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Teachers' knowledge and confidence for promoting positive mental health in primary school communities

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Abstract

This paper reports an investigation into Australian primary school teachers' knowledge and confidence for mental health promotion. Questionnaires were delivered to 1397 teachers. In-depth interviews were held with 37 teachers. Quantitative results showed that half to two thirds of teachers felt efficacious and knowledgeable about selected components of mental health promotion. Independent judgments by staff about students' mental health status concurred with students' scores on the Strengths and Difficulties Questionnaire in about 75% of cases, indicating a good level of staff awareness about students' mental health status. Exposure to the KidsMatter Primary mental health promotion initiative was associated with improvements in teachers' efficacy, knowledge and pedagogy, with small to medium effect sizes. Qualitative analysis indicated that teachers' subject-matter and pedagogical knowledge were heavily reliant on curriculum resources. Implications of the findings for the implementation of school-based mental health promotion initiatives are discussed.

Key words: Teachers' knowledge; teachers' self-efficacy; mental health promotion; teachers' professional learning

Introduction:

Mental health promotion has moved into school classrooms (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Greenberg, 2010; Weare & Nind, 2011). This movement is in keeping with the view that approaches to mental health need to address both the effects of mental illness and the capabilities of individuals to respond effectively to life's challenges. The thrust of the latter perspective has been described as 'competence enhancement' (Fledderus, Bohlmeijer, Smit, & Westerhof, 2010) and as "fostering individual and social resources" (Kobau et al., 2011).

Policy makers endorse schools' roles in the development of students' capacities that mediate positive mental health. For example, the World Health Organisation (WHO, 2011) specifically recommends mental health promotional activities in school settings, such as the creation of child friendly schools, providing regular social and emotional education to all students, and developing whole school approaches to wellbeing. In Australia, the Federal Government has committed major resources to enable the roll-out of the KidsMatter Primary mental health promotion initiative (KidsMatter, 2012). A parallel KidsMatter initiative has recently been trialled in Australian early childhood services (KMEC, 2012). A growing body of evidence suggests that school-based initiatives can capitalise on the availability of children and youth for universal, targeted and indicated initiatives, and can have positive effects on students' social and emotional capabilities (Durlak et al., 2011).

Mental Health Promoting Schools

Mental health promotion activities in Australian schools are typically grounded in a social-ecological approach that recognises the influences of the psychological world of each child, parenting actions, family environments, school contexts, and societal contexts, on the development of children's positive mental health (Graetz et al., 2008). Models for health

promoting schools rely upon school staff to work in connected areas such as developing school policies, improving physical and social environments, developing links with communities and health services, and building individual and collective competencies (AHPSA, n.d.).

Two recognisable foci for schools engaged in mental health promotion are to develop, 1) students' social, emotional and behavioural capabilities, and, 2) the capabilities of schools and families to support children's wellbeing. For example, the South Australian Department of Education and Child Development (DECD) recently released a report detailing the development of wellbeing initiatives in South Australian schools in the period 2005-2010 (DECS, 2010). The DECD framework for wellbeing includes five dimensions, namely, cognitive, social, spiritual, physical and emotional wellbeing.

The structures of typical mental health promotion interventions in Australian schools are founded in medical practices (Rowling, 2007). This is evidenced by the adoption of three traditional levels of intervention, namely, 1) universal programs designed to elevate the positive mental health of all students, 2) targeted programs for student cohorts with known risk factors, and 3) indicated interventions for students experiencing mental health difficulties. Teachers' roles at these three levels of intervention can range from conducting social and emotional education programs in class lessons, to conducting anti-bullying interventions for targeted age groups, to identifying and referring students to external support services (Askill-Williams & Lawson, 2011). Different programs are targeted at different age groups, with, for example, KidsMatter Early Childhood focussing on long day care and early childhood settings, KidsMatter focussing on primary settings, and MindMatters (2010) and MindMatters Plus (n.d.) focussing on secondary school settings.

Stewart-Brown's early (2006) synthesis of evidence for the effectiveness of mental health promotion in schools concluded that,

school-based programmes that promote mental health are effective, particularly if developed and implemented using approaches common to the health promoting schools approach: involvement of the whole school, changes to the school psychosocial environment, personal skill development, involvement of parents and the wider community, and implementation over a long period of time. (p. 16)

More recently, a growing body of evidence is emerging that indicates that well-designed and well-implemented school-based interventions can show improved mental health outcomes for students (Adi, Killoran, Janmohamend, & Stewart-Brown, 2007; Durlak et al., 2011; Greenberg, 2010; Weare & Nind, 2011). In a meta-analysis of 213 universal social and emotional learning programs in schools, Durlak et al. showed that, compared to controls, participants demonstrated significantly improved social and emotional skills, attitudes, behaviour, and academic performance. And Weare and Nind's report demonstrated that well-prescribed interventions for mental health promotion in schools can have outcomes in expected directions.

However, the success of an intervention can be influenced by a broad range of organisational and personal factors, such as the culture of the school, the school leadership, and teachers' capabilities (Rowling, 2009). Some reports have drawn attention to the wide range of interpretations brought by teachers and other school staff to their implementation of broad conceptually-based programmes such as the Social and Emotional Aspects of Learning (SEAL) program and the Sure Start Local Programmes in the United Kingdom, and KidsMatter in Australia (Humphrey, Lendrum, & Wigelsworth, 2010; Melhuish et al., 2007; Weare & Nind, 2011). Weare and Nind proposed that "something is going wrong either with the evaluation of many agency-led European and Australian whole school approaches, or with the approaches themselves" (p. 62). They suggested that bottom-up approaches are typically

accompanied by a lack of program prescription, which in turn leads to failings in consistent, rigorous and faithful implementation. Although such democratic approaches are consistent with the WHO model of community ownership and empowerment, Weare and Nind argued that these types of approaches provide little structured guidance for teachers' actions. Such evaluations of health promotion initiatives highlight the critical role of teachers in influencing the quality of implementation of school-based initiatives, and draw attention to the roles that teachers' knowledge and skills play in whole school mental health promotion activities.

The role of teachers in mental health promotion

The introduction of new curriculum areas, such as mental health promotion, can be associated with a need for teachers to work in areas that may be unfamiliar. For example:

- increasing adolescents' knowledge about difficulties such as depression and anxiety disorders (MindMatters, 2010),
- developing students' social and emotional capabilities (CASEL, 2011),
- recognising and responding to students demonstrating early signs of mental health difficulties (KidsMatter, 2010; KMEC, 2012),
- providing parenting information and support (KidsMatter, 2010; KMEC, 2012),
- working collaboratively in multi-disciplinary case management teams, (Borg, 2009),
and
- promoting student-teacher relationships to foster students' psychological health and well being (Murray-Harvey, 2010).

The relatively recent demand for teachers to have knowledge about mental health promotion is associated with a general requirement for teachers to have good quality knowledge, both about subject matter, and about how to teach that subject matter, in order to ensure good quality learning (Hattie, 2009; OECD, 2005; Rowe, 2002). If teachers feel

uncertain about their knowledge in, say, the field of social-emotional education, then their situation could well be like that of any teacher called upon to teach in an area of the curriculum in which he or she does not have expertise. For example, when teaching out of his field, Peter, a teacher described by Fraser (1996), reverted to greater reliance upon the textbook, gravitated towards transmission of basic facts, and paid less attention to elaborating students' understandings and diagnosing students' alternative conceptions. Similarly, Jetton and Alexander (1997) reported that when teachers had limited pedagogical or content knowledge, students were often at a loss in working out what was important to learn. Teachers and their students involved in mental health promotion initiatives will be advantaged if their teachers' knowledge profiles are of good quality. Although there is an emerging literature that addresses teachers' *attitudes* towards mental health promotion (e.g., Kidger, Gunnell, Biddle, Campbell, & Donovan, 2010; Rothi, Leavey, & Best, 2008), there is limited literature reporting analyses of teachers' *knowledge and efficacy* in the relatively new domain of mental health promotion. Teachers' views of their pedagogical and content knowledge related to mental health promotion, and of their level of efficacy for teaching in this area, are the foci of this paper.

Indicators of good quality knowledge

Kerr (1981) proposed two 'tests of quality' relevant to an analysis of teaching. The first is a judgment of *subjective adequacy*, which refers to whether a teacher's teaching actions are consistent with his or her beliefs and values. The second, a judgment of *objective adequacy*, is whether the teacher's actions reflect the "beliefs and values of the knowledge community and of the political and moral context," including using the best contemporary knowledge about subject-matter, learning, learners, resources and strategies (Kerr, 1981 p. 78). Kerr pre-empted work by Shulman (1986; 1987) and others (e.g., Darling-Hammond, 2006; Grossman, 1995) who created classifications of types of teacher knowledge, including content knowledge,

general pedagogical knowledge, pedagogical content knowledge, and knowledge of learners and their characteristics. From these categories, it is possible to hypothesise types of knowledge necessary for mental health promotion in schools. For example, teachers' *knowledge about learners and their characteristics* needs to be well-structured, complex, and generative, in order to equip teachers to recognise and respond to students having difficulty managing their emotions, forming good friendships or showing early signs of mental health difficulties. Teachers' *subject-matter knowledge* needs to be extensive and well-structured, in order to enable teachers to generatively design, scope, sequence and deliver programs such as social and emotional education. And teachers' *pedagogical knowledge* needs to equip them to innovatively match topics in mental health promotion to their repertoire of teaching strategies, such as facilitating class discussions about emotions.

Closely related to the quality of teachers' knowledge is the state of teachers' self-efficacy. According to Bandura (1997), key sources of self-efficacy judgements include mastery experiences, observation of valued models, verbal persuasion and physical/affective states. In the relatively new field of mental health promotion, the first three of these sources of self-efficacy information may be limited for many teachers. Furthermore, self-efficacious judgements are quite task specific: A teacher who is highly efficacious about his or her ability to teach, say history, might lack efficacy to teach in the field of mental health promotion. The implication of low self-efficacy is that teachers would lack a sense of agency, and this in-turn would affect the quality of their teaching actions (Bandura, 2001). An illustration of the potential difficulty of a teacher teaching out-of-field and resulting impacts upon self-efficacy was provided by Askill-Williams, Lawson, Murray-Harvey and Slee (2005), who recorded the following statement from a secondary school teacher during an evaluation of the MindMatters mental health promotion initiative: "This is not our area of teaching: how can you expect us to deal with any of this?" (p. 34)

In the emerging field of mental health promotion, little is known about teachers' knowledge and efficacy. Thus, the research questions of this paper seek to investigate these issues further. The framework for this investigation draws from the categories of teachers' knowledge introduced by authors such as Shulman (1986; 1987), as follows:

Knowledge of learners and their characteristics:

- Do staff's independent assessments of students' "at risk" status concur with a mental health screening measure (the Strengths and Difficulties Questionnaire, Goodman, 2005)?

Knowledge of, and efficacy for, subject-matter and pedagogy:

- What are teachers' assessments of their subject-matter and pedagogical knowledge in mental health promotion?
- What is the level of teachers' self-efficacy for mental health promotion?
- What are teachers' accounts of their attitudes, competence, subject-matter knowledge and pedagogical knowledge for mental health promotion?

Changes over time:

- Are there changes over time in teachers' knowledge and self-efficacy associated with the KidsMatter Primary mental health promotion initiative?

The context in which these research questions are addressed is the KidsMatter Primary School Mental Health promotion, prevention and early intervention initiative, which was piloted in 101 Australian primary schools in 2007-2008. The authors were part of an evaluation team for the KidsMatter pilot. The KidsMatter evaluation generated a report that addressed the client's brief. However, the large amount of data generated by the evaluation has enabled analyses additional to that reported for the evaluation, of which the research questions raised in this paper form part.

Method

Ethics approvals

Ethics approvals were received from our University's Social and Behavioural Research Ethics Committee, and also from all participating schools, jurisdictions and government departments. Informed consent was provided by all participants.

The KidsMatter Initiative

KidsMatter Primary consisted of a whole school focus upon four components, namely, 1) developing a positive school community, 2) providing regular social and emotional education for all students, 3) providing parenting support and education, and 4) early intervention for students experiencing, or at risk of, mental health difficulties

The aims¹ of KidsMatter were 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.

KidsMatter provided schools with a common conceptual framework, a prescribed implementation process, and resources such as project officer support, curriculum resources, information and professional education.

A call for participation in KidsMatter was distributed to all primary and middle schools (approx 7739) in Australia. From 260 responses, 101 schools were selected to represent all Australian States and Territories, locations (metropolitan, rural or remote), size (small, medium, large) and sector type (public, independent, Catholic). The selected schools

¹ More detail about the aims and processes of KidsMatter can be obtained from the KidsMatter web site, www.kidsmatter.edu.au

ranged in size from 11 students with one staff member, to 1085 students with 100 staff. One school did not contribute data to this study, leaving a final sample of 100 schools.

Student sample

Up to 25 boys and 25 girls aged 10 in 2007 were randomly selected from each participating school. In addition, 13 boys and 13 girls per school deemed to be ‘at risk’ (assessed by staff - see below) were over-sampled to ensure such students of interest were not, by chance, omitted from the sample. Schools that did not have 76 students aged 10 in 2007 selected students from the next available age cohort to reach a target of 76 students. Schools with less than 76 students selected the whole student population. Note however that the selected students did not contribute data to the study. Rather, the teachers and parents/carers of the selected students completed questionnaires and attended interviews.

Instruments

Staff nominations of students ‘at risk’

Prior to the start of KidsMatter, appropriate school staff were asked to confidentially indicate ‘Yes’ or ‘No’ on a whole-school enrolment list, students at their school whom they believed to be “at risk” of, or experiencing, social, emotional or behavioural difficulties².

The SDQ

Following the stratified random selection procedure described above, the teachers and parents/carers of the (up to) 76 selected students in each school were invited to complete the Australian, ages 11-17, teacher/parent informant version of the SDQ (Goodman, 2005). The SDQ is a widely used child and youth mental health screening instrument (Woerner et al.,

² The terms ‘social, emotional or behavioural difficulties’ were selected following discussions with representatives from professional bodies including the Australian Psychological Society, Principals Australia and *beyondblue: the national depression initiative*, in order to help overcome stigma associated with the term “mental health”

2004). The SDQ has been validated and found to be a reliable instrument for screening young people at risk of mental health problems (Goodman, 2001). For example, Warnick, Bracken and Kasl (2008) reviewed 32 studies and concluded that the SDQ is an efficient screening instrument for the identification of psychiatric disorders in young people. Additionally, the SDQ has been used in large scale studies in Australia such as the *Every Family* study (Sanders et al., 2005) and is considered suitable for gaining a broad assessment of the mental health status of students (Levitt, Saka, Romanelli, & Hoagwood, 2007). Recently, the Australian Institute of Health and Welfare (2012), in a review of available mental health screening instruments, observed that,

the SDQ was strongly supported as the most appropriate tool for measuring social and emotional wellbeing in children. This instrument has been extensively validated, and is used widely as a population measure, both internationally and in Australia. Modified versions have also been developed for Indigenous children. It is recommended that a Children's Headline Indicator for *social and emotional wellbeing*, based on the SDQ, be defined as *the proportion of children scoring 'of concern' on the Strengths and Difficulties Questionnaire*.

We determined that, for the purposes of broad screening discussed in this paper, the SDQ was an adequate instrument, albeit recognising that it does not address a broad range of possible cultural, social and contextual influences on, and perspectives about, children's expressions of their social and emotional health.

The Total SDQ Difficulties measure is the sum of scores on the four subscales of Emotional Symptoms, Conduct Problems, Peer Problems and Hyperactivity. A low total score on the 40-point SDQ scale indicates low mental health difficulties.

The teacher questionnaires

We constructed a Teacher questionnaire that asked participants to respond on 7-point Likert scales (*Strongly Disagree* to *Strongly Agree*) to five items about knowledge of subject-matter, five items about pedagogy, and three items about self-efficacy. The Teacher questionnaire data was collected on four occasions (Terms 1 and 4 of both 2007 and 2008).

Interviews with teachers

Near the end of the 2-year KidsMatter trial, focussed interviews were conducted with 37 teachers in 10 schools that were purposefully selected to represent different geographical areas, and also, to represent schools that, on preliminary analysis of questionnaire data, appeared either to be going well, or were finding difficulties, with the KidsMatter trial. This is consistent with maximum variation sampling, a purposive strategy which involves selecting a wide range of variation on several dimensions of interest. For consistency of approach, one research assistant collected data from all of the 10 schools. For cross-checking of perceptions and methods, the research assistant was accompanied by a second researcher on five occasions.

Twelve focus questions were used as guides/prompts, and interviewees were free to add additional information if they wished. Interview questions included, “In the last year, what would you say you’ve learnt about student mental health? What do you personally do in your teaching in the name of student mental health? Since KidsMatter, what has been the most useful thing(s) that the school has done to foster positive student mental health? Have there been any changes in the ways that you think about students as a result of KidsMatter? In what ways has KidsMatter made any noticeable difference to early intervention for students experiencing social, emotional or behavioural difficulties? and, In what ways has KidsMatter made any noticeable difference to teaching students about social and emotional capabilities?”

Each interview audio-tape was listened to repeatedly by at least two, and up to four, members of the original KidsMatter evaluation team. Summary notes of the audio-tapes were taken, and the contents discussed between the researchers. It was apparent that there was substantial similarity of teachers' responses to the interview questions, and saturation of ideas was reached with a relatively small number of audio tapes. Saturation in this context refers to the fact that, with repeated listening to additional audio tapes, no discernibly new ideas or concepts emerged. In response to this assessment, nine interviews, representing the broadest range of available responses, were selected for full transcription, from which (from the first phase of listening to the audio-tapes) it was apparent that a substantial representation of participants' perspectives had been captured. The nine transcripts were collated into a text data-base for detailed secondary analysis in order to address the research questions posed in this paper.

Limitations

The schools in the KidsMatter initiative were self-selected and therefore caution should be exercised when considering how the findings reported in this paper might inform analyses of other contexts.

The social-ecological framework underpinning KidsMatter recognises that school contexts play a mediating role in promoting the development of children's positive mental health. This can include aspects such as promoting and enhancing positive school climates, recognising and appreciating diversity in the student, family and teacher populations, recognising diverse conceptions and expressions of mental health and mental ill-health, and equipping school staff with knowledge and confidence to promote the mental health of all students and to respond appropriately to students experiencing difficulties. For example, Western constructs of mental health do not always fully encompass the beliefs held by Australia's Indigenous peoples. Zubrick et al. (2005) advised that Indigenous Australians take

a more holistic view, where health and mental health are not separate, but rather, are intimately connected through mind, body and spirit. *Ways Forward: The National Consultancy Report on Aboriginal and Torres Strait Islander Mental Health*, reported that, health does not just mean the physical wellbeing of the individual but refers to the social, emotional and cultural wellbeing of the whole community. This is a whole of life view and includes the cyclical concept of life-death-life.... A mental health problem is a disruption of the interactions between the individual and the environment producing a diminished state of mental health. (Swan & Raphael, 1995, pp. 14-15)

The focus of the current paper is limited to an investigation of teachers' knowledge and confidence for mental health promotion, whilst not discounting the substantial impact of other interpretations and influences on students' mental health. A useful direction for future research would be to investigate more fully the diverse interpretations of mental health and ill-health, and to identify paths of influence between teachers' background experience and knowledge, and appropriate mental health promotion actions.

Results

A summary of school and teacher characteristics is presented in Table 1. Response rates are summarised in Table 2. The teachers showed typical characteristics of the Australian teacher population, including a majority of females and an ageing workforce as reflected by the average years of teaching experience (Owen, Kos, & McKenzie, 2008).

[Place Table 1 about here]

[Place Table 2 about here]

Staff independent nominations of ‘at risk’ students compared to student SDQ scores (teacher and parent/caregiver informants)

This section reports a comparison between the staff’s nominations of students considered to be “at risk” of social, emotional or behavioural problems, and the students’ SDQ scores. For this analysis, only the SDQ scores of the initially randomly selected students (not the over-sampled ‘at risk’ students) were included in order to avoid weighting the sample with students considered to be at risk, and also to avoid common method variance (i.e. that staff had both identified students as being at risk, and had also completed SDQs on those students).

The SDQ three point response scale is at best ordinal, and the SDQ responses in the current sample were highly skewed (as expected in a non-clinical population), thus violating parametric assumptions for traditional statistical tests. However, given the large sample size, it was determined appropriate to test the factor structure of the SDQ using PCA (StatSoft, n.d.) to determine if the data reflected similar constructs of interest as found in previous uses of the SDQ. A number of alternative runs of PCA were conducted, both with the 20 difficulties items (four factors) and with all 25 items (five factors) of the SDQ. Oblimin rotation, due to expected correlations between the factors, was used. In all analyses, the Kaiser-Meyer-Olkin value exceeded 0.6 (it was 0.89 for the Total difficulties score) and the Bartlett Tests of Sphericity reached statistical significance. However, due to the skewed distribution of responses to the SDQ, the principal components analysis was indicative of construct validity only, and further non-parametric approaches to data analysis were warranted.

Subsequently, confirmatory factor analysis with asymptotically distribution-free (ADF) estimation was used (Kline, 1998). ADF estimation does not assume multivariate normality. Structural equation models were built for each of the SDQ subscales and assessed for goodness of fit. Regression weights ranged from 0.35 (Steals from home, school) to .84

(Easily distracted). The desirable indices of goodness-of-fit were, the Root mean square error of approximation ($RMSEA \leq 0.05$), the Standardized root mean square residual ($SRMR \leq 0.06$), the Tucker-Lewis index ($TLI \geq 0.95$), and the Comparative fit index ($CFI \geq 0.95$), in addition to the Chi Squared statistic. The CFA indicated acceptable fit statistics for the five subscales of the SDQ, showing similarity to Goodman's original model and similarity to the model discussed by Mellor (2005) with an Australian sample.

Following confirmation of the factor structure, Goodman's (2005) classification system of parent-rated SDQ total scores (0-13, 14-16, and 17-40) and teacher-rated SDQ total scores (0-11, 12-15 and 16-40) was adopted, resulting in the students' SDQ scores being grouped into Goodman's three categories of 'normal', 'borderline', and 'abnormal' mental health difficulties, respectively.

Meanwhile, the additional measure, namely, staff's nominations of students 'at risk' or 'not at risk' of social, emotional or behavioural difficulties, formed a dichotomous variable.

Table 3 shows that the staff nominations of students "at risk" or "not at risk" agreed with the SDQ classifications about 75 per cent of the time. This level of agreement indicates that the staff's professional knowledge about learners and their characteristics could enable the majority of the sampled staff to monitor students' mental health, and thus be ready to respond to the need for early identification and referral to appropriate support personnel and agencies as part of the role of a mental health promoting school.

[Put Table 3 about here]

Teachers' knowledge and self-efficacy

This section reports the results from the teacher questionnaires about teachers' knowledge, pedagogies and self-efficacy. Table 4 shows that, at Time 1, (before the implementation of KidsMatter), for the 10 questionnaire items in the knowledge and pedagogy categories, a

range of 50 to 60 per cent of teachers selected response options 6 or 7, *Strongly Agree* (on the 7-point response scales). However, this also indicates that at the beginning of the KidsMatter trial, about one third to one half of teachers did not feel well-equipped in these domains. For self-efficacy, at Time 1, 58 per cent of teachers selected ratings of 6 or 7 for the more generally established function of schools to promote a positive community, but less than 50 per cent gave high self-efficacy ratings for more specific tasks related to mental health promotion. These teachers' initial self-assessments of their knowledge, pedagogy and efficacy suggests that around one half rated themselves as under-prepared to enact mental health promotion initiatives at school.

[Put Table 4 about here]

Change over time in teachers' knowledge, pedagogy and self-efficacy

Confirmatory factor analysis using asymptotically distribution-free (CFA-ADF) methods confirmed the factor structures of the Teacher questionnaire items forming the three scales of Knowledge, Pedagogy and Self-efficacy (see Table 4). Next, three level³ Hierarchical Linear Modelling showed statistically significant small to medium practical effects for improvements in mean scores from Time 1 to Time 4, in schools that commenced KidsMatter in 2007 (Round 1) and 2008 (Round 2), as shown in Table 5. Table 5 also shows the mean scores for Knowledge, Pedagogy and Self-efficacy, which hovered around scores five to six on the seven point scales.

[Put Table 5 about here]

The analyses of the changes over time indicated noteworthy improvements in teachers' knowledge, pedagogy and self-efficacy in conjunction with the KidsMatter initiative. However, the overall levels (mean scores 5 to 6) of teachers' self-ratings of their

³ Level 1, within-students (time); Level 2, between students, Level 3, between schools.

knowledge and self-efficacy for mental health promotion highlight the need for ongoing commitments to professional education initiatives to support teacher learning in this area.

Focussed interviews with staff

This section provides an analysis of the major themes related to teachers' knowledge that emerged from focussed interviews with staff. Following iterative readings of the interview transcripts, both authors reached agreement on the coding of participants' statements to major themes that had emerged from the literature, (discussed above), about features of good quality knowledge. Exemplar statements were selected to illustrate key themes of interest, and are reported below.

Knowledge of learners and their characteristics

A major theme that emerged was that teachers indicated that they had become more aware of the need to consider the individual social and emotional characteristics of students. For example, the teachers indicated that they had new attitudes, including no longer taking a child's difficult behaviours for granted, and feeling grateful for achieving a changed personal perspective:

Don't take it for granted that everything's ok and that there's a time when every child will probably need to let off steam I look now and think of all the children I've taught over the last 10 years and I'm going "oh I never really realised that; when I've picked at that child continually; or they're just quiet. They don't like to talk." That's not necessarily true: it might be there's a level of anxiety there or fear or something happening. I just would've even thought "oh no they just don't like to talk". ... the children who usually are loud, you take more notice of. To me it's the ones who don't say anything who just sit back and you hardly hear a peep and **I worry about them more now**. (Interviewee 08BT)

Even today in the yard at recess this boy was just ready to lose it and he double handed someone in the chest with this look of rage ... In the past I would have gone “Hey, stop that right now! Come with me to the office! You are not to do that!” I went “Hey! Let’s go over here and cool down. It’s ok to feel angry, but it’s not ok to hurt someone. Let’s come over here.” And I just walked with him because he was trying to walk away from me, and I said ‘it’s ok. I’m not angry with you. I *really* want you just to calm down and everything’s ok”. Absolutely. **Contrary to me 2 years ago. ... I’m really grateful that that’s been a change in me** through this process. (Interviewee 17LSELCO)

Another theme that emerged was the impact that students’ social and emotional states might have on their teachers’ assessments of the adequacy of their (the teachers’) content knowledge, their planning for future teaching, and an expressed desire to do things differently:

Dealing with grief/loss and change and speaking about deaths and families and things ... by speaking about my grandparents’ death and things and then realising that perhaps only 2½ weeks earlier a girl’s father had actually passed away. **That was information that I felt like I should have had.** But given the circumstances of that family, which is often the case with these children, I didn’t know. Another one was to do with a boy’s father who was actually in prison at the moment. Talking about issues such as honesty, decision making and breaking the law and **realising well after**, how difficult that was for that boy when other people, his peers in his grade, knew full well that his father was in jail and what for. ... **So yeah I’d like to think I’d do things differently.** (Interviewee 09ST)

There is a tension between the need for teachers to have knowledge of learners and their characteristics in the field of students' mental health, and the availability of sufficient information to enable teachers to develop such knowledge. Arguably, this may be because the precursors to students' social and emotional status are less visible. Also, due to confidentiality, and administrative procedures, teachers are not always given access to information about background events that mediate students' social and emotional states.

It is worth noting that although a student may be experiencing a social or emotional difficulty, that difficulty may be a reflection of a mental health difficulty, or it may be the child's response to other life events. Nevertheless, the teacher's increased awareness of, and responses to, the child's emotional state is potentially a mediating factor to the child's future wellbeing. This highlights the perspective that teachers and schools are themselves culturally and contextually determined, and in turn, are one of the social/cultural determinants of children's mental health. The mediating role of schools and teachers is a recognised component of the school-settings-based approach to mental health promotion, as recommended by the WHO, and underpins the conceptual design of KidsMatter.

Content knowledge and pedagogical content knowledge

A major theme that appeared in the interview transcripts was that, at the time the interviews were conducted (toward the end of the KidsMatter trial), teachers' content knowledge and pedagogical content knowledge appeared to be largely founded in the teaching resources used during the trial. This is arguably unlike other disciplinary areas where a teacher's content and pedagogical knowledge of say, literacy, would lead to the development of a plan for the foundational concepts to be taught, followed by a selection of procedures and materials most appropriate for teaching the deep structures of those foundational concepts. In many participants' interview accounts, their selected teaching resources appeared to provide the starting point for their instructional designs. Resources provided the scope and sequence of

learning activities, were identified as playing a substantial part in educating teachers about the subject-matter, and appeared to provide the pedagogies for engaging students with the content:

We were **doing the Bounce Back** program. (Interviewee 08BT)

Yeah, as a school the student wellbeing committee establishes **which aspect of 'Program Achieve' we might do** for a term. So this term for example, it's resilience..., but I'm not teaching it because I'm a part-timer. (Interviewee 03EAT)

Mental health wasn't talked about at all, so now, this 'Bounce Back', 'Friendly Schools, Friendly Families', is dealing more with mental health, which didn't happen. We **used 'stop-think-do'** for awhile. (Interviewee 17LSELCO)

We were already **heavily into 'Program Achieve'** ... so we've looked at other avenues, ... **We trialled the 'Friends for life'** program, which was quite successful. (Interviewee 04EAP)

'Bounce Back', 'Bounce Back', 'Bounce Back'. (Interviewee 09ST)

Yes. Social and emotional learning to me in the past was a bit airy fairy. It was something that was bandied around like many teaching terms are and you never really quite know how to pin point it or what it is....This has opened my eyes to the way that it can actually work and **it is because of the resources that we**

have...we looked at the ‘Bounce Back’ book and we prioritised for our children what the most important things were. (Interviewee 09ST)

But yes **‘Bounce Back’ has been a core thing that we look at and that guides us.** (Interviewee 09RTKML)

We **run it** [Bounce Back] across the school and everybody does a lesson a week. It’s programmed... **We haven’t sat down and done a scope and sequence** for it. (Interviewee 10BAPS)

Although these views emphasise teachers’ knowledge about available resources, the participants’ responses also point to the possibility that the content and pedagogical content knowledge of this group of teachers was potentially limited by the scope, sequence, content and recommended pedagogical approaches of the available resources. If this is more generally the case, it is likely that teaching in this area will be associated with the pedagogical simplifications noted by Fraser (1996) and Jetton and Alexander (1997).

Extent, structure, and complexity of knowledge

Teachers reported that their exposure to KidsMatter had supported them to confirm their existing views and practices, develop an increased awareness about student mental health, and feel more comfortable talking about issues:

Just enhanced what I thought before.... The ‘uh huh’ factor. So that’s good when you get professional learning that you think **“I’m doing that and that is going to be important. Yay.”** (Interviewee RTKML)

It's more of an **awareness raising** for us, which has been good, and just making it a priority for people. As a staff we all agree that being resilient and having good mental health and wellbeing is valuable and impacts on learning, so we're **all on the same page on that one, but it just gives us that awareness.**

(Interviewee 10BTAP)

I think it's demystifying and de-stigmatising mental health, because I think mental health – it's mental – you know mental it's got a bad label. *Mental!* But it was never talked about. ... **It's ok to talk about it** and I really am enjoying being in a school where that is so open. (Interviewee 17 LSEL C)

We can actually change headsets in a sense, **that it's not a taboo word: mental health** ... and focus on the positive aspects and the prevention of mental health issues later on with students. (Interviewee 04APSW)

Raising awareness and shaping attitudes are important first steps in mental health promotion. However, although positive attitudes appeared to prevail, participants in the present study appeared less able to provide indications of well-developed cognitive schemata about the content and processes of whole-school mental health promotion.

Conclusions and Implications

The findings reported in this paper point to two major conclusions. On the one hand, prior to the start of the KidsMatter trial, most staff who participated in this study showed good levels of professional expertise in recognising the characteristics of students deemed to be at risk of

social, emotional and behavioural difficulties. This points to a substantial existing resource of professional expertise about students' characteristics in the domain of mental health.

In addition, half to two thirds of teachers indicated that they felt efficacious and knowledgeable about components of mental health promotion in schools. Noticeably however, one-third to one half of participating teachers indicated that they did not strongly agree that their knowledge and confidence in the field of mental health promotion was of high quality.

Following the KidsMatter initiative, teachers reported improvements over time in their knowledge and confidence, indicating an important degree of success from locating KidsMatter in schools. The analysis of the interview transcripts showed positive changes in teachers' attitudes towards mental health, and participants' appreciation of the need for teachers to develop fine-grained knowledge about learners and their characteristics.

Taken together, the findings related to the pre-trial status of teachers' knowledge, and the observed changes in teachers' ratings of their knowledge over time, have important implications for mental health promotion initiatives such as KidsMatter. Without the systematic provision of professional education opportunities for teachers it is likely that many teachers will feel inadequately prepared for mental health promotion. Although this might seem to be stating the obvious, it is important to remind policy makers and planners that the provision of effective professional education is critical.

Our use of categories such as content and pedagogical knowledge to classify teachers' responses showed that participating teachers need opportunities for professional learning that will support them to create more complex mental models and more generative teaching designs. If mental health promotion in schools is to progress beyond attitude change, and be more than a resource driven 'add-on' to the curriculum, then teachers need to be provided

with opportunities to consider the fundamental concepts, scope, sequence and pedagogies of mental health promotion in the same way as other core subjects.

The implication for pre-service teacher training is clear, in that mental health promotion needs to be integrated into pre-service teaching curricula. The urgent educational need is for existing teachers. Little's (1993) overview of professional development philosophies and designs drew attention to the affordances and constraints of alternative types of professional learning, such as technical training versus teacher-led inquiry approaches; organisational structures that permit time to investigate, reflect and discuss; recognition of existing personal, social and political contexts; emotional investments in teaching; and financial and human costs. Teaching-learning strategies such as substantive discussions and questions within collaborative work-groups (Garet, Porter, Desimone, Birman, & Yoon, 2001; Little, 1993) and opportunities for mentoring (Spratt, Shucksmith, Phillip, & Watson, 2006) and coaching (Ransford, Greenberg, Domitrovich, Small, & Jacobson, 2009) are applicable to professional education for mental health promotion. Mitchell, Riley and Loughran's (2010) call for reconceptualising professional *development* into professional *learning*, whilst explicitly addressing the emotions of all stakeholders, provides a useful bridge between teacher knowledge, efficacy, personal mental health, and whole school approaches to mental health promotion.

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Teachers' knowledge and confidence for promoting positive mental health in school communities

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Table 1: Background characteristics of schools and teachers

Schools N = 100	Government	Catholic	Independent
Metro	36	20	4
Rural	24	9	2
Remote	5	0	0
School-wide Characteristics	Round 1 Schools	Round 2 Schools	
Male Teachers	15.6%	16.1%	
Full-Time Teachers	58%	56.1%	
Support Teachers	35.5%	23.6%	
Teachers N = 1397	Male	Female	
Gender	14.9%	85.1%	
Mean Teaching Experience Years (SD)	14.6 (10.8)	15.2 (10.8)	

Table 2: Summary of data collected

Year	2007		2008		
Data Collection Time	Time 1	Time 2	Time 3	Time 4	Final Returns
Total Enrolment in 100 schools	28205				
Targeted students	7114				3762
SDQ (Parent/carer informant)	4346		2995	2404	
SDQ (Teacher informant)	4793	4592	3866	3587	
Teacher Questionnaires	812	802	928	716	1397
Staff Interviews (teachers/coordinators)					37

Table 3: Percentage agreement between students' SDQ (Time 1: pre-intervention) scores and teachers' nomination of "at risk" status

		Staff nominations of students' status			Agreement	Disagreement
SDQ Categories	Not at Risk %	At Risk %	Total %			
Parent informant SDQ responses	Normal	68.8	11.2	80.1	75%	17%
	Borderline	5.3	2.7	8.1		
	Abnormal	6.0	5.9	11.9		
Teacher informant SDQ responses	Normal	67.8	10.0	77.8	75%	15%
	Borderline	5.8	3.6	9.3		
	Abnormal	5.4	7.5	12.9		

Table 4: Percentage of teachers selecting scores 6 or 7 (Strongly Agree) for items about their knowledge, competence and self-efficacy

Category	Item	% Scored 6 or 7		
		Time 1	Time 4	Difference
Knowledge	I know how to help students			
	1. Develop an awareness of their own feelings	55	69	14
	2. Develop an awareness of the thoughts and feelings of other people	60	73	13
	3. Develop skills to manage their own emotional or social or behaviour difficulties	50	65	15
	4. Develop skills to make responsible decisions	59	71	12
	5. Develop skills to establish healthy relationships with other children	59	70	11
	<i>Average</i>	<i>57</i>	<i>70</i>	<i>13</i>
Pedagogy	My teaching programs and resources help students to			
	6. Develop an awareness of their own feelings	53	70	17
	7. Develop an awareness of the thoughts and feelings of other people	57	72	15
	8. Develop skills to manage their own emotional or social or behaviour difficulties	49	69	20
	9. Develop skills to make responsible decisions	59	73	14
	10. Develop skills to establish healthy relationships with other children	57	72	15
	<i>Average</i>	<i>55</i>	<i>71</i>	<i>16</i>
Self-efficacy	11. I can help people to develop a sense of belonging within the school community	58	66	8
	12. I can provide effective support for parents/caregivers about students' emotional or social or behaviour difficulties	41	53	12
	13. I can identify early signs of emotional or social or behaviour difficulties in students	49	58	9
	<i>Average</i>	<i>49</i>	<i>59</i>	<i>10</i>

Table 5: Hierarchical Linear Modelling of change over time in Teachers' Knowledge, Pedagogy and Self-efficacy

	Year Commenced	Time 1 Mean	Time 4 Mean	Significance* p	r[^]	Effect Size⁺
Knowledge	2007	5.41	5.84	***	0.29	medium
	2008	5.39	5.62	**	0.13	small
Pedagogy	2007	5.47	5.86	***	0.26	medium
	2008	5.33	5.64	***	0.19	small
Self-Efficacy	2007	5.18	5.55	***	0.23	small
	2008	5.20	5.38	*	0.10	small

Notes

*Significance levels: *** $p < .0001$; ** $p < .001$; * $p < .01$

[^]Correlations of 0.10, 0.24, and 0.37 were selected as indicative of small, medium and large effects, respectively (Kirk, 1996).

⁺Effect sizes were calculated using the part-correlation coefficient, r , and the slope of the regression line, b , expressed in deviation-score form (Ferguson, 1971 p.113).