a positive relationship between length of time in TSR and improved behaviour.

**FIGURE 9:**  
Percentage of students who agreed with the statement 'I get along with most of my teachers' according to gender and TSR participation category



**FIGURE 10:**  
Percentage of students who agreed with the statement 'I get into too much trouble' according to gender and TSR participation category





## Illustrative findings

### SOCIAL-EMOTIONAL WELLBEING

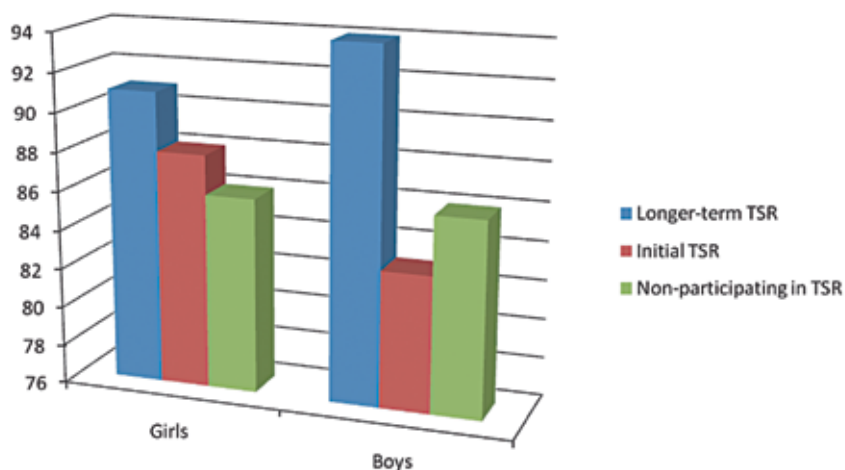
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The percentage of girls who agreed with the statement 'I feel safe and free from danger' was greatest for the longer-term TSR, at an intermediate level for the initial TSR and lowest for those girls who had not participated in TSR, as illustrated in Figure 11. Eight percent more boys agreed with the statement that 'I feel safe and free

from danger' in the longer-term TSR in comparison to those in the non-participating cohort. These findings, as shown in Figure 11, suggest that participation in the longer-term TSR may contribute to feelings of safety.

**FIGURE 11:**

Percentage of students who agreed with the statement 'I feel safe and free from danger' according to gender and TSR participation category

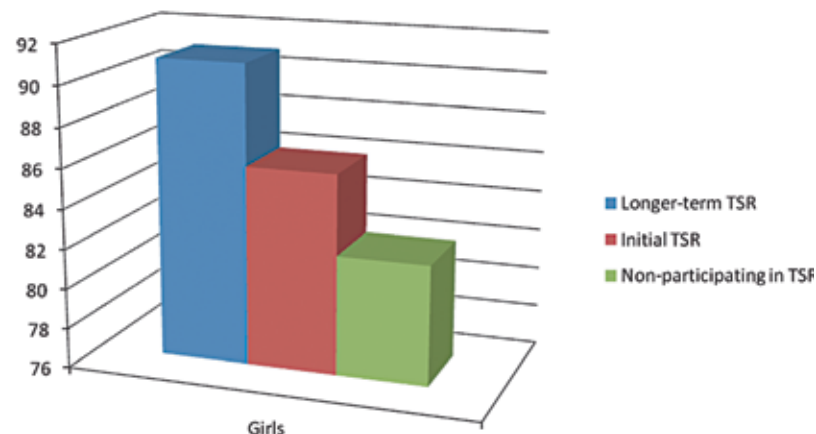


The percentage of girls who agreed with the statement 'I am someone who loves to learn' was highest for the longer-term TSR; at an intermediate level for the initial TSR and lowest for those girls who had not participated

in TSR. These findings, as illustrated in Figure 12, suggest a positive relationship between the length of time in TSR for girls and their love of learning.

**FIGURE 12:**

Percentage of girls who agreed with the statement 'I am someone who loves to learn' according to TSR participation category



## Illustrative findings

### SOCIAL-EMOTIONAL WELLBEING

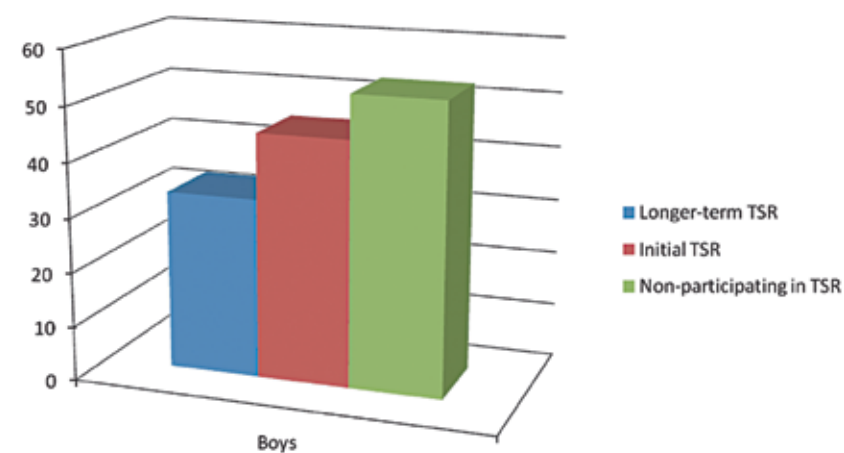
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The percentage of boys who agreed with the statement 'When I do badly at school work I think I'm a failure' was lowest for the longer-term TSR schools, intermediate for the initial TSR and highest for the non-participating TSR schools. The observed increased lack of confidence after

a bad result for boys who did not participate in TSR indicates a positive relationship between participation in TSR and positive work orientation, as illustrated in Figure 13.

**FIGURE 13:**

Percentage of boys who agreed with the statement 'When I do badly in my schoolwork, I think I'm a failure' according to TSR participation category



The percentage of boys who agreed with the statement 'I can't stand having to behave well and follow the rules' was lowest for the longer-term TSR, with a difference of 28 percent in comparison to the non-participating in TSR cohort. These findings, as illustrated in Figure 14, show that longer-term participation in TSR for boys is related to substantially lower dissatisfaction with school rules.

The percentage of girls who agreed with the statement 'I feel confident when doing difficult schoolwork' was highest for the longer-term TSR, slightly lower for the initial TSR and lowest for those girls who had not participated in TSR. These findings as illustrated by Figure 15, showed that a higher percentage of girls who had participated in TSR programs were confident when doing difficult homework in comparison to those girls who had not participated.

The percentage of boys who agreed with the statement 'There are things that I study in my classes that interest me' was highest for the longer-term TSR cohort, lower for the initial TSR cohort and lowest for the non-participating in TSR cohort Figure 16.

The percentage of boys who agreed with the statement 'Teachers remind students about the importance of doing their best in their schoolwork' was higher for the longer-term TSR and initial TSR cohorts in comparison to the non-participating in TSR cohort, as shown in Figure 17. The findings illustrated by Figures 16 and 17 indicate that the involvement of boys in TSR was related to increased school engagement in comparison to boys who had not participated in TSR.

Illustrative findings  
SOCIAL-EMOTIONAL WELLBEING

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FIGURE 14:

Percentage of boys who agreed with the statement 'I can't stand having to behave well and follow the rules' according to TSR participation category

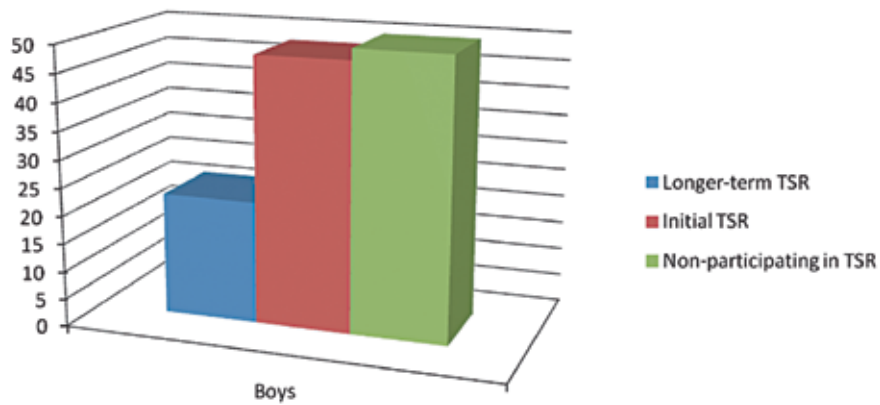


FIGURE 15:

Comparison of the percentage of girls who agreed with the statement 'I feel confident when doing difficult schoolwork' according to TSR participation category

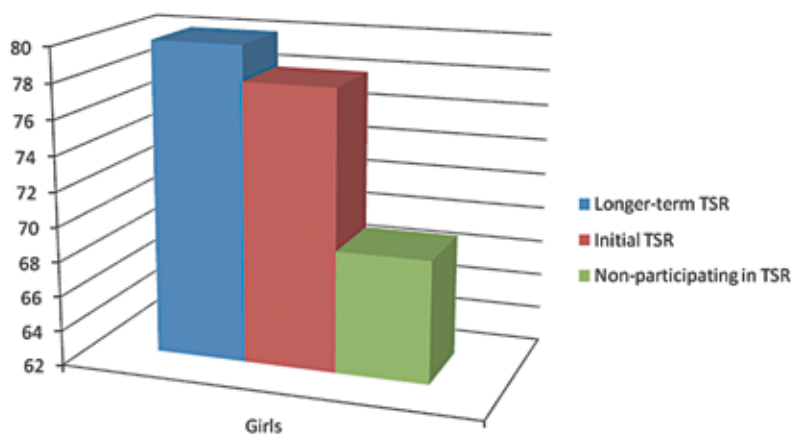


FIGURE 16:

Percentage of boys who agreed with the statement 'There are things that I study in my classes that interest me' according to TSR participation category

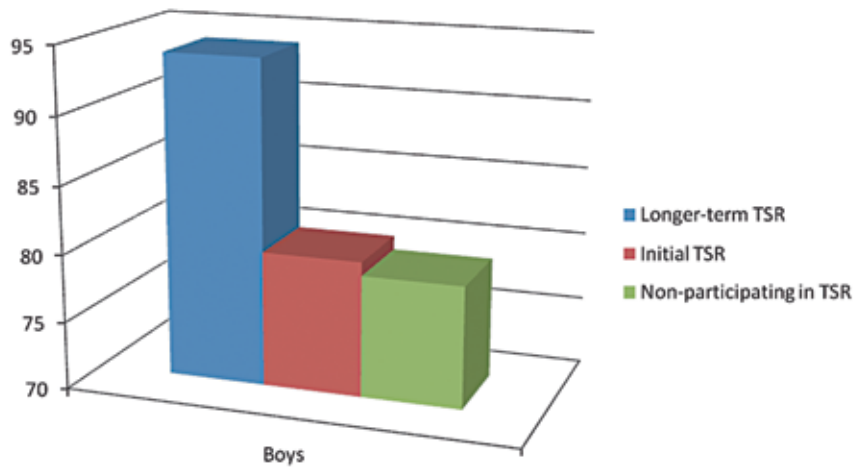
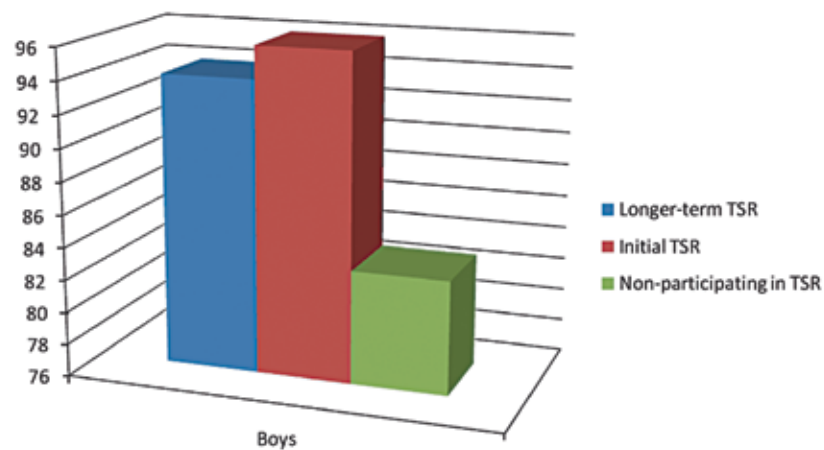


FIGURE 17:

Percentage of boys who agreed with the statement 'Teachers remind students about the importance of doing their best in their schoolwork' according to TSR participation category



These findings indicated that students that participated in TSR showed higher levels of overall SEWB, with large differences observed in resilience and that the longer the duration of the TSR the larger the effect on SEWB.

## Illustrative findings

### CASE STUDIES

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Four case studies of TSR schools were conducted in Semester 2 in 2010, with the involvement of two longer-term schools (Willow Brook and Margaret Park) and two initial schools (Bonvilla and Curraburra). Interviews were conducted at each school with the principal; approximately 10 students, five from Year 5 and five from Year 6; two teachers, one from Year 5 and one from Year 6; and two parents. The key findings from the case studies are summarised in Table 3, according to the predominant themes identified.

Increased confidence was a key theme in the case studies, both of the teachers and students, as summarised in Table 3. Teachers at Curraburra, Margaret Park and Willow Brook reported increased confidence in teaching music programs through their involvement in TSR. Staff in the longer-term TSR schools described their music programs as sustainable, while some teachers at the initial schools identified a need for increased professional development. The sustained interaction for the teachers with the TA at the longer-term schools enabled increased confidence of the teachers to provide a sustainable music program, through their regular observation and participation in TSR classes.

The risk-taking involved in performance in Bonvilla and Margaret Park was reported to be linked to increased confidence of the students. The students and staff at the longer-term TSR School Willow Brook reported that the students' involvement with TSR had enabled their self-expression, decreased anger, decreased sadness and reduced the extent to which they got into trouble. The behaviour of students at Bonvilla was also thought to have improved through their involvement with TSR. The formation of new friendships was reported to be facilitated by TSR in Bonvilla, Curraburra and Margaret Park. The Social-Emotional Wellbeing survey showed that students involved in TSR showed a higher overall SEWB with specific responses that indicated a decreased lack of control in anger, decreased stress and worry, increased self-esteem and confidence, increased social skills and increased self-expression. The longer-term TSR showed the highest overall SEWB, with the initial TSR at an intermediate level, and non-participating at the lowest level, a pattern that was supported by triangulation in observations and interviews.

The confidence gained from involvement in TSR was believed by staff and students to influence the academic achievement of students at Bonvilla. For example, a student from Bonvilla explained that the confidence gained through interaction with TSR was transferred to her ability to read out loud, and a teacher at Curraburra reported a similar finding with her description of students showing increased ability to read out loud after their involvement with TSR.

Staff from Willow Brook reported that students were more engaged and focused in other classes due to their involvement in TSR. The SEWB results of the longer-term schools showed an eight percent increase in the percentage of students in the two highest levels of positive work orientation and engagement in comparison to the non-participating TSR schools. Bonvilla had a smaller percentage of students in the lowest two levels of positive work orientation and engagement, with a difference of seven percent in comparison to those students who had not participated in TSR. The largest effect of TSR on Literacy was observed for reading in the longer-term cohort and an increased percentage of As and Bs in English were identified in the longer-term TSR and initial TSR cohorts in comparison to those students who had not participated in TSR. Students who participated in TSR showed significantly higher academic grades in comparison to the non-participating TSR.

Table 3: Summary of the findings of the case studies

Themes	School (nom de plume)			
	Longer term - TSR		Initial TSR	
	Willow Brook	Margaret Park	Bonvilla	Curraburra
Engagement	All students engaged and encouraged.  Program drew on cultural knowledge of students.	All students actively engaged.  Stimulating, personalised and fun learning opportunities.	Students engaged.  Program fun, creative and energising.	All students engaged.  Program fun and creative within a safe and supportive environment.  Program drew on cultural knowledge of students.
TSR and students academic engagement	Increased student confidence.  Increased attendance on TSR day.	Increased student confidence.  Increased self esteem.  Increased punctuality on TSR days.	Increased student confidence.  Some contribution to academic gains.  Student reported increased attendance on TSR days.	Some contribution to Improvement in students' ability to read out loud.  Increased attendance.
TSR and impact on students' social skills and behaviour	Improved behaviour and reduction in levels of anger and sadness.  Facilitated students' self expression.	Students feel happier and 'good about themselves'.  Developed new friendships.	Greater level of maturity and respect in some students.  Developed new friendships. Facilitated students' self expression.	Developed new friendships.  Burn off energy.
Capacity building	Increased confidence and skills in teaching performing arts.  Sustainable music program developed. Supported by parents and wider community and draws on cultural capital of community members. Programs tailored to needs of the school.	Increased confidence and skills in teaching music.  Increased for leading performing arts classes.  Sustainable music program developed.	Increased skills in teaching music for a teacher.	Increased confidence for leading performing arts classes for a teacher.  Programs tailored specifically to the needs of the students.

## Illustrative findings

### CASE STUDIES

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TSR was described as having a positive influence on student attendance in all schools involved in the case studies. Participants at Bonvilla and Willow Brook described their belief that the attendance of students improved on TSR class day. Analysis of attendance on a normal day and a 'TSR day' showed that longer-term TSR schools had significantly higher attendance on a TSR day in comparison to non-participating schools, and attendance on both days was significantly higher for students who had participated in TSR than those who had not participated in TSR. The longer-term TSR schools showed the highest attendance, the initial and intermediate level and the non-participating showed the lowest level.

The case studies elucidated the important elements of TSR that enabled its success at the schools:

- Teaching Artists (TA) with strong pedagogical skills that enabled sequential lesson design
- TA clearly aligned with TSR goals of capacity building
- Creative elements involved in lessons to encourage student self-expression
- Kinetic elements in the lessons that enabled student stress release
- Involvement of students as teachers of TSR to peers and teachers
- Teachers understood the benefits of TSR program prior to participation in the program to enable full class participation
- Performance at various levels, including class, community and large scale performance to enable maximum impact on the confidence of the students through risk-taking
- Ability of TA to negotiate their role in behaviour management with the classroom teacher

In summary, the confidence of students was reported to increase through TSR classes and the performance aspects of the program. The behaviour of students showed improvement, through decreased anger, decreased stress and worry and increased self expression, which was verified by the findings of the SEWB survey. The confidence gained from TSR was described as 'spilling over' to other areas such as academic studies, a significant difference was identified grades and NAPLAN literacy results, with TSR students having better results than those who had not participated in TSR. TSR was found to increase the confidence of teachers to teach music, with staff at the longer-term schools indicating TSR facilitated sustainable music programs. Participation in TSR was associated with increased attendance, with significantly higher attendance for students in the longer-term TSR and initial TSR in comparison to students who had not participated in TSR. The longer-term TSR had a higher percentage of students in the top levels of SEWB, higher attendance, higher percentage of As and Bs in English, and a higher percentage of students above the national minimum in literacy than the initial TSR cohort indicating that prolonged TSR programs produced improved outcomes for students. The observed effect of TSR on attendance and SEWB (positive work management and engagement) may have encouraged increased academic application of students, as suggested by the academic outcomes of students.

## IMPLICATIONS AND LIMITATIONS

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The findings in the study are particularly striking in their consistency. Schools participating in TSR programs outperform those that are not participating on most indicators selected for investigation on the basis of previous research. Those in the longer-term program tend to outperform those in the initial program. The implications for policymakers and school leaders are significant. Schools in similar settings should be encouraged to consider participation in TSR if they are not already engaged or do not have a similar program in the arts.

Such an implication should be tempered by acknowledgement of the limitations of the study. The schools involved in the study are located in particular communities in a small number of regions in the system of government schools in NSW. The findings cannot be generalised to other schools in similar settings, either in these regions or other regions in NSW or elsewhere in Australia. There can be no assurance that schools that choose to participate in TSR will experience the same impact. Nevertheless, the outcomes in the current study warrant the most serious attention.

There are other limitations which arise from the selection of schools. It was not possible to achieve a perfect match of schools that are participating and not participating in TSR. However, there is a good match. While there may be a range of factors that may contribute to patterns in the findings, a major distinguishing factor is participation in a TSR program. A higher rate of attendance of students in participating schools on days when the TSR program is offered is particularly persuasive. A key consideration in achieving a match was the ICSEA score of schools in the study. While ICSEA is contentious and changes have been made for NAPLAN and My School in 2010, it was the most transparent of SES-type indicators at the time

of the study. The research team was concerned that differences in the SES of schools in the study may account for differences in the outcomes that were found. On closer examination, no relationship was found between performance on the chosen indicators (attendance, NAPLAN and grades) and score on ICSEA.

There is of course a need for continuing research and variations in the research design. Before and after studies will be helpful, but were not possible in the current investigation. Deeper case studies that look more closely at particular pedagogies employed by the TA will be helpful.

Overall, and subject to these limitations, the findings support the efficacy of TSR programs. Policymakers at all levels should encourage participation as one of many strategies to help close the gap in achievement of high and low-performing students. Even though there are no implications for potential engagement in juvenile crime of students who participated in the current study, the findings reinforce those in previous studies that point to the benefits of programs in the arts.



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