

**Comprehensive Health Promotion in the School Community:  
The 'Resilient Children and Communities' Project**

Stewart D E\*, Sun J & Patterson C R

School of Public Health, Queensland University of Technology, Brisbane, Australia

**Abstract**

Funded primarily by Health Promotion Queensland, a consortium led by Queensland University of Technology is trialling a health promoting school-based intervention over four years that reviews the significance of organisational structures and educational programs that foster life opportunities for young children. The project aims to promote increased wellbeing, quality of life, and resilience as core outcomes. It adopts a multi-level approach to mental health promotion that addresses strengthening individuals (emotional resilience), strengthening communities (social inclusion) and reducing structural barriers to mental wellbeing. The study population comprised 2794 students and their parents/care-givers, and 470 staff across 20 primary schools. Structural equation modelling was used to analyse the relationships across the factors: health promoting school (HPS), social support for family, family functioning, school environment, student feelings of connectedness, and student resiliency. Multilevel modelling was used to analyse the effects of social capital on family and school contextual factors and children's resilience. The research reported here supports the argument that the level of partnerships formed between school and family and school and community is determined by whether a school adopts a health promoting school approach. Social capital depends on community engagement, social networks, trust and a supportive environment. These are also key features of a health promoting school.

**Introduction**

Schools provide a critical context in shaping children's self-esteem, self-efficacy, and sense of control over their lives. For children in middle childhood (ages 5-12 years), school may in fact play an even more significant role than the family unit since it exposes children to the wider community through, for example, the powerful influence of teacher support and peer networks (Grotberg 1996). Social cohesion, exposure to a warm, caring and supportive environment and positive emotional attachments have been found to play critical roles in determining physical and mental health, educational and social outcomes during childhood (Morrow 1999). Children exposed to such conditions are at reduced risk of numerous physical and mental health disorders, including depression and associated health risk behaviours (Berkman et al. 2000; Morrow 1999; Onyx and Bullen 1997). Conversely, it has also been reported that environments providing low emotional support, lack of availability of attachments and low perceived adequacy of support from parents/caregivers, teachers and other adults, and peers

have been strongly linked to mental illnesses such as depression (Gore and Eckenrode 1994; Marmot and Wilkinson 2000; Masten 1994; Rutter 1987).

The 'health promoting school' (HPS), which is founded on a socio-environmental approach to health promotion, recognises the significance of the school as a setting for promoting health and wellbeing, in terms of policies, links with health services, and partnerships between the school, the family and community (WHO 1996a, 1996b, 1999). The HPS approach draws on the five action strategies of the Ottawa Charter (1986) for health promotion in the school setting. It is based on the need to build public policies that support health, create supportive environments, strengthen community action, develop personal skills and reorient health services and involves a process employed by school communities to enable them to address the identified social and health needs of their school and local community. It takes a 'holistic' school community approach which involves the multiple members of the school community, including students, school staff, parents and carers and local community organisations and businesses. Such groups work collaboratively within a planned framework to promote the health of the school community (WHO 1997; St Ledger 1999; WHO 1995a; Downie et al. 1997; WHO 1995b; Lister-Sharp et al. 1999). A health promoting school is one which focuses on three essential and interrelated components: curriculum, teaching and learning; school organisation, ethos and environment; and partnerships and services, to build a healthy place, or setting, in which to learn, play and work (NHMRC 1996).

The organisational and social factors inherent in the HPS approach foster children's emotional or psychological wellbeing by seeking to build resilience at an organisational level. A number of studies have found that factors inherent in the HPS framework, such as school organisational structures, educational practices, school climate, school-family and school-community relationships, are associated with the promotion of students' critical reflection, sense of belonging, and sense of being socially supported, thus, in turn, promoting their resiliency and mental health (Battistich et al. 1995; Solomon et al. 1996). Such evidence supports the contention that the HPS approach acts to build an environment rich in social capital.

Social capital has been described as "features of social organisation, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit" (Putnam 1993, p. 35), enabling people to act collectively (Woolcock 2001). Social capital embedded in social structure has been characterised as a resource that resides in the relationships that people have with each other and that individuals within a social structure can draw upon to achieve certain actions (Kawachi and Berkman 2000; Veenstra 2005). The imputed benefit of social capital has been applied over the last decade to a wide range of investigations into health, such as studies linking social capital to mortality (Lochner et al. 2003), self-rated health status

(Kawachi et al. 1997; Veenstra 2002), binge drinking (Hyypä and Maki 2003), and violent crime (Sampson et al. 1997).

This paper is based on recent theoretical developments in mental health promotion which suggest that psychological wellbeing has its roots in resiliency (Commonwealth Department of Health and Aged Care 2000). 'Resilience' is defined as the capacity of individuals, schools, families and communities to cope successfully with everyday challenges including life transitions, times of cumulative stress and significant adversity or risk (Rutter 1990). It refers to those characteristics of children and their experiences in families, schools and communities that allow them to thrive despite exposure to adversity and deficiencies within the settings of their daily lives. The Resilient Children and Communities project is based on the notion that the HPS approach promotes connectedness and school environments rich in social capital. It explores the relationships between various aspects of the school environment consistent with the HPS approach and children's resiliency. It seeks to demonstrate that the HPS approach may provide a model of practice for engaging communities which, in turn, acts as a protective factor for health and wellbeing.

## **Methods**

### ***Sample and procedure***

Twenty schools in low socio-economic areas in the northern and southern urban corridors of Brisbane, the state capital of Queensland, Australia, were selected to participate in the project. The study population comprised students from school Years 3, 5, and 7 (ages 8, 10 and 12 years), their parents or care-givers, and school staff. Baseline data collection for students, parents/caregivers and staff was carried out in late 2003. Data was collected from the student sample in the school classrooms by teachers; parents/caregivers completed the questionnaire at home and returned the survey to school; and the staff sample completed questionnaires that were distributed at staff meetings organised by the school principals. A cross-sectional design was employed. The project is oriented around a whole-school approach to promoting resiliency in children of primary school age in school, family and community settings.

### ***Measurements***

Measures were taken from representatives of the whole school community, the students; the parents or caregivers; and all staff (teaching and non-teaching). Student resiliency was measured mainly using a modified version of the California Healthy Kids Survey (California Department of Education 2003). Parents or caregivers provided data about the school and family climate using a combination of sub-scales and items from Hart et al. (2000), Zubrick et al. (2000) and McCubbin et al. (1987). School staff reported on organisational factors relevant to the HPS approach using an HPS Audit Checklist (Lemerle and Stewart forthcoming) and modified Hart et al. (2000) instrument. Community engagement was measured by one of the

subscales in the HPS audit. Staff were also questioned about social capital measures, derived from Onyx and Bullen (2000), which resulted in five sub-scales, related to perceptions of trust and safety, proactivity in a social context, tolerance of diversity, work connection in the school context and help-seeking.

All self-report questionnaires used a five-point rating scale format ranging from 'never' to 'always'. The sub-scales of the three surveys extracted from the factor analysis for this study and internal reliability are shown in Table 1. The measures used in the current study show high levels of reliability in terms of internal consistency, and reasonable construct validity (Stewart et al. 2004).

**Table 1. Sub-scales/dimensions of the Student Resiliency Survey, the Parents/Caregivers Survey, and the Staff Survey**

<p><b>Staff Survey</b>  <i>HPS scale</i>  Health policy: (implementing health related policies in school)  Physical environment: (maintaining/improving school physical environment)  Social environment: (promoting a positive/supportive social environment)  Community engagement: (promoting/enhancing relationships with community)  Personal skills building: (implementing skills-building strategies)  Access to health services: (promoting regular access to appropriate services)  Cronbach <math>\alpha = .95</math>  <i>Social Capital</i>  Feelings of trust and value  Safe school and community  Tolerance of diversity  Proactivity in social contact  Help-seeking  Cronbach <math>\alpha = .86</math></p>	
<p><b>Student Survey (a)</b>  <i>Resilience scale</i>  Empathy, communication and cooperation  Self-efficacy and problem solving  Cronbach <math>\alpha = .84</math></p> <p><b>Student Survey (b)</b>  <i>Protective factor scale</i>  Feeling connected to adults at home  Feeling connected to adults at school  Feeling connected to adults in community  Peer support  Autonomy experience  Prosocial peers  Prosocial groups  Cronbach <math>\alpha = .92</math></p>	<p><b>Parents/Caregivers Survey</b>  <i>School environment scale</i>  School organisation  School rules, regulations and discipline  School ethos and morale  Parental involvement  Staff and student stress  Cronbach <math>\alpha = .95</math>  <b>Family functioning</b>  Coping and problem solving  Family coherence and support  Communication and understanding  Cronbach <math>\alpha = .89</math>  <b>Social support</b>  Family are integrated into the community  View the community as a source of support  Feel family and community can provide emotional, esteem and network support  Family affection and commitment  Cronbach <math>\alpha = .87</math></p>

## ***Analysis***

SPSS package version 11.0 was used to analyse the reliability and validity of the instruments used in the study. Principal component analysis was used to assess the construct validity of the scales and Cronbach  $\alpha$  was used to examine the internal consistence of each sub-scale.

Structural equation modelling techniques were used to assess the relationships across the factors: HPS, social support for family, family functioning, school environment, student feelings of connectedness and student resiliency. LISREL 8.71 (Joreskog and Sorbom 2004) was used to construct models.

Multilevel analysis was used to analyse the relationship between social capital and community engagement using MLwin version 2.0 (Rasbach et al. 2004). Multilevel analysis tested the hypothesis that social capital is significantly related to community engagement. The confounding factors of staff years of working at the school, and school size, were controlled in the model.

## **Results**

### ***Description of the sample***

The sample comprised 2794 students which represent a student participation rate of 90 per cent; 1558 parents/caregivers with response rate of 47 per cent, and 470 staff with a response rate of 45 per cent. The mean age of the student sample was 8.07 years (SD = .54) for Year 3 students, 10.05 years (SD = .41) for Year 5 students, and 12.05 years (SD = .46) for Year 7 students. There were no differences in the mean ages of boys and girls, or in the response rates across the school years (Year 3: 32.7 per cent; Year 5: 32.7 per cent; Year 7: 34.5 per cent). Most of the students (86.3 per cent) were born in Australia. Most of the parent/caregiver sample was female (89.3 per cent). Nearly half (46.9 per cent) had up to 12 years education level, over a third (34.8 per cent) were engaged in full-time home duties, and 27.6 per cent had less than AUD\$30,000 annual family income. Dual-parent families were the most common, comprising 75.2 per cent of the sample. The staff sample was predominantly female, reflecting the gender structure of the primary school workforce, and most were teaching staff (62.8 per cent). The distribution of teaching staff across the school years was similar (Year 3: 16.0 per cent; Year 5: 16.4 per cent; Year 7: 17.8 per cent). Over half (53.4 per cent) of the staff had worked in the same school for between 3-10 years.

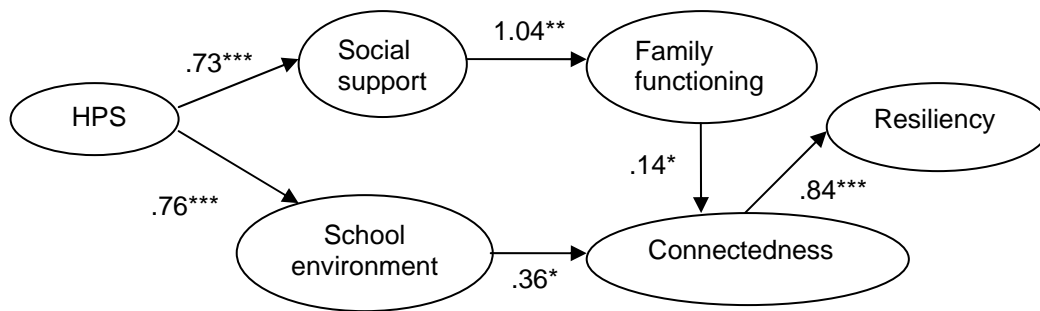
The demographic variables for individual factors including student age, gender, family income, and school level factors including family type, school type and school size are presented in Table 2. There were 16 state schools (80 per cent of the school sample) and four Catholic schools. Fifty per cent of schools were of medium size.

**Table 2. Description of the sample**

<b>Individual-level factors: n = 2794 students and 1558 parents</b>	<b>n (%)</b>
Student age Year 3 Year 5 Year 7	910 (32.6%) 931 (33.3%) 953 (34.1%)
Student gender Male Female	1356 (49.1%) 1404 (50.9%)
Family type Single family type Two-parent family Others	286 (20.3%) 1060 (75.2%) 64 (4.5%)
Family income <\$30,000 per year \$ 30,001-49,999 \$ 50,000-69,999 \$ >70000	364 (27.6%) 347 (26.3%) 270 (20.5%) 338 (25.6%)
Staff role in the school Principal Teachers Administration and others	26 (5.7%) 287 (62.8%) 144 (31.5%)
Staff years of working in the school Less than 1 year 1-2 years 3-5 years 6-10 years 11 or more years	63 (13.7%) 54 (11.8%) 141 (30.7%) 110 (24.0%) 91 (19.8%)
<b>School-level factors: n = 20 primary schools</b>	<b>n (%)</b>
Percentage of school type (N=20) State school Catholic	16 (80%) 4 (20%)
Percentage of school size Small Medium Large	8 (40%) 10 (50%) 2 (10%)

***Does being a 'health promoting school' foster community engagement?***

Results from the mediation model (Model 1) indicate that the association between HPS and student resiliency is mediated by social support; family functioning; school environment; and student feelings of connectedness (Figure 1). Results indicate that this model demonstrates reasonable fit to the sample data (Table 3).



**Figure 1. Results of the mediation analysis: testing family, school and student feelings of connectedness as mediators of the associations between HPS and student resiliency**

Standardised path coefficients are presented.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Table 3. Fit indices for the conceptual model: testing family, school environment, student feelings of connectedness as mediators of the associations between HPS and student resiliency**

$\chi^2$	<i>df</i>	<i>p</i>	RMSEA	NNFI	$\chi^2/df$
3165	144	.00	.08	.90	21.84

Note: RMSEA = Root Mean Square Error of Approximation; NNFI = non-normed fit index.

Table 3 indicates that RMSEA is .08 and NNFI has a value of .90, indicating a reasonable model fit. Figure 1 indicates that the HPS approach is significantly associated with school environment including school-family and school–community relationships, as evidenced by the associations between HPS and parental involvement and participation in school activities, and staff–family relations. This suggests that the level of partnerships formed between school and family and school and community is determined by whether a school adopts a whole-school approach (HPS). The association between HPS and student resiliency is mediated by school environment, social support, family functioning and student feelings of connectedness.

#### **How is social capital related to community engagement?**

Table 4 indicates that using multi-level modelling, there is a significant relationship between social capital and community engagement derived from staff perceptions. The relationship between social capital and community engagement is significant even after the school size and years of working experience of staff is controlled in the model. The relationship between social capital and community engagement is significant at both the school level ( $r^2 = 15.2\%$ ) and at the individual staff level ( $r^2 = 17.1\%$ ).

**Table 4. Relationships between social capital and community engagement**

Response variables	Fixed	Random (residual variance)		
	School Intercepts	Between schools	Within schools	Total
Community engagement	2.67 (.16) ***	.15 (.15) <b>15%</b>	.17 (.01) <b>17%</b>	.32
School size	-.08 (.07)			
Staff years of work experience	.04 (.02)*			

Significance level: \*\*\*  $p < .001$ , \* $p < .05$ .

### Discussion

Our results indicate that there are a number of critical issues that bear on student resiliency, specifically, the family and school contexts, and student feelings of connectedness. Figure 1 indicates that the association between a school which has adopted a 'health-promoting school' approach and student resiliency appears to depend, in part at least, on the social support available to a family and family functioning, the school environment and hence the students' feeling of connectedness. The level of partnerships formed between school and family and school and community is determined by whether a school adopts a health promoting school approach.

The HPS approach creates opportunities for the engagement of students, parents, teachers and community thereby reinforcing meaningful social roles including parental, familial, teaching, and community roles. This, in turn, provides a sense of value and belonging to a school and connectedness to others (Berkman et al. 2000), and hence helps promote student resiliency.

These results support the significance of taking a holistic perspective to engaging communities. The health promoting school, as an organisational framework can promote student resiliency through a range of family and school context factors (WHO 1998, 1999) — specifically identified in our research as family social support, family functioning, and the school environment and their effects on student feelings of connectedness. The links between HPS and family social support, family functioning, student feelings of connectedness, among school environment and student feelings of connectedness, lend support to this notion.

The findings can also be discussed in terms of their implications for the promotion of mental health. Successful social support for the family, positive family functioning, and a school environment with a health promotion orientation all appear to promote student feelings of connectedness and hence student resiliency. Specifically, associations between HPS and these factors suggest that when a family has social support, students may also be exposed to positive family functioning, which in turn is linked with increased student feelings of connectedness and resiliency. In the same vein, a school environment which is regarded as having a positive school climate and ethos, good school–family relations, opportunities for parents to be involved in school activities, and low levels of staff and student stress, are related to increased student feelings of connectedness and hence resiliency.

Putnam (2000) argues that high levels of trust between members of a community help the community to develop strong bonds and interactions among members. The evidence (Table 4) from our research regarding the relationship between school social capital and community engagement, such as involving community organisations in delivery of programs or services to school, participation of communities in all school activities, is that social capital is related to the development of social networks. In turn, the development of social networks enables the school community to initiate and develop health promotion programs and activities that serve the school community.

From the point of view of staff, our findings indicate that social capital is significantly related to community engagement at the school organisational level. This supports Siegrist and Marmot's (2004) contention that the psychosocial environment defines and circumscribes the socio-structural range of opportunities that is available to an individual person to meet his or her need for wellbeing, productivity, and resilience. A psychosocial environment conducive to organisation enables the schools to connect them with other organisations and to receive appropriate support for certain tasks (Baum 1999).

Schools adopting the HPS approach are likely to create environments rich in social capital. A school, as a social organisation whose members know, care about, trust and support one another, which has common goals and a sense of shared purpose provides the ideal situation to support the development of resilience in children (Battistich et al. 1995). The research reported here supports the argument that social capital builds 'organisational resilience' through increased levels of community engagement, social networks, trust and a supportive environment.

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