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Implementing a new initiative in mental health in Australian primary schools

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ABSTRACT

Student wellbeing is of central concern for parents/caregivers and teachers and for state and national governments. In Australia in recent times several major initiatives have been undertaken to address the area of student mental health, including the KidsMatter Initiative. Across 2007-8 a trial of KidsMatter was carried out in 101 schools across Australia. Part of the roll-out of KidsMatter was a detailed evaluation of its implementation. Thus, in this paper we report on findings associated with the implementation of the KidsMatter Initiative. Underpinned by a framework of quality, fidelity and dosage (Domitrovich, 2008) we used Latent Class Analysis to create an Implementation Index, which was used to classify KidsMatter schools into high implementation and low implementation categories. Profiles of the high and low categories provide insights to the characteristics of successful and less successful implementation. This analysis shows the influence of factors associated with both the KidsMatter initiative and the environments in the sites where KidsMatter was implemented.

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> The quality of implementation is essentially the degree to which an intervention is conducted as it was originally intended.
> (Greenberg, 2005 p.13)

Introduction

Student wellbeing is of central concern for parents[1] and teachers and for state and national governments. In Australia in recent times several major initiatives have been undertaken to address the area of student mental health, including the KidsMatter Initiative. Across 2007-8 a trial of KidsMatter was carried out in 101 primary schools across Australia. Part of the roll-out of KidsMatter was a detailed evaluation of its implementation, with attention to issues of quality, fidelity of delivery to program design, and dosage of components of the initiative. This framework of quality, dosage and fidelity (Domitrovich, 2008) underpinned the development of an Implementation Index, which was used to classify KidsMatter schools into high implementation and low implementation categories. Profiles of the characteristics of high and low implementation categories provide insights into conditions associated with successful and less successful implementation.

Health Promotion in Schools

Australian school students spend over six hours per day in school and various authors have noted that this presents an important opportunity to provide a range of school-based services, including mental health promotion, prevention and early intervention programs (Domitrovich, 2008). For example, schools have ready-made populations of students that can be targeted for general, as well as specific, mental health promotion initiatives (CASEL, 2008; Giesen, Searle & Sawyer, 2007; WHO Europe, 2006). It is also recognised that schools are complex organisations, which pose significant challenges for the delivery of intervention programs (Barry & Jenkins, 2007; Clift & Jensen, 2005; Payne, 2009). A range of publications, as reviewed in Payne, have pointed to the nature of the challenges associated with effectively implementing research-based school intervention and prevention programs (e.g., Melde, Esbensen & Tusinski, 2006). Similarly, Askell-Williams, Lawson and Slee (2009) discussed a range of personal and social conditions that variously exist in schools prior to the implementation of an initiative, arguing that such pre-existing conditions can be expected to interact with the components of an initiative in foreseen, unforseen, supportive and possibly non-supportive ways. Domitrovich argued that many school-based prevention programs were not well implemented in schools, not only because of

[1] For ease of reference, the term parents is used in this paper to refer to parents and other primary caregivers of children.

the complexity of school environments, but also, that lower-quality implementation led to poorer program effectiveness.

For example, program fidelity, broadly described as whether a program is delivered in a comparable manner to all participants consistent with its conceptual foundations, is a potentially significant determinant of the success of school-based intervention programs. Lee and colleagues (2008) noted that only a minority of intervention studies had attended to the issue of implementation fidelity. Traditionally, research has paid more attention to other methodological issues, such as experimental design, reliability of measurements, and statistical power, but implicitly making the assumption that the participants received the intervention they were supposed to receive. For example, Naylor and colleagues (2009) evaluated a six-lesson mental health promotion intervention in an English school, reporting that, following intervention, students expressed more knowledge about mental health difficulties, and greater awareness of why people feel depressed and why people are bullied, than students in a control school. However, although the authors did report that training for tutors was provided to support the delivery of the program, detailed information about fidelity of delivery to the specifications of the program were not reported. The possibility that programs are not delivered as intended is very real, as indicated by teachers' responses in the MindMatters evaluation (Askell-Williams, Lawson, Murray-Harvey & Slee, 2005), in which participating school staff, themselves, expressed concerns about variations in teacher knowledge and confidence for delivering instruction about mental health, and about the selection, structuring, scope and sequence of classroom delivery of the provided MindMatters resources.

Thus in this paper, consideration is given to the assessment of the implementation of KidsMatter in Australian primary schools, with particular attention to the key parameters of 'fidelity', 'dosage' and 'quality of delivery'.

The KidsMatter Initiative

KidsMatter is an Australian national primary school mental health promotion, prevention and early intervention initiative. KidsMatter was developed in collaboration with the Australian Government Department of Health and Ageing, *beyondblue: the national depression initiative*, the Australian Psychological Society, and Principals Australia, and was supported by the Australian Rotary Health Research Fund.

KidsMatter uses a whole-school approach. It provides schools with a framework, an implementation process, and key resources to develop and implement evidence-based mental health promotion, prevention and early intervention strategies. The KidsMatter framework consists of four key areas, designated as the KidsMatter components, which include:

- Positive school community;
- Social and emotional learning for students;
- Parenting support and education; and
- Early intervention for students experiencing mental health difficulties.

The aims of KidsMatter are to:

- improve the mental health and well-being of primary school students,
- reduce mental health difficulties amongst students, and
- achieve greater support for students experiencing mental health difficulties.

In order to achieve its aims, and to engage schools in the implementation of the four components, KidsMatter prescribed that schools should follow a 7-step implementation process, as follows:

1. Define the issues by writing a summary statement to describe the school's current situation related to each component
2. Set goals based on each summary statement
3. Identify any concerns in achieving the goals
4. Develop a broad range of options/strategies to address concerns and achieve goals
5. Evaluate feasibility of each option/strategy
6. Formalise the component plan
7. Implement the plan and review

Method

Ethics approvals

Ethics applications were submitted, and approvals received, from the Flinders University Social and Behavioural Research Ethics Committee, and also from all school, jurisdiction and departmental bodies for all studies in all Australian states and Territories

KidsMatter evaluation design

The evaluation of KidsMatter, conducted by a consortium based at Flinders University, proceeded in a manner consistent with Ellis and Hogard's (2006) three-pronged approach, emphasising (a) the definition and measurement of outcomes, (b) the description and analysis of process, especially the implementation process, and (c) the sampling of multiple stakeholder perspectives.

KidsMatter schools were drawn from metropolitan, rural and remote areas, and included state, independent and Catholic schools. The teachers and parents of almost 5000 students (target age of 10 years) in 100 KidsMatter schools[2] were surveyed on four occasions, with the fourth occasion occurring at the end of the two year trial. The data from the fourth occasion was used to inform the analysis reported in this paper. The questionnaires covered student mental health; engagement with, and implementation of, KidsMatter; and influences of KidsMatter on schools, teachers,

[2] The trial of KidsMatter with 101 schools, but one school did not participate in the evaluation due to the challenges of collecting longitudinal survey–based data from the school's transient students.

parents and students. Most items on the questionnaires required responses on a seven-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (7).

Running in parallel to the parent and teacher questionnaires, the eight State-based KidsMatter Project Officers also completed questionnaires about various aspects of the implementation of KidsMatter in each of the schools to which they were assigned.

The Implementation Index

As one component of the evaluation of KidsMatter, we developed an Implementation Index with the aim of identifying schools as being low or high implementers of KidsMatter. The structure of the Implementation Index was based on Domitrovich's (2008) framework of fidelity, dosage and quality. We selected items from the Parent, Teacher and Project Officer questionnaires, which had the potential to provide useful discriminators of school implementation. These items were categorised according to Domitrovich's categories of fidelity, dosage and quality of delivery, based on different stakeholder views, namely, the 'internal' views of the teachers and parents, and the 'external' views of the Project Officers. The items were then combined to form an Implementation Index that was suitable for classifying KidsMatter schools according to the quality of their implementation of KidsMatter. The purpose of developing and using this Implementation Index was to identify the particular features of high scoring schools in order to provide indicators of exemplary practices.

The Implementation Index Framework is represented in the row and column headings of Table 1. In each cell of the table is a summary of the types of questionnaire items used to measure each construct.

Table 1. The KidsMatter Implementation Index framework

	Participant: Teacher and Parent Views	Project Officer Views
FIDELITY Degree to which an intervention is conducted as planned	7-Step Implementation Process; Delivery of SEL curriculum	7-Step Implementation Process
DOSAGE Specific units of an intervention and resources	Time for planning and implementation; Principal participation; Amount of professional development	Contact with school leadership; Provision of information to parents
QUALITY OF DELIVERY Engagement with the process and support responsiveness	Teacher Rating of PD; Parent engagement	Leadership, staff & parent encouragement and involvement

Latent Class Analysis (in MPlus 5.2) was used to identify the questionnaire items in the Implementation Index that best discriminated between schools. Items that were shown by the Latent Class Analysis to be poor differentiators of implementation were systematically removed from the analysis, resulting in the final selection of 37 items, with balanced item representation in each section of the Implementation Index framework (Table 1). Table 2 details the items included in the Implementation Index, and their possible total scores. A maximum score of 226 indicates the highest level of implementation, while a minimum score of 42 indicates the lowest level of implementation.

Table 2. Items in the KidsMatter Implementation Index

	FIDELITY	Max Score
Teacher Views	From your own experience, rate the extent to which you disagree or agree with the following statements: 1 = SD, 7 = SA	
	Our school has defined issues related to the four KidsMatter components	7
	Our school has set goals for the four components	7
	Our school has identified difficulties in achieving our goals	7
	Our school has developed strategies for achieving our goals for the four components	7
	Our school has evaluated strategies for addressing the four components	7
	Our school has developed and implemented coherent plans for the four components	7
	Our school has reviewed and adjusted plans for the four KidsMatter components	7
	The school teaches social and emotional skills to students in formally structured sessions that adhere to a program manual	7
	Sub Total	56
Project Officer Views	This section is designed to measure how effective the school has been in undertaking the 7-Step Implementation process SINCE COMMENCEMENT of KidsMatter. It is not about the components, but rather the implementation process of the whole KidsMatter Initiative. This school has: 1 = SD, 7 = SA	
	Defined the issues related to the components they worked on.	7
	Set goals for the components they worked on.	7
	Identified difficulties for achieving goals for the components they worked on.	7
	Developed strategies for achieving goals for the components they worked on.	7
	Evaluated strategies for addressing the components they worked on.	7
	Developed and implemented plans for the components they worked on.	7
	Reviewed and adjusted plans for the components they worked on.	7
	KidsMatter is well implemented in this school.	7
	Sub Total	56
	DOSAGE	
Teacher Views	Teachers attend professional development associated with KidsMatter 1 = SD, 7 = SA	7
	Principal attends most KidsMatter meetings? No = 1, yes = 2	2
	On average, how much: 1 = under 5 mins, 2 = under an hour, 3 = more than an hour	
	a) time in staff meetings is formally allocated to KidsMatter?	3
	b) formal time per week does the Action team allocate to planning & implementing KidsMatter?	3
	Sub Total	15
Project Officer Views	For this section, consider what this school has done SINCE THE LAST REPORT. From your discussions with school leadership, did the school provide opportunities for parents to meet with each other? How many times? 1 = no, none; 2 = once, …7 = six or more times	7
	From your discussions with school leadership, did the school: no = 1, yes = 2	
	a) Send newsletters containing information about parenting home to families?	2
	b) Send tip sheets containing information about parenting home to families?	2
	c) Send KidsMatter Information sheets home to parents?	2
	Did you have contact with the Deputy Principal? No = 1, yes = 2	2
	Sub Total	15
	QUALITY OF DELIVERY	
Parent Views	The following questions ask you to consider the ways in which you have been involved with KidsMatter: 1 = SD, 7 = SA	
	a) I feel positively about KidsMatter	7
	b) I am encouraged to participate in KidsMatter	7
	c) I have formed more support networks with other parents since KidsMatter	7
	d) I have been more involved with the school since KidsMatter	7
	e) I feel that the school community is more positive since KidsMatter	7
Teacher Views	In general, the quality of the Professional Development for KidsMatter has been: 1 = Poor, 7 = Excellent	7
	Sub Total	42
Project Officer Views	Consider what this school has done since the last report. Please rate the extent to which you agree with the following statements by selecting the best response. 1 = SD, 7 = SA	
	The school leadership encourages staff to become actively involved with KidsMatter.	7
	Staff are actively involved with KidsMatter.	7
	The school leadership team is actively involved with KidsMatter.	7
	Parents in this school are encouraged to participate in KidsMatter.	7
	The whole staff are involved in the planning of KidsMatter?	7
	The whole staff are involved in the implementation of KidsMatter?	7
	Sub Total	42
	Total Index Score	226

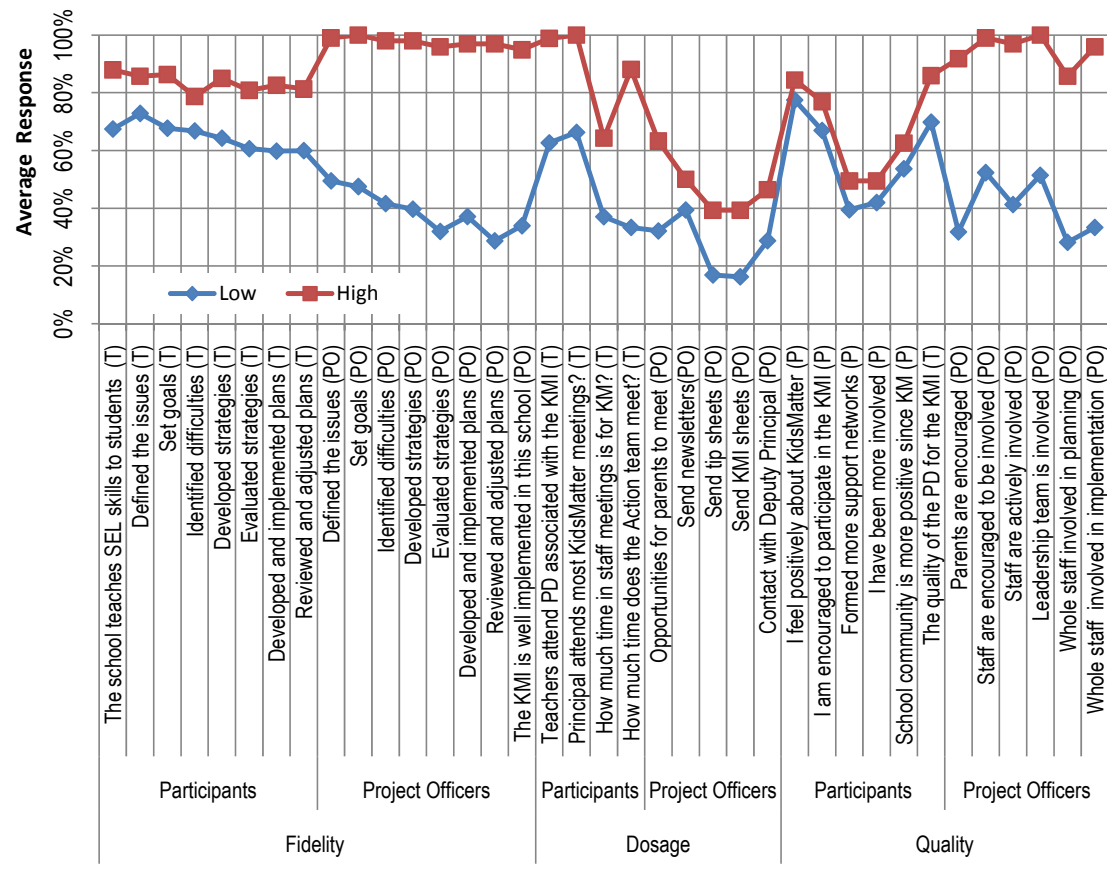
Using the scores on the selected items from the teacher, parent and Project Officer responses to the questionnaires, a total Implementation Index score was calculated for each school. Missing values were below 5 per cent and were replaced with the local median. KidsMatter schools received scores ranging from a low score of 89 to a high score of 205 on the Implementation Index.

Next, the school Implementation Index scores were ranked to establish three categories of schools based on whether they fell below, between, or above ±1 standard deviation (SD). The schools categorised with high scores, above +1SD, were identified as the 'high implementation' group, while the schools categorised with low scores, below -1SD, were referred to as the 'low implementation' group. The schools that fell into the middle range, between ±1SD, on the Implementation Index, were categorised as moderate implementers. For simplicity, this middle group are not considered further in this analysis.

School profiles on the Implementation Index

Figure 1 shows profiles across the different items for schools rated low and high on the Implementation Index. More precisely, Figure 1 displays along the X-axis the items in the Implementation Index (see Table 2), and along the Y-axis the mean standardised (percentage) responses of teachers, parents and Project Officers in schools classified as low-implementers and high-implementers. Accordingly, Figure 1 presents profiles of the extent to which schools varied in indicators of their implementation of KidsMatter by the end of two year trial.

Figure 1. School profiles on the items of the Implementation Index



From Figure 1 it can be seen that the first third of the graph considers 'fidelity', which is the degree to which the processes of the KidsMatter Initiative were conducted as planned. For the first eight items located on the left side of the graph, which are teachers' reports about teaching social and emotional competencies and the 7-step implementation process, there are relatively small differences in Implementation scores between the schools. However, the KidsMatter Project Officer reports about the fidelity of the 7-step process, which are reflected in the scores for the next eight items, show a substantial difference between low implementing and high implementing schools. Overall, it can be seen from Figure 1 that there is a clear separation between high and low implementing schools in all stages of the 7-step implementation process, and also that this separation increases for the higher steps in the 7-step process, *"Developed and Implemented plans"* and "*Reviewed and adjusted plans"*. It may be that the low implementing schools did not have time to reach these latter stages, or that they did not set up procedures that helped them to engage in implementation and reflective processes. It is reasonable to hypothesise that this profile over the 7-step process is related to the next set of differentiating items, those pertaining to dosage.

Dosage was gauged by the specific units of the intervention and resources, in terms of time spent on KidsMatter and the dissemination of information to parents. According to teachers, the amount of formal time per week the KidsMatter Action team allocated to planning and implementing KidsMatter was the most telling difference between high and low implementing schools. Project Officers also reported some differences between high and low implementing schools with regard to whether information was sent home to families.

The last group of items presented in Figure 1 gauge the third component of the Implementation framework, namely, quality of delivery. Staff and parent engagement with the implementation process, and the responsiveness of the Project Officers to the needs of their schools, was captured in these items. Quality of delivery appeared to differ little, according to parents, in high or low implementing schools with regard to forming more support networks and being involved with KidsMatter. This suggests that whether schools were implementing KidsMatter well or not, all schools were challenged when it came to engaging parents.

Next, an important measure of quality of delivery was indicated by teachers' views about the quality of KidsMatter professional development (as delivered by KidsMatter Project Officers). It is interesting to note that while there was a difference between teacher ratings of professional development in high and low implementing schools, this difference was not substantial, and was comparable with teachers' reports of fidelity. It is possible to hypothesise a link between the quality of professional development and the extent of schools' progress on the 7-step implementation process.

Finally, Project Officers' responses to the item requesting an overall judgement about the level of staff involvement with KidsMatter, further suggests that some schools did better than others, indicated by the large separation between the high and low

implementing schools on these items. For example, there is a substantial difference between low and high implementing schools on the item, "*The whole staff are involved in the planning of KidsMatter*". This variable speaks to the importance of a whole school approach if health promotion initiatives such as KidsMatter are to be successfully embedded within schools.

Conclusions

The analysis using the newly developed Implementation Index revealed variations in the quality of implementation of KidsMatter across schools. The Implementation Index indicates that there were considerable differences in the extent to which schools, categorised as high implementers and low implementers, progressed on the 7-step implementation process, and engaged the involvement and support of parents, staff and school leadership.

There are two main implications from the findings reported in this paper. First, that the development of the Implementation Index provides a method for overcoming one of the difficulties proposed by Domitrovich (2008), namely, that aspects of fidelity, dosage and quality do need to be measured when evaluating initiatives.

The second issue is that it will be reasonable to anticipate, in the design and delivery of school-based initiatives, that there may be substantial differences between schools in the fidelity, dosage and quality of delivery of those initiatives. Future attention could be given to ways of incorporating such potential differences into the design of initiatives.

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