Preventing the onset of youth offending: The impact of the Pathways to Prevention Project on the behaviour and wellbeing of children and young people

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Executive Summary

This report presents some new findings from the *Pathways to Prevention Project,* utilising detailed data from a sample of 123 matched pairs of Grade 7 or 8 children, half of whom participated (via their families) in Pathways support activities, and half of whom did not. The focus is whether the holistic form of family support delivered in the Pathways Project, which is similar in many respects to services regularly delivered in communities across Australia, can improve the wellbeing and behaviour of children in the primary schools years (ages 5 to 12), and at the transition to high school, reducing the likelihood of involvement in youth offending. There is currently very limited quantitative evidence internationally on these questions.

The specific research questions were:

1. What effect did participation in any form of Pathways family support between Grade 1 (age 5) and Grade 7 (age 12) have on child behaviour and wellbeing at Grade 7, including indicators of positive youth development?
2. What levels of participation were related to the greatest improvements in child outcomes, or to good scores on the various measures of positive youth development at the transition to high school?

The Pathways to Prevention Project was implemented and evaluated as part of a partnership between Griffith University, the Queensland Department of Education, and Mission Australia. The project operated in a disadvantaged region of Brisbane for ten years between 2002 and 2011, when Mission Australia brought the community-based family support work to an end. The project team, consisting of a small number of university staff and postgraduate students, the Mission Australia team of approximately 15 full time and part-time community workers, and a range of school principals and classroom and specialist teachers from seven primary schools, responded to the needs of 1,077 families and children. 30% of all children enrolled in one of these seven schools between 2002 and 2011 belonged to a family at least one of whose parents/carers participated in the Pathways family support activities.

The analyses use the *Pathways child longitudinal database*, which incorporates data on 4,858 children derived from:

- Direct testing by the Griffith University research team of children in schools;
- Education Department central records;
- Mission Australia records of participation in Pathways activities by those parents who sought out the service;
- An extensive survey of Grade 7 and Grade 8 students who had been part of the 2002-2003 preschool cohort (N=609);
- Surveys of both Pathways and non-Pathways parents who responded to the many surveys the research team conducted.

353 of the 609 children in the 2002-3 preschool cohort: (a) had data across the primary years on their behaviour, academic achievement and attendance, and (from 2008) their social and emotional wellbeing; and (b) completed the Grade 7/8 survey in 2009 or 2010. From this sample of 353 children we selected the 123 matched pairs for detailed analyses. The inclusion of both Pathways and non-Pathways children and parents in the database means that it is possible to use matching techniques to help ensure that we compare 'like with like', in order to evaluate the effects of involvement in Pathways activities on outcomes for parents and children. This is necessary because, as expected, families who sought the assistance of the Pathways Service tended to have children who exhibited more problems than other children enrolled in the same schools. We matched children one-on-one primarily on:

- Classroom behaviour rated by the teacher using the Rowe Behavioural Rating Inventory (RBRI) at the beginning of preschool;
- Age/class
- Gender
- Ethnicity or cultural background
- Self-reported adversity (number of bad things that have happened to them in their life, to Grade 7)

There are two sets of outcome variables:

1. A small set of child variables that were consistently measured across some or all of the primary years, specifically *classroom behaviour* as rated by the teacher, and *social-emotional wellbeing* as measured through children's participation in a specially designed interactive computer game, *Clowning Around*. This game yielded a total wellbeing score as well as three sub-factors: attachment to school; social support and adjustment; and self-regulation/prosocial behaviour.

2. The 'Six Cs' of positive youth development at Grade 7 or 8: *Competence; Connection; Character; Confidence; Caring; Contribution.* In addition we measured aspects of *Contexts* that promote young peoples' development through system strengthening, and inter-system consistency.

The multilevel modelling of the first set of outcomes - behaviour and wellbeing across the primary years – incorporated 'baseline' (pre-Pathways) measures of the dependent variables, so that the effects of the Pathways family support service could be determined through changes in these variables pre- and post-involvement. These models showed that relatively low levels of family support (up to 10 contacts) were strongly associated with improvements in teacher-rated classroom behaviour, especially for children of parents who initially reported low levels of parenting efficacy. Low intensity family support also improved children's social relationships and capacity for self-regulation, as measured by *Clowning Around* (but not attachment to school). Higher levels of support in these analyses were not associated with better outcomes, although there were some non-significant trends.

The extensive data collected on the seven C's as part of the Grade7/8 survey were analysed using principal component analyses to create a manageable number of scales representing different aspects of positive development. 13 of these scales were used as dependent variables in multilevel models that incorporated 'proxy baseline controls' (like the child's Grade 5 self-regulation score from the *Clowning Around* tool when Impulsivity in Grade 7 was the dependent variable and the focus was on the effects of family support between

Grades 5 and 7), as well as other statistical controls for child characteristics and their social context.

Most of the 246 Grade 7 and Grade 8 children showed many signs of positive, healthy development. There were more similarities than differences between the Pathways and control children, but despite this Pathways children tended to exhibit more signs of problematic relationships, attitudes and behaviours. Some differences were quite marked, particularly for the extreme categories of response scales. The effects of the small number of large differences, combined with the cumulative effects of the many small differences between the two groups, suggest that many of the Pathways children, at the point of transition to high school, were at a crossroad with respect to their connectedness to school and family and engagement with antisocial and criminal behaviour.

However the statistical models generally revealed no differences between Pathways children and control children, meaning that although Pathways children were 'self-selected' via their family's involvement in the Project to generally exhibit poorer outcomes, the family support activities had positive effects. Overall Pathways participation appeared in most cases to narrow the gap between the Pathways group and the control group to the point of statistical non-significance. The few differences that remained between the two groups after the statistical controls suggested that high support (more than 14 contacts) could help lift these children to the level of the control group, or even better (as with child-parent communication).

Our results support the contention that the holistic forms of family support exemplified in the Pathways to Prevention Project can have major beneficial effects on parents and children, and that these effects can be achieved for some outcomes and for some families cost-effectively with relatively low levels of involvement (up to 10 contacts, usually over a period of 2-3 months). On the other hand, there was some evidence that more intensive family support (more than 14 contacts) was needed to reduce the high levels of impulsivity of some Grade 7 children, and to boost attachment to school in the lead up to high school. The question of the intensity of family support remains therefore an open one,

with the limited evidence pointing to different levels of support depending on the size and nature of the problem. Another key consideration is to assess the *impact of family adversity* on the levels of support needed, something not yet attempted (but planned for future studies).

This study has clear implications for schools and for community crime prevention. School disciplinary policies rarely acknowledge the central role of family circumstances in contributing to a child's difficult behaviour. This report presents evidence that quite substantial improvements in such behaviours might be achieved by supporting parents to deal with the challenges of poverty, family violence, being a single parent or recent immigrant, and dealing with difficult child behaviour. Schools are of course not equipped to undertake this kind of work, which is why Pathways-style partnerships between schools, community agencies and families are of such value.

The analyses of the Grade 7/8 domains of positive development pointed to a number of features of the child's environment, beyond parents and schools, that had strongly beneficial effects. These included the availability of "grown up persons" who support the child; positive community attitudes to kids; and the availability of caring adults. These results underline the importance of an ecologically valid or whole-of-community approach to youth crime prevention that incorporates holistic family support, forms respectful collaborations with schools that help empower them to adopt non-punitive practices that address children's challenging behaviours, and strengthens community collective efficacy to care for and respond to the needs of all children, especially the most vulnerable.

Introduction

Across the world children and young people living in economically deprived areas become entangled in the child protection or juvenile justice systems at much higher rates than their counterparts in more affluent communities (Allard et al. 2012; Shonkoff & Phillips 2000). Indeed, crime and other social and health problems are increasingly geographically concentrated (Australian Social Inclusion Board 2011; Vinson 2007).

Geographical social exclusion is a product of economic and social change that manifests in the daily lives of children and parents as a struggle to bridge the gap between what it takes to meet basic human needs like a safe and nurturing environment for children, and the financial, social, and emotional resources that families are actually able to command. In these areas *the developmental system* – the web of institutions, relationships and primary care settings that shape, and are shaped by, children, young people and parents – simply does not work very well (Lerner & Overton 2008). Bridging the significant gap between needs and resources to reduce youth offending, or more generally to improve children's lives, necessitates a focus on the whole developmental system, on institutions and social arrangements, not just on the deficiencies of individuals (France & Homel, 2006; France, Freiberg & Homel, 2010; Homel 2005).

This report presents some results from one attempt to strengthen the developmental system in a disadvantaged area, the *Pathways to Prevention Project*. Specifically, we address the question of whether a holistic form of family support, similar in many respects to services regularly delivered in communities across Australia, can improve the wellbeing and behaviour of children in the primary schools years (ages 5 to 12) and at the transition to high school, reducing the likelihood of involvement in youth offending. These results add to those in previous publications (e.g., Branch et al. 2012; Elias et al. 2006; Freiberg et al. 2005, 2007; Homel et al. 2006a,b).

The Pathways to Prevention Project was implemented and evaluated as part of a partnership between Griffith University, the Queensland Department of Education, and Mission Australia. The project operated in a disadvantaged region

of Brisbane between 2001, when some pilot activities were tested, and 2011, when Mission Australia brought the community-based family support work to an end (apart from one small component that operated until 2012). Over the ten year period 2002-2011 the project team, consisting of a small number of university staff and postgraduate students, the Mission Australia team of approximately 15 full time and part-time community workers, and a range of school principals and classroom and specialist teachers, responded to the needs of more than one thousand families and children.

Griffith researchers worked with Mission Australia and school staff, and the Department of Education, to construct the *Pathways child longitudinal database*, a repository of data on 4,858 children. This database incorporates data from Mission Australia on the patterns of participation in Pathways activities by those parents who sought out the service, as well as data on all children enrolled in one of the seven participating state primary schools between 2002 and 2011. It also includes data from both Pathways and non-Pathways parents who responded to the many surveys the research team conducted. The inclusion of both Pathways and non-Pathways children and parents in the database means that it is possible to use quasi-experimental methods – specifically, matching techniques that help ensure that we compare 'like with like' – to evaluate the effects of involvement in Pathways activities on outcomes for parents and children.

In 2002 and 2003 the Pathways Project incorporated two preschool intervention programs for 4-year old children attending four of the seven of the state preschools in the area. This preschool program was combined with family support for parents of any pre-schoolers at the seven schools who sought assistance. The total number of preschool children with usable data in the seven schools in those two years was 609, with 363 (59.6%) participating in either a social skills program or a communication program. Some results from this early phase have been published (e.g., Freiberg et al., 2005; Homel et al., 2006), but as the Project developed we became interested in how these children were faring throughout primary school and particularly in the transition to high school. In 1999 when the seminal Pathways to Prevention report was published it was noted that this life transition was under-studied (Developmental Crime

Prevention Consortium, 1999), and arguably this remains the case today in comparison with the voluminous literature on 'readiness for school.' The Pathways Project, the database, the independent and dependent variables, and the analytic techniques are described in more detail throughout this report, but the main focus is the follow-up of the 2002-2003 preschool cohort.

For the analysis of the 2002-2003 preschool cohort we focus on two sets of outcome variables:

3. A small set of child variables that were consistently measured across some or all of the primary years, specifically *classroom behaviour* as rated by the teacher, and *social-emotional wellbeing* as measured through children's participation in an interactive computer game that we designed. This game, which was fully implemented in the seven schools in 2008, was originally called *Clowning Around* because the central cartoon figure was a clown, but is now being redeveloped under a new name with greatly enhanced interactivity features and completely different graphics. The interactive game captures aspects of a child's social adjustment, attachment to school, and capacity to regulate negative emotions, all of which are important in their own right as indicators of a child's overall wellbeing but can also be analysed as risk or protective factors for antisocial behaviour, offending, substance abuse, disengagement from school, and other poor developmental outcomes in the high school years and beyond (Farrington, 2002). A summary of the effects of Pathways involvement on these variables is published as a *Trends and Issues* paper (Homel, Freiberg, Branch & Le, 2015).

4. In order to study the developmental status of this cohort of children in Grade 7 (the last year of primary school) and (for some) in Grade 8, we designed a special survey, which centred on the measurement of the 'Six Cs' of positive youth development (Lerner, 2004):
   a. Competence
   b. Connection
   c. Character
   d. Confidence

e. Caring
f. Contribution.

Reflecting developmental systems thinking as well as the work of Eccles, Brown & Templeton (2008), we added an additional domain of *Contexts* that promote young peoples' development through system strengthening, and inter-system consistency/congruence and integration.

These seven dimensions or domains capture aspects of young people's lives that families, schools and other caring institutions strive to foster, but, as noted above, they can also be analysed as risk or protective factors for youth crime. In this report we discuss how we arrived at these dimensions and their indicators, and present the details of how we constructed the survey instrument. We compare young people's scores on the derived positive development measures for both Pathways and non-Pathways participants, controlling as far as possible for differences in levels of adversity and other factors on which these two groups differ.

Family support and its benefits for children

Family support services are amongst the most common ways that local caring institutions attempt to reinforce the primary care activities of families under pressure. These services are designed to strengthen family relationships and healthy child development through the provision of information and emotional and instrumental support. Family support incorporates a wide range of service categories that can include counselling and mediation; education and skills development; crisis care and material relief; home-visiting and practical in-home assistance; advocacy; referral to facilitate access to specialised professional services; parent groups; playgroups; and in some cases school-based programs like after-school care or breakfast clubs. The work of family support agencies, therefore, can encompass intensive programs tailored to individual family needs, as well as more generic forms. These services are, of course, additional to universal health, social security, preschool and school services. Nearly all aim in one way or another to compensate for deficiencies in these services and to 'open doors:' to advocate on behalf of children and parents and to improve aspects of

local conditions that teachers and community workers know from direct experience are inimical to positive child development.

Given how often they are used, it is surprising that little is known about the effects of generic family support on children or their carers. Most of the scientific literature reports the positive impacts of specially designed and carefully controlled programs in which family support is one component, often in a very specific and 'programmed' form such as parent training or family skills development (Kumpfer & Alvarado, 2003). Meta-analyses of some of these programs delivered in the early years (0-5) do provide strong evidence of benefits into the adolescent years (Manning, Homel & Smith 2010), but the effects on adult criminality require much more evaluation, especially for approaches for which family support is a significant component (Dekovic et al. 2011).

If one uses the criteria of some degree of quantitative measurement and (perhaps) some form of comparison or control group, then there is a very limited literature on the effects of comprehensive or targeted community-based family support services delivered by community agencies, as opposed to research groups (Quiery et al. 2003; Rose et al. 2009; Stirling et al., 2012). This literature suggests that only a minority of such programs have any measurable effects on parents or children, with almost no evidence for effects beyond five years (Layzar et al. 2001). Some of the best evaluations have been done in the context of child protection or 'family preservation' (where families in crisis experiencing imminent risk of out-of-home placement of a child are provided with intensive support). These show moderate effects on child and parent outcomes, although usually only for some subgroups (with the best results often for families that 'stay the course' and complete the program) (Channa et al., 2012; Hilferty et al. 2010). In general it is extremely difficult to identify points of weakness in routinely delivered services and make recommendations for reform, since the vast bulk of what community agencies and schools routinely do remains, especially from a preventive perspective, unexamined, unmeasured and unevaluated.

Putting the problem in a nutshell: despite an important body of 'practice wisdom' (Department for Communities and Local Government 2012; Scerra 2010; Scott 2013), from a scientific perspective that relies on quantitative measurement, meta-evaluations, or at least a few well designed quasi-experiments, the effects of the commonly delivered forms of family support remain pretty unclear. This is especially the case for long-term effects on children, beyond five years. One consequence of this unfortunate lacuna in the literature is that nobody knows the crime prevention impact of one of the most common forms of early prevention in Australian disadvantaged communities, family support.

The Pathways to Prevention Project: Developmental prevention from the ground up

Decades of research have documented the link between socioeconomic advantage and child wellbeing. Stressful, chaotic and conflictual home and neighbourhood environments have negative consequences for children's cognitive, social, emotional and behavioural development (Obradocic et al. 2012). Much research suggests that poverty and adversity, including child abuse, are linked to antisocial behaviour, educational underachievement, and impaired social-emotional development through such processes as poor parenting practices (Dearing et al. 2006), school disengagement (Klika et al. 2013), neighbourhood socioeconomic context (Wikström & Loeber 2000), punitive school policies (Hemphill et al. 2006; 2010) and antisocial peers (Hemphill et al. 2009). Offending rates are higher in disadvantaged communities both because they are characterised by these kinds of criminogenic conditions and because system responses (like school suspensions) often have the effect of intensifying surveillance and control, exacerbating crime problems by increasing social exclusion (Homel et al. 1999). The goal of *developmental or early prevention* is to break the cycle of offending and iatrogenic system responses by mobilising institutions of care such as families, preschools, schools and community agencies to utilise the best evidence to head off crime or other problems before they emerge or become entrenched (Homel 2005).

As described in the Introduction, the Pathways to Prevention Project operated in a highly disadvantaged area of Brisbane between 2002 and 2011 as a research-practice partnership involving families, seven local primary schools, and national community agency Mission Australia. The Pathways area had a youth crime rate in the late 1990s more than eight times higher than the Brisbane average (Homel et al. 2006a). The Pathways Project was designed to address the gap in knowledge about how to make commonly used family support and child services more effective in the short and long term, and more generally how to make the developmental system more responsive to the needs of disadvantaged children (Freiberg et al. 2005; 2010). Influential in its early design was evidence emerging from longitudinal research pointing particularly to *low achievement, poor parental child-rearing behaviour, child impulsivity, and poverty* as critical risk factors that should be addressed through multimodal approaches involving children, schools, families and the community (Farrington 2003). In developmental system terms, these risk factors highlight the frequently fractured relations between schools and families in socially disadvantaged areas, and the corrosive effects of poverty and social exclusion on the capacity of parents and carers to parent effectively (Freiberg et al. 2007). Bluntly put, families are stressed and children are damaged because the developmental system is broken.

The Mission Australia team invested much in the building of trust through community relationships, and constructed and evaluated a holistic suite of program activities that were available to all families on a completely voluntary basis. These activities, which were often situated in schools and involved teachers, were based on community-generated data on needs, maximized engagement with the most hard to reach families, employed a mixture of professional staff and community workers without formal qualifications who had a high degree of credibility with their ethnic communities (First Peoples, Pacific Islands or Vietnamese), and were tailored to the needs of each child or family by being strength-based and highly flexible in terms of type of service, duration, and intensity. With the exception of programs delivered by specialist staff directly to children attending preschool in Phase 1 of the project (2002-3),

decisions about what programs to implement and the manner of implementation were not made by researchers but by the Mission Australia Service Manager and by school principals, although usually after extended discussion with researchers about goals and the research evidence.

Thus the Project incorporated a range of program activities, from facilitated playgroups to intensive family support, that represented a broad cross-section of services typically found in socially disadvantaged communities in Australia. The programs were, however, perhaps more than usually 'research influenced.' The Pathways Project (or Service, as it was termed by the Mission Australia team) was very successful in reaching out to families, especially those with a high level of need. Between 25% and 30% of all families with children enrolled at one of the seven primary schools participated in the service in any given year, with a total of 1,077 distinct families participating between January 2002 and June 30, 2011. One thousand four hundred and sixty seven children from these families (30% of all enrolled children) participated over the ten years (nearly always with a parent): 16% First Peoples, 26% Vietnamese, 15% Pacific Islanders, 16% other ethnicities, and 27% 'Anglo-Celtic' Australian. The mean number of contacts per family was 61; the mean period of total involvement was 76 weeks; and on average 3.5 service types were accessed, most commonly carer individual support; advocacy; and playgroups. These high levels of involvement, often over many months or years, underline both the extent of need in the area and the success of the Pathways team in building trust and offering resources that families really valued.

In previous analyses we have shown that the combination of family support and child involvement in enriched preschool programs improved behaviour by the end of preschool (Homel et al. 2006a;b). However family support on its own, without the preschool component, also had large benefits, as did participation in the preschool program on its own. In this report we begin with this finding, and focus on the effects of family support *during the primary school years*. One reason for this focus is the fact, described in more detail later in this report, that many of the best behaved children moved to other schools after preschool and did not participate in testing or the survey in Grade 7. Thus the pool of children

remaining in the participating schools at Grade 1 represented a more challenging group for the Pathways service than the original preschool cohort.

The key research question therefore is: *What effect did participation in any form of Pathways family support between Grade 1 (age 5) and Grade 7 (age 12) have on child behaviour and wellbeing at Grade 7, including indicators of positive youth development?* A related question is: *what levels of participation were related to the greatest improvements in child outcomes, or to good scores on the various measures of positive youth development at the transition to high school?*

Previous analyses have shown that parent efficacy was often improved by participation in Pathways activities (Freiberg et al. 2007). For these analyses we used the Parent Empowerment and Efficacy Measure (PEEM) that we developed specifically for the Project (Freiberg, Homel & Branch 2014). Consistent with patterns of service usage, parents with a low sense of efficacy tended to benefit most from family support. Consequently we were interested in exploring whether a parent's 'initial' PEEM score (the earliest score we could locate in the database) could moderate the effects of Pathways on children's behaviour or wellbeing. Specifically, we addressed the question: *do the children of parents with low efficacy scores improve more in behaviour or wellbeing than the children of higher efficacy parents, for a given level of Pathways involvement?*

Measures and analysis strategies: The Pathways child longitudinal database

The Pathways database is a repository of data constructed around 4,858 unique children, each assigned their Education Department Identification Code. These children all attended one of the seven participating primary schools in the years 2002-2011. Data for each child were linked by a Family Code to participation and outcomes data for their parents or carers (if they used the Pathways Service), and to data on their siblings, if available. Data sets that contributed to the database included: Queensland Department of Education central records (e.g., *National Assessment Program – Literacy and Numeracy* (NAPLAN) scores); teacher child ratings (e.g., classroom behaviour); school achievement tests and records (including suspensions); surveys of parents (including PEEM);

researcher-collected child test and survey scores (e.g., measures of child wellbeing from *Clowning Around*); and information from the Mission Australia Pathways participation database.

The database therefore does not have a traditional structure based on a commencing cohort that was followed up regularly with high retention rates. There are gaps and missing values at certain times for some variables, depending on the timing of data collections, fluctuations in funding, the availability of children or parents for tests or surveys, and the completeness or accuracy of administrative records. For 353 of the 609 children who were in the 2002-3 preschool cohort almost continuous annual data are available up to the transition to high school. For the majority of children a range of variables are recorded annually (or more often) or have some measures repeated over time, with the most complete longitudinal data being available for classroom behaviour, suspensions, attendance, achievement tests (NAPLAN or equivalent), and (from 2008) the dimensions of child wellbeing from *Clowning Around*.

Key primary school measures

Clowning Around is an interactive computer game that we developed for the Pathways Project. Primary school children aged 5-12 play the game individually (but usually simultaneously in class groups wearing head phones) that yields scores on 55 items. These items were designed to measure:

(i)   educational wellbeing (attachment to school);

(ii)   emotional wellbeing (self-esteem, positive identity, sense of wellbeing and positive outlook);

(iii)   social wellbeing (quality of interpersonal relationships, responsible decision making, and problem solving and self-regulation); and

(iv)   protective factors (reliable supervision, attachment to caring adults, sense of safety, opportunities for participation in community life).

The psychometric properties of the scale have been assessed using a Brisbane sample of 3,461 children aged 5- to 13-years attending state or private primary schools in low, medium and high socio-economic bands (as measured by the Australian Bureau of Statistics Socio-Economic Index for Areas). Factor analyses

using iterated maximum likelihood estimation procedures identified a clear and dominant general wellbeing factor, as well as three or four correlated subfactors:

A. Enjoys supportive positive social relationships;
B. Attachment to school (school as a source of positive affect);
C. Capacity to self-regulate and engage in prosocial behaviours.

The 4-factor solution led to the same structure, except that Factor A broke neatly into two further subfactors:

A1 - Emotional and social confidence; and

A2 - Supportive home relationships.

Internal and test-retest reliabilities of the general factor and subfactors were all high, and tests of convergent and concurrent validity were satisfactory (Freiberg et al. 2015). In this report results are reported only for the three subfactors (A, B and C) since these were adequate to capture the effects of the Pathways family support initiatives.

The Rowe Behaviour Rating Inventory: The RBRI is a validated teacher checklist used to assess the level of children's difficult behaviour (Rowe & Rowe 1995). The 12-item version was completed each year by each child's class teacher. The scale also has a number of sub-scales, including inattentiveness, restlessness, and antisocial behaviour.

The Parent Empowerment and Efficacy Measure (PEEM) is a new self-report measure of (i) parent confidence to handle the tasks of parenthood; and (ii) parent connectedness to social and formal support networks. The scale was administered on entry to the Pathways Service, repeated after six months participation, and has also been used with many non-Pathways parents with children at one of the participating schools. PEEM has been validated using a sample of 866 Brisbane parents of primary aged children from all socio-economic groups (Freiberg et al. 2014).

Child report of adversity was derived from the Transition to High School survey in Grade 7 of the children who were in preschool in 2002 or 2003, the first two

years of the Project. The question was: "Up to the age you are now, how many bad things have happened in your life?" with responses: none; one; two or three; more than three.

Cultural/ linguistic background was categorised as: First Peoples (Aboriginal or Torres Strait Islander); Anglo-Celtic; Pacific Islander; Vietnamese; Other.

Participation in the Pathways Service: Families and children 3-12 years participated in a range of Pathways activities with contact initiated at any age. Dimensions of participation that can be derived from contact records include (i) child's age at first family contact; (ii) type of involvement (e.g., play therapy, counselling, playgroups); (iii) number and types of contacts; (iv) duration, with start-stop-start patterns able to be identified; and (v) the order in which the services were accessed. In this report a simple measure is employed based on *the number of contacts*, excluding child recreational activities and playgroup involvement by the carer for the benefit of younger siblings when the 'target child' was older than Grade 1. Contact categories varied depending on the particular analyses, but were mostly: no Pathways contact; light (1-5); moderate (6-22); high (23+).

The Transition to High School Survey and positive youth development

The purpose of this survey was to build on the dimensions of child wellbeing captured by the *Clowning Around* tool by collecting data on a broad range of characteristics and behaviours of children in Grade 7, as they approached high school (which began in Grade 8 in Queensland at the time of our data collection). Because *Clowning Around* was designed to capture many aspects of a primary-aged child's positive development, we were particularly concerned to extend this approach to the Grade 7-8 transition. Fortunately a great deal of work has been done in the past few years to conceptualise positive youth development and to distinguish this 'positive psychology' approach from the older approach of conceptualising young people as 'problems to be managed' with all the attendant focus on deficits and risk factors (O'Connor et al. 2014) – important as these are in prevention research and practice (Catalano et al. 2002).

Richard Lerner and his colleagues have done much to promote the positive youth development approach, arguing that this perspective is a key sample case of the application of relational developmental systems models (Lerner 2004; Lerner, Dowling & Anderson 2003; Lerner et al. 2014). The link is through analysis of the ways young people engage with and help mould key contexts in their ecology (families, peers, school groups etc), and through identification of key individual-context relations that promote thriving and help prevent problem behaviours such as crime. The marks of a flourishing, healthy young person include the 5 Cs of positive youth development: *competence, confidence, character, connection*, and *caring*, as well as a sixth C, *contributions* to self, family, community and civil society. As Lerner and colleagues (2014, p.19) express it, "… thriving youth should be positively engaged with and act to enhance their world … [and] be less prone to engage in risk/problem behaviors."

Jacqueline Eccles and her colleagues (2008) analyse positive youth development from a slightly different angle, proposing a set of psychological and social assets as a 'developmental framework' and summarising some readily available indicators for these assets. They emphasise that "the heterogeneity of passage through this period of life has exploded," (p. 198) and that "Repeated exposure to developmentally inappropriate and unsupportive social contexts during these years can undermine the coping skills of even the most resilient youth" (p. 200).

The conceptualisations of Lerner and Eccles, and the many indicators identified by Eccles et al. (2008), provided the basic architecture for the Grade 7 survey (Table 1).

Table 1. Dimensions and Indicators of Youth Wellbeing

Lerner's Five Cs plus One	Eccles' Indicators of Wellbeing
1. COMPETENCE: *intellectual ability and behavioural skills*	Emotional self-regulation and coping skills; conflict resolution skills; decision-making skills; planfulness; school success; critical thinking and reasoning skills; interpersonal skills
2. CONNECTION: *positive*	Good relationships and trust with parents,

bonds with people and institutions	peers and some other adults; sense of social place – being connected to and valued by larger social networks; attachment to prosocial and conventional institutions such as school, church, youth organisations
3. CHARACTER: *integrity and moral centredness*	Coherent and positive personal and social identity; sense of purpose in life
4. CONFIDENCE: *positive self-regard, a sense of self-efficacy and courage*	Mastery motivation and positive achievement motivation; sense of personal autonomy / responsibility for self and one's own behaviour; optimism coupled with realism; aspirations and future orientation
5. CARING (compassion): *humane values, empathy and a sense of social justice*	Prosocial norms and values
6. When the 5 Cs are present a 6th C - CONTRIBUTION emerges: *orientation to contribute to civil society*	Commitment to civic engagement; participation (volunteering, leadership, taking on responsibilities)

Based on Eccles and colleagues (2008), we have added a 7th C that could be viewed as an outcome of comprehensive program models that focus on development by working across systems, such as families, schools and communities. We have called this 7th C - CONTEXTS *that promote young peoples' development through system strengthening, and inter-system consistency/congruence and integration*. Indicators of system-strengthening contexts derived from Eccles' work include:

- Age appropriate monitoring / guidance

- Limit setting, clear consistent rules, boundaries and expectations

- Safe and health-facilitating environment (also stimulating and nurturing)

- Warmth and closeness / responsive and supportive family, school and neighbourhood environments

- Opportunities to belong and develop a sense of purpose and place: social engagement; opportunities for social and cultural identity formation

- Opportunities to acquire mastery in valued activities; practices that support development of autonomy and responsibility and contribution to meaningful decision-making (opportunities for "mattering"); meaningful challenges and stress on improvement; practices supporting transition to high school

- Expectations for success

The Grade 7 questionnaire

 As well as the Lerner and Eccles papers, we drew on many sources for the construction of items and scales in the questionnaire. Some of the key sources are set out in Appendix 1. The questionnaire is reproduced in Appendix 2.

In total the Grade 7 Survey consisted of 116 items, including a range of demographic measures such as gender, date of birth, family structure and cultural background. The majority of items required either a yes/no answer or a Likert scale response. The survey took between 30 to 45 minutes to complete, but as can be seen in Table 2, a number of items had to be excluded from the analysis due to a large number of missing values.

Table 2. The seven dimensions of positive youth development and example items from the Transition to High School Survey

Youth wellbeing dimensions	Conceptual Sub-scales	Example Items	No. of Items
Competence: Intellectual ability and behavioural skills	Impulsivity	I can calm myself down pretty quickly when I get mad or upset (Q.95)	5 Items (3 items excluded*)
	Anti-Social Behaviour	In the past year, have you picked a fight with the idea of hurting someone (Q.109k)	10 Items
Connection: Positive bonds with people and institutions	Attachment to School	In the past year, have you studied hard and tried to do well at school? (Q.109d)	8 Items (3 items excluded*)
	Anti-Social or Pro-social Peers	In the past year, have your friends wagged school (Q.109c) In the past year, have your friends done some volunteer work or helped people in the community (Q.109n)	15 Items
	Interpersonal relationships with Friends and Peers	How well do you get along with the other kids at school? (Q.43)	7 Items
	Interpersonal relationships with Family	It's easy for me to talk to my parents even when we don't agree on things (Q.86)	5 Items (4 items excluded*)
Character: Integrity and moral centeredness	Temperament	Would your friends and family describe you as... calm or edgy (Q.15a)	7 Items*
	Anti-social Values	Sometimes you have to lie to stay out of trouble (Q.88)	4 Items
	Depression	In the past 4 weeks, how often did you feel so sad that nothing could cheer you up? (Q.34)	1 Item*
Confidence: Positive self-regard, a sense of self-efficacy and courage	Transition to High School: Expectations and Anticipation	How are you feeling at the moment about going to high school next year? (Q. 22)	4 Items
	Transition to High School: Preparation	Have you started talking about high school with your parents? (Q.17)	3 Items*

	Efficacy	If something is too hard or I don't like it, I don't bother doing it (Q.92)	9 Items (2 items excluded*)
Caring (compassion): Humane values, empathy and a sense of social justice	Social Competence	How good are you at helping other people feel better when they are upset? (Q.49) How good are you at staying friends with people? (Q.51)	11 Items (7 items excluded*)
Contribution: Orientation to contribute to civil society	Engagement-Participation	In the past year, have you done some volunteer work or helped people in the community (Q.109n)	7 Items (3 items excluded*)
Context: … that promote young peoples' development	Safety	How often do you feel unsafe or afraid in the places you go after school? (Q.42)	2 Items
	Stability	How many times have you changed homes since you started Grade 1? (Q.11)	2 Items
	Socialisation, Support and Supervision	There is a grown up person I can count on to be there for me if I need them (Q.13) When I'm not at home, one of the adults in my family knows where I am and who I'm with... (Q.46) Apart from my parents, there are adults I know who: would step in and help me if I needed it (Q.102)	32 Items (9 items excluded*)

*Items not used due to too many missing values

Constructing Grade 7 dependent variables for analysis

Given the large of items relating to the 7 Cs, we used factor analysis to construct a smaller number of simple scales. We explored both principal components analysis (PCA) and principal factor analysis (PFA) using StataSE 12, both with Varimax rotation, for each conceptual sub-scale. Strictly speaking PFA is the more appropriate technique since the questionnaire items can be viewed as indicators of latent constructs such as 'social competence.' However since our goal was to group as many items as possible into coherent 'scales' we opted for PCA. PFA yielded very similar results, but as expected item loadings were lower than for the PCA, some items dropped out altogether, and slightly fewer factors were identified. The results from the PCA analyses are presented in Table 3.

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Within the domain of *Competence* two sub-scales were developed, *Impulsivity* and *Anti-social Behaviour*. One factor was identified within Impulsivity, which consisted of just two items that were useable for this sub-scale. Both items had high loadings and accounted for 57.3% of the variance. This factor was labelled *Hits Back Angrily*. Within *Anti-social Behaviour* two factors *Delinquent* and *Violent* were identified, accounting for 48.1% of the variance. The Delinquent factor consisted of 6 items all with high loadings and the Violent factor 4 items, three with high loadings.

Four sub-scales were developed within the domain of *Connection*: *Attachment to School*, *Anti-social or Pro-social Peers, Interpersonal Relationships with Friends and Peers* and *Interpersonal Relationships with Family*. Two factors were identified within the Attachment to School sub-scale, *Club Membership* consisting of two items and *Attachment to School* consisting of three items, all with high loadings. These two factors accounted for 63.3% of the variance. Within the sub-scale of Anti-social and Pro-social Peers four factors were identified, accounting for 55.7% of the variance. Factor 1 consisted of five items, each with high loadings, with one item loading also on Factor 2. This factor was labelled *Delinquent Friends.* The second factor, *Suspended Bullies* (or maybe *Delinquent Behaviour*) consisted of 6 items with loadings ranging from 0.39 to 0.75. Factor 3 was labelled *Pro-social Friends* and consisted of 4 items with high loadings, two sharing loadings with Factor 4. The fourth factor, *Helping/volunteering friends who get bullied*, consisted of four items, again with good loadings. Within the sub-scale of Interpersonal Relationships with Friends and Peers two factors were identified, accounting for 54.7% of the variance. Factor 1 *Supportive Friends* consisted of four items with high loadings. The second factor was labelled *Socially Excluded* and had high loadings of at least 0.70. Unfortunately only one item pertaining to the sub-scale Interpersonal Relationships with Family had sufficiently few missing values to be useable.

While three sub-scales were developed within the domain of Character, due to missing values only one sub-scale was able to be constructed. This was the sub-scale *Anti-social Values* that accounted for 57.1% of the variance and consisted of four items, each with high loadings.

Within the domain of Confidence three sub-scales *Transition to High School: Expectations and Anticipation*; *Transition to High School: Preparation;* and *Efficacy* were developed. Due to insufficient responses the sub-scale Transition to High School: Preparation was not analysed. Two factors were constructed within the Transition to High School domain: *Fearful,* consisting of two items and *Anticipation* consisting of two items, each with high loadings. These two factors accounted for 64.0% of the variance. Similarly two factors were constructed for the second sub-scale Efficacy. Factors *Efficacy* and *Perseverance* each consisted of 4 items that had good loadings. One of these items (Q. 96 – I like setting myself goals and challenges and planning how to achieve them) loaded on both factors. These two factors accounted for 49.0% of the variance.

One sub-scale, *Social Competence* was developed within the domain of Caring (Compassion). Two factors accounting for 55.7% of the variance were constructed: *Friendly Person* and *Response to Being Bullied*. Factor 1 Friendly Person consisted of 4 items with high loadings, but one item (Q. 109o – In the past year I got bullied by other people) loaded on both factors. Factor 2 Response to Being Bullied consisted of two items each with high loadings.

One sub-scale, *Engagement-Participation* was developed within the domain of Contribution. Two factors, *Participating* and *Volunteering/Awards* were identified, accounting for 66.3% of the variance. Within Factor 1 Participating three items loaded. While one item that loaded on the two factors (Q. 109n – In the past year did some volunteer work …) had a relatively low loading the remaining two items had good loadings. Factor 2 Volunteering/Awards consisted of two items, again one (Q. 109n) with an adequate loading (as it was split across the two factors) and a second with a high loading.

Within the final domain of Context two sub-scales were developed: *Safety* and *Socialisation, Support and Supervision*. One factor accounting for 69.0% was identified within the sub-scale *Safety*. This factor consisted of two items with high loadings. Within the larger sub-scale of Socialisation, Support and Supervision 7 factors were identified, accounting for 55.1% of the variance. Factor One labelled *Adult Support for Me* consisted of 4 items all with high

loadings, but for one item (Q.13- There is a grown up person I can always count on to be there for me if I need them) that had a lower loading as it was split across Factors 1 and 7. Factor 2 *Home Rules* consisted of 5 items. All items had reasonable loadings with one item loading also on Factor 7. Factor 3, labelled *Smoking and Drinking Rules* consisted of only two items both with very high loadings. The fourth factor to be identified was *Home/School Behaviour Standards,* which consisted of five items all with high loadings. Factor 5 was labelled *Community Attitudes to Kids* and consisted of three items, two with high loadings and one with a lower loading as it was split across Factors 5 and 7. Factor 6, *Authoritarian Parents* consisted of two items each with high loadings. Finally the seventh factor was labelled *Caring Adults Available* and consisted of five items. As three of the items within this factor loaded also on Factor 7 and Factors 1, 2 and 5, most of the loadings were moderate to adequate.

Sampling procedures

The survey was conducted in 2009 and 2010, for Grade 7 students in the participating primary schools who were part of the 2002-2003 preschool cohort. (The number of schools reduced to five from seven between 2001 and 2009). The aim was to track down and collect data from as many as possible of the 609 children who were part of the 2002-2003 cohort, even if they had gone to high school or moved out of the state education system (but remained in Queensland – we did not attempt to locate children whose families had moved interstate).

We were greatly restricted in our procedures because under our ethics approvals for the Pathways to Prevention Project all data collection from children had to be done through the school with the approval of the principal. We did not keep addresses of families, and had no authorisation to approach parents in order to survey their children. Because we maintained a close working relationship with the seven Pathways schools principals for the duration of the project, access to children still attending one of these schools in 2009 was not generally a problem. However, for children who left the area at some time between the year they started Grade 1 (2003 or 2004) and 2009 or 2010, we faced the challenge of: (a) finding out which school they were now

attending; (b) contacting the principal and persuading him or her to send the Grade 7 (or Grade 8) questionnaire home with the child, together with an explanatory letter to the parents and a consent form to be signed; and (c) motivating parents (and children) via the letter to participate and return the completed questionnaire to school. We attempted to maximise the response rate by offering the chance to win an iPad or iPod Nano as prizes.

We identified the school that children were attending in 2009 and 2010 by using their unique Education Department ID number. We tracked children attending a non-state school in Queensland through the Queensland Studies Authority, who held the records of where children were when they completed the Grade 7 NAPLAN test.

Table 3. Principal components analyses with varimax rotation for each conceptual sub-scale of positive youth development

SEVEN Cs	SUB-SCALE	FACTORS AND ITEMS	LOADINGS	HIGH SCORE =
	Impulsivity	*1 Factor (57.3% of variance)* **Factor 1 – Hits Back Angrily**		**Impulsive**
		Q. 32 HIT (recoded): If their response to being pushed or hit at school for no reason is - *hit/push back*	0.7570	
		Q 95: I can calm myself down pretty quickly when I get mad or upset	0.7570	
COMPETENCE		*2 Factors (48.1% of variance)* **Factor 1 - Delinquent**		
		Q 109c: In the past year, have you wagged school	0.6308	
		Q 109e: In the past year, have you smoked cigarettes	0.6085	***Not*** **delinquent**
		Q 109f: In the past year, have you drank alcohol when your parents didn't know about it	0.6164	
		Q 109g: In the past year, have you used drugs or sniffed petrol to get high	0.7379	
		Q 109j: In the past year, have you stolen something worth more than $10	0.7105	
	Anti-social Behaviour	Q 109m: In the past year, have you done graffiti or damaged someone's property	0.6074	
		Factor 2 - Violent		
		Q. 32 WORSE (recoded): If their response to being pushed or hit at school for no reason is - *Try to hurt them worse than they hurt you*	-0.7101	
		Q 109b: In the past year, have you got suspended from school	0.4979	***Not*** **violent**
		Q 109k: In the past year, have you picked a fight with the idea of hurting someone	0.6728	
		Q 109l: In the past year, have you bullied other kids	0.6447	

	Attachment to School	*2 Factors (63.3% of variance)*		
		Factor 1 – Club Membership		
		Q 109h: In the past year, have you been a member of a club or activity at school (e.g, sports team, band, debating team)?	0.8974	*Non-*member
		Q 109i: In the past year, were you a member of a club or activity at school or outside school (e.g., sports team, PCYC, scouts, church group)?	0.9049	
		Factor 2 – Attachment to School		
		Q 35: Compared to other kids my age, I care about school	0.7163	*Non-*attached
		Q 43: How well do you get along with the teachers at school?	0.7298	
		Q 109d: In the past year, have you studied hard and tried to do well at school?	0.6790	
CONNECTION	**Anti-social or Pro-social Peers**	*4 Factors (55.7% of variance)*		
		Factor 1 – Delinquent Friends		
		Q 109e: In the past year, have your friends smoked cigarettes	0.7625	
		Q 109f: In the past year, have your friends drank alcohol when your parents didn't know about it	0.7522	
		Q 109g: In the past year, have your friends used drugs or sniffed petrol to get high	0.7726	*Non-*delinquent
		Q 109j: In the past year, have your friends stolen something worth more than $10 (SPLIT LOADING with Factor 2)	0.5570	
		Q 109m: In the past year, have your friends done graffiti or damaged someone's property (SPLIT LOADING with Factor 2)	0.5614	
		Factor 2 – Suspended Bullies *or* Delinquent Behaviour		
		Q 109b: In the past year, have your friends got suspended from school	0.7416	*Not* suspended
		Q 109c: n the past year, have your friends wagged school	0.5602	
		Q 109j: In the past year, have your friends stolen something worth more than $10 (SPLIT LOADING with Factor 1)	0.4184	

Q 109k: In the past year, have your friends picked a fight with the idea of hurting someone	0.7503	
Q 109l: In the past year, have your friends bullied other kids	0.7258	
Q 109m: In the past year, have your friends done graffiti or damaged someone's property (SPLIT LOADING with Factor 1)	0.3852	

Factor 3 – Pro-social Friends

Q 109a: In the past year, have your friends got a special award for doing well at school or outside school (SPLIT LOADING with Factor 4)	0.4955	
Q 109d: In the past year, have your friends studied hard and tried to do well at school (SPLIT LOADING with Factor 4)	0.4457	**Anti-social peers**
Q 109h: In the past year, have your friends been a member of a club or activity at school (e.g. sports team, band, debating team)	0.8702	
Q 109i: n the past year, were your friends a member of a club or activity at school or outside school (e.g. sports team, PCYC, scouts, church group)	0.8472	

Factor 4 – Helping/volunteering friends who get bullied

Q 109a: In the past year, have your friends got a special award for doing well at school or outside school (SPLIT LOADING with Factor 3)	0.3744	
Q 109d: In the past year, have your friends studied hard and tried to do well at school (SPLIT LOADING with Factor 3)	0.3805	**Not volunteer/ not bullied**
Q 109n: In the past year, have your friends done some volunteer work or helped people in the community	0.7595	
Q 109o: In the past year, have your friends got bullied by other people	0.6054	

	Interpersonal Relationships: Friends And Peers	*2 Factors (54.7% of variance)*		
		Factor 1 – Supportive Friends		
		Q 27: How many kids that you know: care about what's going on in your life?	0.7277	**Support-ive**
		Q 28: How many kids that you know: could you ask for help or advice if you had a personal problem (like trouble at school)?	0.7752	
		Q 29: How many kids that you know: notice and say something nice when you do something good?	0.7755	
		Q 30: How many kids that you know: make you feel good?	0.7547	
		Factor 2 – Socially Excluded		
		Q 31: How many kids that you know: make you feel bad?	0.8815	**Excluded**
		Q 43: How well do you get along with the other kids at school?	0.7003	
	Interpersonal Relationships: Family	Q 86: It's easy for me to talk to my parents even when we don't agree on things		**No**
CHARACTER	**Anti-social Values**	*1 Factor (57.1% of variance)*		
		Factor 1 – Anti-social Values		
		Q 87: It's OK to beat someone up if they start the fight	0.6896	**Pro-social**
		Q 88: Sometimes you have to lie to stay out of trouble	0.6893	
		Q 89: I think sometimes it's OK to cheat at school	0.8355	
		Q 90: It's OK to take something without asking as long as you can get away with it	0.7980	
CONFIDENCE	**Transition to High School: Expectations and Anticipation**	*2 Factors (64.0% of variance)*		
		Factor 1 - Fearful		
		Q 20: Will not like going to high school next year	0.8277	**Fearful**
		Q 22: How are you feeling about going to high school next year?	-0.8152	
		Factor 2 – Anticipation		
		Q 21: Will have trouble settling in when getting to high school	0.7720	***Not* settle**

		Q 23: Do you think you'll get in trouble with the teachers at high school?	0.7459	
	Efficacy	*2 Factors (49.0% of variance)*		
		Factor 1 – Efficacy		
		Q 96: I like setting myself goals and challenges and planning how to achieve them (SPLIT LOADING with Factor 2)	0.5381	
		Q 97: I have some special hobbies or interests	0.7309	***Non-***
		Q 98: I am good at doing lots of things	0.7724	**efficacious**
		Q 99: On the whole, I like the kind of person I am	0.5884	
		Factor 2 – Perseverance		
		Q 92: If something is too hard or I don't like it, I don't bother doing it	-0.5968	
		Q 93: I try to do what I believe is right, even if my friends make fun of me	0.7238	***Not***
		Q 94: Most of the time I am good at staying away from people who get me into trouble	0.7187	**persevere**
		Q 96: I like setting myself goals and challenges and planning how to achieve them (SPLIT LOADING with Factor 1)	0.4040	
CARING	**Social Competence**	*2 Factors (55.7% of variance)*		
		Factor 1 – Friendly Person		
		Q 49: How good are you at helping other people feel better when they are upset?	0.6269	
		Q 50: How good are you at making new friends?	0.7265	**Friendly**
		Q 51: How good are you at staying friends with people?	0.7521	
		Q 109o: In the past year, have you got bullied by other people (SPLIT LOADING with Factor 2)	0.3944	
		Factor 2 – Response to Being Bullied		

		NON-VIOLENT (recoded Q 32): If their response to being pushed or hit at school for no reason is - *Try to talk to them about what the problem is; Just ignore it and do nothing; Tell an adult like a teacher*	0.7655	**Non-violent**
		Q 109o: In the past year, have you got bullied by other people (SPLIT LOADING with Factor 1)	-0.6367	
CONTRIBUTION	**Engagement-Participation**	*2 Factors (66.3% of variance)* **Factor 1 – Participating** Q 84: I get involved in events that let me have a say in how my school runs (like student council)	0.8158	**Not partici-pate**
		Q 85: I do things for special causes (like MS read-a-thons; clean-up Australia day; charities for kids in poorer countries)	0.8461	
		Q 109n: In the past year, have you done some volunteer work or helped people in the community (SPLIT LOADING with Factor 2)	0.3691	
		Factor 2 – Volunteering/Awards Q 109a: In the past year, have you got a special award for doing well at school or outside school	0.8849	**No awards**
		Q 109n: In the past year, have you done some volunteer work or helped people in the community (SPLIT LOADING with Factor 1)	0.5893	
CONTEXTS	**Safety**	*1 Factor (69% of variance)* **Factor 1 - Safety** Q 41: How often do you feel unsafe or afraid at school?	0.8304	**Safe**
		Q 42: How often do you feel unsafe or afraid in the places you go after school?	0.8304	
	Socialisation, Support And Supervision	*7 Factors (55.1% of variance)* **Factor 1 – Adult Support for Me** Q 13: There is a grown up person I can count on to be there for me if I need them (SPLIT LOADING with Factor 7)	0.4042	
		Q 100: Apart from my parents, there are adults I know who: think I'll do well as I grow up	0.7298	

Q 101: Apart from my parents, there are adults I know who: are interested in what I'm doing and what I have to say	0.7867	**Low**
Q 102: Apart from my parents, there are adults I know who: would step in and help me if I needed it	0.7847	**support**

Factor 2 – Home Rules

Q 66: My family has rules and expectations about which DVD's and TV shows I'm allowed to watch	0.6562	
Q67: My family has rules and expectations about how late I can stay up on school nights	0.5038	**No rules**
Q 68: My family has rules and expectations about what I can do after school and on weekends	0.6529	
Q 69: My family has rules and expectations about how I use the computer	0.6950	
Q 76: What happens when you do something your parents don't approve of: *I get "time out" or lose privileges* (SPLIT LOADING with Factor 7)	0.5399	

Factor 3 – Smoking and Drinking Rules

Q 70: My family has rules and expectations about kids not smoking	0.9239	**No rules**
Q 71: My family has rules and expectations about kids not drinking alcohol	0.9301	

Factor 4 – Home/School Behaviour Standards

Q 38: Does your family expect you to try hard at school?	0.4965	
Q 65: My family has rules and expectations about how I am expected to behave	0.5753	**Low**
Q 72: My family has rules and expectations about doing homework and keeping up with school work	0.6459	**standards**
Q 73: My family has rules and expectations about doing chores and helping out at home	0.6438	

Q 80: What happens when you do something your parents don't approve of: My parents just ignore it	-0.4593	
Factor 5 – Community Attitudes to Kids		
Q 103: Most adults in my neighbourhood: watch out for kids and make sure they are safe	0.7826	**Uncaring adults**
Q 104: Most adults in my neighbourhood: think kids my age are no good (SPLIT LOADING with Factor 7)	-0.5016	
Q 105: Most adults in my neighbourhood: try to make the place better so kids have opportunities and things to do	0.7980	
Factor 6 – Authoritarian Parents		
Q 74: How much do you get to have a say in deciding these rules?	0.7628	***Not author-itarian***
Q 77: What happens when you do something your parents don't approve of: *I get physical punishment*	0.6562	
Factor 7 – Caring Adults Available		
Q 13: There is a grown up person I can count on to be there for me if I need them (SPLIT LOADING with Factor 1)	0.6036	
Q 46: When I'm not at home, one of the adults in my family knows where I am and who I'm with …	0.3523	***No* caring adults**
Q 76: What happens when you do something your parents don't approve of: *I get "time out" or lose privileges* (SPLIT LOADING with Factor 2)	-0.4573	
Q 79: What happens when you do something your parents don't approve of: *We talk about it and my parents explain why they don't like what I did*	-0.3834	
Q 104: Most adults in my neighbourhood: think kids my age are no good (SPLIT LOADING with Factor 5)	-0.3794	

A total of 915 children were surveyed from Grade 7 (the last year of primary school) and Grade 8 (the first year of high school). Of these 915 children, 638 had been enrolled at a Pathways state primary school at some time between 2002 and 2010, and 522 of these 638 were attending one of the Pathways primary schools in 2009 or 2010, including the local Catholic school (84 children). The remaining 116 were in Grade 7 at other Queensland state, Catholic or independent primary schools (44 children), or could not be surveyed until they had moved to high school and were in Grade 8 (72 children). An additional 49 children were actually *resurveyed* in Grade 8 (having completed the survey the year before in Grade 7) because it was convenient for some participating high schools not to attempt to identify and exclude these children.

The need to collect data from some children in Grade 8 meant that the Grade 7 questionnaire (included in Appendix 2) had to be modified. In particular, the questions probing expectations and anticipation of high school were altered to probe both experience and expectations.

Of the 638 children who had been enrolled at a Pathways state primary school at some time between 2002 and 2010, 353 were members of the 2002-2003 preschool cohort, the ultimate target of the follow-up survey. *Thus we succeeded in following up 58.0% of the original cohort (353/609)*. However, as we shall see in the Results section, this sub-sample (in fact a further sub-sample of 123 matched pairs) appears to consist of children who exhibited, on average, more challenging behaviours during their primary school careers than the children that we did not succeed in locating. This is mostly because our sub-sample is biased toward children who had remained at one of the seven Pathways primary schools after preschool. It seems that many children destined to be better behaved had by 2009 left the area and were missed despite our exhaustive procedures.

Matched groups analyses

Because involvement by carers in the Pathways Service was voluntary and motivated by need, Pathways children naturally tended to score worse on most measures compared with non-Pathways children from the same school, grade

and class. Evaluation of the effects of the service on children therefore necessitates the careful selection of matched control groups from the database records of non-Pathways children.

For this report the matching process aimed to create a control group of children whose carers did not receive any form of Pathways family support between the start of preschool and Grade 7, and who were equivalent at the beginning of preschool in their RBRI scores with a sample of children whose carers did receive some form of Pathways support between starting preschool and Grade 7. (RBRI scores were selected for matching because *Clowning Around* was only fully implemented in 2008.) Out of the 353 children from the 2002-2003 preschool cohort who completed a Transition to High School survey, we identified 280 who:

1. had attended one of the participating schools since preschool;
2. had participated in the Grade 7 child survey; and
3. had fairly complete RBRI scores between preschool and Grade 7.

From this sample, 123 'family support children' were matched one-on-one ('precision matched') with 123 'non-family support children' on:

a. their RBRI score at the beginning of preschool;
b. gender;
c. age/school class
d. cultural background; and
e. adversity score.

This subsample of 246 matched pairs of children (123 + 123), rather than the full sample of 353 members of the preschool cohort with transition to high school data, is the focus of all subsequent analyses in this report.

However in using this sample of 123 matched pairs, we faced a major methodological problem in terms of the comparison of scores on the dimensions of positive youth development between Pathways and non-Pathways participants. By definition, 'positive youth development' is a process that unfolds as children approach puberty, although this process is of course strongly influenced by life experiences in the early and primary school years. The

outcome variables presented earlier were therefore only able to be measured in Grades 7 and 8, with the consequence that *no pre-Pathways or baseline measures on these dependent variables were available to use as covariates*. Our experience with variables such as classroom behaviour (RBRI score) is that the baseline, pre-intervention score is by far the most useful covariate, and that without such a covariate which is strongly correlated with the outcome variable (RBRI score at a later grade, post-Pathways involvement), the matching on other covariates such as level of adversity or gender fails to fully compensate for the selection effects inherent in the Pathways – non-Pathways comparison.

This methodological limitation means that the unbiased or 'true' effects of Pathways involvement (as far as this is possible without a randomised design) remain elusive as far as the positive youth development outcomes are concerned. Some idea of the effects of Pathways involvement can be gained from the analyses, but the results are far from definitive. However, the power of the positive youth development indicators as explanatory factors for the pathways of these young people will be more fully realised in later phases of our Pathways research, beginning in 2016 with the collection of data on the youth offending records of the full preschool cohort of 609 children. We return to this issue in the Discussion.

Our general analytic approach was maximum likelihood estimation of univariate or multivariate multilevel regression models, with matched pairs as a Level 2 random effects factor (Goldstein, 2011). Independent variables included level of Pathways participation and the child's gender, cultural background, and level of adversity, as well as a baseline measure of the dependent variable where possible. The dependent variables were:

a. The changes in RBRI scores between Grades 1 and 7;
b. Changes in *Clowning Around* scores (general factor and subfactors) between Grade 5 and 7, or equivalent analyses using initial score as a covariate.
c. The many dimensions of positive youth development at Grades 7 or 8 (whichever was earlier).

Analyses were conducted using Stata SE12, drawing particularly on the MLWin module.

Characteristics of the matched sample

Because of matching, the two groups – family support and controls – did not differ significantly on their gender composition, cultural background, or level of reported adversity. Nor did they differ significantly on the proportion (about two-thirds) who had been involved in one of the preschool enrichment programs. Girls comprised slightly more than half (54.5%) of the total sample of 246; one in 20 (4.9%) were First Peoples (fewer than in the full database); one in five were Pacific Islanders (20.3%); and nearly one third (30.5%) were Vietnamese. Adversity was fairly evenly distributed, with 28.5% reporting "no bad things in their life so far" and 20.9% reporting "more than three bad things." As expected, wellbeing as measured by *Clowning Around* declined as reported adverse events increased (r = -0.45), with an especially sharp drop amongst those children reporting more than three bad things in their lives.

Indicators of instability in children's lives include how many schools they have attended, how many times they have changed homes since Grade 1, and how their family composition has changed. In fact the great majority (76.4%) had attended only one school, with fewer than 10% attending more than two. Nevertheless well over half (57.7%) had moved home at least once since Grade 1, with nearly a quarter (23.5%) moving three or more times. This suggests either that many families rented many houses in the local area but stuck with the same school for the children, or that children moved houses as their family composition changed. There were few differences between Pathways families and matched controls in this respect. However seven of the nine children who reported that they had repeated a grade were from Pathways families, as were all four of the children who said they lived with foster parents. Generally children whose families had received support from Pathways were more likely to live with one birth parent and one step parent (8.1% vs. 4.9%), to come from a single parent family (13.8% vs. 8.1%), or to live with grandparents or relatives or be in some other complex arrangement (12.0% vs. 9.0%). Overall 70.7% of the

children lived with both their birth parents, often with many brothers and sisters. The mean number of siblings was 3.25 for Pathways families, and 2.82 for controls.

Results (1): Primary school measures

As noted earlier, many of the better-behaved children were lost to the database after preschool. The pattern of RBRI scores from the beginning of preschool to Grade 7 for this matched subsample of the cohort is shown in Figure 1. In contrast to the full preschool cohort (609 children), by the end of preschool the family support and control groups had ceased to be equivalent on RBRI. However, by Grade 7 the two groups once again did not differ significantly due to the steady deterioration in behaviour in the control group and the improvement in the family support group by Grade 5. *The key question is whether this improvement in the family support group – including the possible prevention of the behaviour deterioration observed in the control group - can be attributed to the Pathways Service during the primary school years.*

FIGURE 1 ABOUT HERE

The behaviour change regression models utilising various measures of participation and subscales of RBRI (not described in this report) all showed that Vietnamese children improved in their behaviour more than other groups, the sharpest contrast being with First Peoples children whose behaviours declined most (the mean difference in change scores between these two groups was a large 0.69 of a standard deviation). Neither the child's gender nor adversity score predicted behaviour change, controlling for other factors.

The most powerful predictor of improved behaviour was in fact parental participation in family support, with an effect size (mean change as a fraction of change score standard deviation) of 0.38 (p=0.005). Investigation of the effect of number of contacts showed that there was most change in the light contact group (1-5 contacts) compared with the control group (effect size = 0.58; p=0.003). More frequent contacts were also associated with improved behaviour,

but the sizes of the effects (around 0.20) fell short of statistical significance (Figure 2).

FIGURE 2 ABOUT HERE

Multivariate models were fitted to assess the effects of participation in family support simultaneously on the three dimensions of child wellbeing in Grade 7, controlling for Grade 5 scores as covariates in addition to adversity, gender and cultural background. Girls recorded higher wellbeing scores than boys, although the gender difference only reached statistical significance for capacity for self-regulation (effect size = 0.34; p=0.030). Reported adversity remained after controls as a powerful predictor of all dimensions of wellbeing. Once again light involvement in family support (1-5 contacts) was more strongly associated with higher wellbeing than more frequent involvement, but the relationship was only significant for the first and third dimensions (enjoys supportive positive social relationships and capacity for self-regulation) (Figure 3).

FIGURE 3 ABOUT HERE

Finally, the effects of parental efficacy as a moderator were explored for both behaviour and wellbeing. To simplify analyses the parent's initial PEEM score was dichotomised as low and high, as was level of involvement in family support (low: 1-10 contacts; high: 11+ contacts). No significant interaction effects were found for wellbeing, but a strong effect was found for behaviour (p=0.016) (Figure 4).

FIGURE 4 ABOUT HERE

Figure 4 shows that behaviour only improved for families who had low levels of participation and where parents had initially low efficacy (which was improved by participation). The size of this effect was large (1.1 standard deviations).

Results (2): Positive youth development measures

The focus of this section is on the effects of family support, and its level or intensity, on the various indicators of positive youth development at Grade 7 or

Grade 8. In some analyses we examined the effects of family support at any time between Grades 1 and 7, while in others (especially when we used *Clowning Around* scores as a control, which was not possible before 2008) we examined the effects of more recent support, between Grades 5 and 7. We also varied the control variables in the models, depending on the exact nature of the dependent variable. For the reasons discussed previously there are no obvious 'baseline proxies' for many of the youth development indicators, so sometimes we experimented with several alternatives. Thus for the analysis of impulsivity described below, in some models we used as a control the third sub-factor from *Clowning Around* (which measures self-regulation and prosocial behaviour), while in others we used total RBRI or various sub-scales of the RBRI at Grade 1 or Grade 5 (Inattentive, Restless, or Antisocial).

We organise the results within the original five domains of positive development proposed by Lerner (2004): Competence, Connection, Character, Confidence, and Caring. We excluded Context as a dependent domain, since the factors in this set are used as control variables in the regressions in an attempt to reduce the self-selection bias in the comparisons of the Pathways group and matched controls. We also excluded Contribution, the results for which will be reported elsewhere. In the sections that follow we present the results of the multilevel modelling for each sub-scale factor within each of the five domains (the sub-factors are described in Table 3). Of all the models we estimated, we have concentrated on describing the results of those that best add to the overall picture of how the Pathways young people differed from or were similar to the controls, and the differences that family support appeared to make to the many youth development indices.

On the basis of simple descriptive statistics the overall picture is in fact reasonably encouraging from both a crime prevention and human development perspective. For example, the vast majority of children (93.7%) thought that their friends and family would describe them as happy, while relatively few considered that the descriptors 'edgy, a worrier, a risk taker, short-tempered, tough, or hard to get on with' applied to them. The differences between Pathways children and controls were generally small across all domains,

although it was at the extremes on many variables that the Pathways and control children tended to differ. So for example even though they were in a small minority, three times as many Pathways children as controls thought they could be described as 'unhappy' (9.5% vs. 2.9%).

In a similar vein, the great majority of children felt part of things at school (85.2%); had at least one friend who cared about what went on their life (89.0%); had a grown up person they felt they could count on to be there for them if they needed it (91.5%); almost never felt so sad that nothing could cheer them up (63.6%); hardly ever felt unsafe or afraid in the places they go after school (71.5%); felt close to their parents most of the time (83.7%); and felt they were at least OK at staying friends with people (91.0%).

In terms of domains criminologists have a particular interest in, most children reported a variety of family rules and expectations, including how they should behave (92.3%). When they violated these rules, the majority of children (79.3%) agreed that at least sometimes they talked about it with their parents and that their parents explained the reasons for their disapproval. Nearly three quarters (73.1%) of the children rejected the proposal that it's OK to beat someone up if they start the fight, with even more condemning cheating at school (84.6%). Only small minorities reported that in the last year they had been suspended from school (15.0%), wagged school (10.6%), drunk alcohol 7.3%), used drugs or sniffed petrol (4.9%), stolen something worth more than $10 (7.3%), picked a fight with the idea of hurting someone (16.3%), or done graffiti or damaged property (11.8%).

There were, as noted, more similarities than differences between Pathways children and controls, partly because the two samples were carefully matched on a range of variables including classroom behaviour. Nevertheless there was a consistent tendency for the Pathways sub-group to exhibit slightly worse scores for many variables, and in some cases the differences were quite marked. Pathways children did not get on as well as controls with the other kids at school, with 8.9% reporting that they didn't get on very well compared with only 1.6% of the controls. Similarly Pathways children liked school less, more often

said they didn't care about school, and were less likely to feel that their families expected them to try hard in their studies. There were many indicators that Pathways children had less supportive friendships with other children. For example, fewer Pathways children felt they had friends who made them feel good, and more reported that they were not much good at cooperating with others.

More Pathways children than controls felt a degree of distance from their parents, with more reporting (for example) that their parents were not likely to give them as much help as they needed. Pathways children also tended to report more antisocial attitudes and behaviours. For example they were more likely to say it is OK to beat someone up if they start the fight; more likely to approve of cheating at school; and twice as likely to have been suspended from school. Consistent with these patterns, they were less likely to persist with problems if they were difficult; less likely to feel bad when other people get hurt; less likely to think they could solve problems with people without fighting; and were less likely to have a high self-regard.

In summary, most Grade 7 and Grade 8 children in this sample showed many signs of positive, healthy development. There were more similarities than differences between the Pathways and control children, but despite this Pathways children tended to exhibit more signs of problematic relationships, attitudes and behaviours. Some differences were quite marked, particularly for the extreme categories of response scales. The effects of the small number of large differences, combined with the cumulative effects of the many small differences between the two groups, suggest that many of the Pathways children, at the point of transition to high school, were at a crossroad with respect to their connectedness to school and family and engagement with antisocial and criminal behaviour.

We now turn to the analyses that explored the impact of Pathways family support on the many indicators of positive youth development, after the introduction of additional statistical controls. *Consistent with the descriptive statistics, we generally found no differences between Pathways children and*

control children. In the three cases when we did find a difference the Pathways children scored worse than the controls except in one instance when they clearly did better, again consistent with the descriptive statistics. Overall the statistical modelling suggests positive effects of Pathways family support, which appeared in most cases to narrow the gap between the Pathways group and the control group to the point of statistical non-significance.

Competence

The *Impulsivity* sub-scale is indexed by *Factor 1 – Hits back angrily*. This was a simple factor that consisted of only two items. In response to the question (Q. 32) "If someone at school pushed or hit you for no reason what's the <u>first</u> thing you would do?" nearly a quarter of all children (23.0%) said that they would hit or push back. However 29.8% of children in the Pathways group responded in this way, nearly double the numbers in the control group (16.4%). For the other key item (Q. 95), "I can calm myself down pretty quickly when I get mad or upset" there were few differences between the two groups, with only a minority of 29.7% responding with "not really" or simply "no."

In constructing the regression model we examined the effects of family support between Grades 5 and 7 on Factor 1 Impulsivity, distinguishing a 'light level' of participation (1-14 contacts) and a 'high level' of participation (15+ contacts). The definition of 'light' covers many more contacts than the numbers that constituted 'light' in the previous section (1-5 or 1-10) because we were focusing just on contacts between Grades 5 and 7, and analysis of the distribution of such contacts showed that 14 was the median number of contacts in this period.

We introduced the following variables as controls:
- Pair number (the Level 2 identifier); and at Level 1:
- Gender
- Ethnicity (First Peoples, Pacific Islanders, Vietnamese, others)
- Adversity (none; one bad thing; 2-3 bad things; four or more bad things)
- The seven Socialisation, Support and Supervision factors

- The self-regulation and prosocial behaviour factor score from *Clowning Around* (as recorded in Grade 6, or in Grade 5 if Grade 6 was not available)

We considered that this last variable was the most reliable 'proxy baseline score' for impulsivity, while the seven Socialisation, Support and Supervision factors were included in an attempt to equalise the groups on key aspects of social context.

The result from the model was that light contact corresponded to significantly *higher* impulsivity scores than the controls (z= 2.18; p = 0.030), while for the high contact group there was no significant difference (z = 0.51; p = 0.613). Given that before the introduction of the control variables Pathways children were much more likely to hit back when provoked, one way to interpret the results from the modelling is that only *more intense* family support was able to bring the Pathways children back to the levels of impulsivity observed among the control children. However, in fairness it must be reported that we did also test the effects of several other proxy baseline measures, including the Inattentive and Restless sub-scales of the RBRI at Grade 1, and with both these controls neither Pathways group differed significantly from the control group. If these models were to be preferred over the one with the *Clowning Around* sub-scale – perhaps on the grounds that they control for actual behaviour, although at a much earlier time – then we could conclude that *any level of family support* is effective in reducing impulsivity to the level of the control children.

The only other significant predictor in the model was Adversity. Children who reported 2-3 bad things in their life, and particularly those who reported more than 3 bad things, had higher impulsivity scores (coefficients of 0.649 and 0.980 respectively; p = 0.014 and p = 0.000).

Anti-social behaviour. For the two factors *Delinquent* and *Violent* there were no significant differences between Pathways children and controls after the introduction of control variables. The same variables were used as for the Impulsivity analyses, with two differences: the Antisocial sub-scale of the RBRI at Grade 1 was used instead of the self-regulation factor from Clowning Around;

and the effects of family support between Grades 1 and 7 were explored (not just between Grades 5 and 7). Neither the light contact group differed from the controls for either dependent variable (z-scores were -.21 and 0.110), or the high contact group (z-scores were 0.11 and -1.15).

Interestingly, several aspects of the child's social environment, as indexed by the seven Socialisation, Support and Supervision factors, were important predictors. For Delinquent, which reflected both drug and alcohol use and minor offences, Factor 3- Smoking and Drinking rules; and Factor 4 – Home/School Behaviour Standards, were highly significant (z = -2.68; p = 0.007 and z = -3.24; p = 0.001). Lax rules and low standards corresponded, as expected with higher delinquency scores. The significant contextual factors for the Violent factor were Factors 4 (Home/School Behaviour Standards – z = -2.22; p = 0.026); Factor 5 (Community Attitudes to Kids – z = -2.57; p = 0.010); and Factor 6 (Authoritarian Parents – z = -2.19; p = 0.028). Low behaviour standards, uncaring local adults, and highly authoritarian parents corresponded to higher violence scores.

The only other significant predictors were ethnicity, with Vietnamese children recording less delinquency and violence; and adversity (for the Violence factor): children who reported *any* number of bad things in their life (even just one) reported more violent acts.

Connection

Given the large number of factors derived for this domain, in this report we focus on the sub-scales of Attachment to School and Interpersonal Relationships: Family.

The *Attachment to School* sub-scale was indexed by two factors: *Factor 1 - Club Membership*, and *Factor 2 - Attachment to School*. Once again the effects of family support between Grade 5 and 7 was tested. The statistical model was the same as for Impulsivity, except that the second Clowning Around factor Attachment to School was used as a proxy baseline control. Perhaps surprisingly, given that this control variable probes the affective dimension of attachment, it proved to be a more powerful predictor of Club Membership (z = -2.83; p = 0.005) than the

Grade 7 Attachment to School factor (z = -0.62; p = 0.534). High attachment corresponded as expected with club membership.

There were no differences between Pathways and control children with respect to club membership, nor did the level of Pathways support make any difference (z = 0.18; p = 0.857 for low contact; z = -0.47; p = 0.636 for high contact). However, as with Impulsivity low Pathways contact corresponded to high levels of detachment from school (z = 2.30; p = 0.021), while there was no difference between high contact Pathways children and the controls (z = 0.81; p = 0.417). Once again it seems that higher levels of support may be needed to bring Pathways children's sense of attachment to school to the level of the controls.

Contextual factors were again important in predicting scores on both attachment factors. Lax smoking and drinking rules (Factor 3) and *non*-authoritarian parents (Factor 6) predicted low levels of club membership (z = 3.72; p = 0.000 and z = 2.79; p = 0.005). Low adult support for the child (Factor 1), low home/school behaviour standards (Factor 4), and authoritarian parents (Factor 6) predicted low levels of attachment to school (z = 3.06; p = 0.000; z = 3.32; p = 0.001, and z = -2.83; p = 0.005).

The only other significant variables were (again) *ethnicity*, with Vietnamese children reporting *lower* levels of club membership (p = 0.036) but nevertheless higher levels of attachment to school (p = 0.005); and *adversity*, with *any* number of bad things corresponding to lower levels of school attachment.

Interpersonal Relationships: Family. This subscale was measured using one item derived from Q. 86: "It's easy for me to talk to my parents even when we don't agree on things." There were four response categories: Yes (32.1%); Sort of (33.7%); Not really (20.3%); No (13.8%). The Pathways and control groups were very similar in their distributions of responses, but in this section we report the results of a multilevel multinomial regression, with the following contrasts on the four response categories:

1. Yes vs. No
2. Sort of vs. No
3. Not really vs. No

The effect of family support between Grades 5 and 7 was tested, but given the nature of the dependent variable the parent's efficacy score (PEEM score) was used as a control variable, together with the other controls described previously. PEEM was highly significant: high PEEM scores meant that children were more likely to opt for the Yes or Sort of responses, suggesting that efficacious parenting promotes open communication with children.

Only the model for the second contrast, Sort of vs. No, had significant effects for Pathways support. The coefficients estimated in the multinomial model are log odds ratios. The coefficient for low level contact with Pathways for the second contrast was 0.8638548 (p = 0.048), and for high level contact it was 1.36544 (p = 0.001). Converting these coefficients to odds ratios gives a value of 2.37 for low contact, and 3.92 for high contact. This means that for the low Pathways contact group the odds of a child reporting Sort of compared with No was 2.37 times higher than for a child in the control group, and for a child in the high contact group it was 3.92 times higher. Thus it seems that one of the effects of family support was to make it easier for children to talk to their parents about topics on which they disagreed, and that the effect was greater the higher the level of support. It should be noted, however, that the children's response was still a partly non-committal 'Sort of' rather than an unequivocal 'Yes.'

Nearly all the contextual factors promoted communication between parents and children: high levels of adult support for the child; strong home rules; high home/school behaviour standards; caring community attitudes and local adults; and non-authoritarian parents. Interestingly both First Peoples and Pacific Islander children were far more likely to say Yes than any other ethnic groups. Children who had experienced any level of adversity were much more likely to simply report No.

Character

This domain had one subscale and one factor, *Antisocial Values*. The statistical model explored the effects of family support since Grade 1, and used as a baseline proxy control the antisocial subscale of the RBRI, as reported by the teacher at the end of Grade 1. This control variable was close to significant (z = -

1.91; p = 0.056), despite the gap of six years between the teacher report in Grade 1 and the child's self-report in Grade 7. As expected, low levels of antisocial behaviour in Grade 1 corresponded to prosocial values in Grade 7. However, the Pathways groups (low and high levels of contacts) did not differ significantly from the control group.

As with most other models, the aspects of context that promoted prosocial values were strong home rules, high home/school behaviour standards, positive community attitudes to kids, and non-authoritarian parents. Girls were more likely to record prosocial values, as were Pacific Islander and Vietnamese children. *Any* level of adversity corresponded to more antisocial values.

Confidence

Transitions to High School: Expectations and Anticipation. Two factors were analysed: *Factor 1 – Fearful* and *Factor 2 – Anticipation*. For both, the best proxy baseline measure was the total Clowning Around child wellbeing score, usually measured at Grade 5, otherwise at Grade 6. Family support between Grades 5 and 7 was therefore tested. The results for both models showed no differences between either Pathways group and the control. The wellbeing score was close to significant as a predictor of Fearful (z = -1.86; p =0.064), with higher wellbeing predicting less fear. The two important features of context were (as so often previously) adult support for the child (more support = less fear and expecting to settle at high school), and non-authoritarian parents (non-authoritarian = less fear). Also consistent with previous analyses, any level of adversity corresponded to lower expectations of settling, although there was no relationship with the fear factor.

Efficacy. This sub-scale was measured by two factors: *Factor 1 – Efficacy* and *Factor 2 – Perseverance*. The self-regulation sub-factor of Clowning Around was used as the best available baseline proxy, but it was not a significant predictor of either factor score. One again neither low nor high contact Pathways groups differed significantly from the control group. The contextual factor of adult support for the child corresponded to high efficacy and perseverance, and strong

home rules and high home/school behaviour standards predicted perseverance as well.

Caring

The one sub-scale of *Social Competence* was measured through two factors: *Factor 1 – Friendly Person*; and *Factor 2 – Response to Being Bullied*. For both models the first sub-factor of Clowning Around (Enjoys supportive positive social relationships) was used as a proxy baseline control. For this reason the models tested the effects of family support between Grades 5 and 7, which in neither model approached significance. Thus the two Pathways groups did not differ significantly from the control group in terms of being a friendly person or reacting non-violently to being bullied.

The only feature of social context that was important was non-authoritarian parents (z = 2.29; p = 0.022), and this only predicted being a friendly person. In both models experiencing more than three bad things in the child's life corresponded to being less friendly (z = -2.72; p = 0.007) and being more likely to use violence as a response to bullying (z = -2.63; p = 0.009). Indeed, as in previous analyses, any level of adversity corresponded to worse outcomes. Girls were much less likely to react to bullying with violence (z = 3.06; p = 0.002).

Summary of modelling

Of the 13 models tested only three revealed significant differences between the Pathways family support group and the control group. In two cases – Impulsivity and Attachment to School – there was evidence that lower levels of family support (less than the median 14 contacts) corresponded to less positive outcomes, that is higher levels of impulsivity than the control group and a higher degree of detachment from school. However, the incorporation as a proxy baseline control of Grade 1 teacher ratings of classroom behaviour instead of the *Clowning Around* self-regulation factor removed the Pathways effect. In the case of Interpersonal Relationships with Family, any level of family support corresponded (in comparison to the control group) to *greater* ease of communication between child and parent when there was a situation of

disagreement, although most Pathways children still opted for 'Sort of' (easy) as a response rather than the unequivocal 'Yes'.

Any level of adversity as reported by the child in terms of the number of bad things that had happened in their life consistently predicted worse outcomes, with high adversity (more than three bad things) often corresponding to the most extreme scores. In only two cases did gender make a difference: girls reported more prosocial values and were much less likely to respond violently to being bullied. Vietnamese children were less delinquent, less violent, more attached to school, expressed more prosocial values, but were less likely to belong to clubs. However both Pacific Islanders and First Peoples children reported greater ease of communication with parents on difficult topics, and Pacific Islander children reported a higher commitment to prosocial values.

All seven indicators of the child's social environment or context, measured within the developmental sub-scale of Socialisation, Support and Supervision, proved to be important predictors depending on the precise domain of development explored. Home/school behaviour standards were consistently important, as did not having authoritarian parents who allowed no say in deciding home rules. The availability of adults apart from parents who supported children, or who cared for children, were important in reducing violent behaviour, increasing children's levels of efficacy and perseverance, in promoting attachment to school, and reducing fear and low expectations about the transition to high school. Perceived positive community attitudes to kids also boosted commitment to prosocial values.

Conclusions

In this report we have explored a new resource for developmental crime prevention, the Pathways longitudinal child database. This database provides the highest quality data currently available in Australia on patterns of involvement in family support and effects on child and parent behaviour and wellbeing. Because the database includes information on all children enrolled in seven primary schools over a 10-year period, it is possible to create matched control groups for defined groups of children whose parents or carers participated in

some aspects of the suite of Pathways family support services (in all, 30% of all enrolled children).

We selected 123 matched pairs of children from the database to facilitate assessment of the effects of family support on child behaviour and wellbeing in the primary school years, including at the point of transition to high school where we analysed the effects of Pathways family support on a wide range of indicators of positive youth development. Despite several caveats discussed below, our results support the contention that the holistic forms of family support exemplified in the Pathways to Prevention Project can have major beneficial effects on parents and children, and that these effects can be achieved for some outcomes and for some families cost-effectively with relatively low levels of involvement (up to 10 contacts, usually over a period of 2-3 months). On the other hand, there was some evidence that more intensive family support (more than 14 contacts) was needed to reduce the high levels of impulsivity of some Grade 7 children, and to boost attachment to school in the lead up to high school. The question of the intensity of family support remains therefore an open one, with the limited evidence pointing to different levels of support depending on the size and nature of the problem.

The reductions in poor classroom behaviour observed in Figure 1 for the Pathways group between Grade 1 and Grade 5 do appear to be at least partly attributable to the beneficial effects of family support on parents, with the strongest effects being found for parents who recorded initially low levels of efficacy who had relatively light involvement with the Pathways Service. We also found that Pathways family support improved school attachment in Grade 7 as well as having positive effects on fears and expectations about the transition to high school, and reduced antisocial and delinquent behaviours, including violent responses to being hit or bullied.

The use of the term "improved" in the previous paragraph should be clarified, since it highlights a methodological challenge we faced in analysing the effects of family support on Grade 7 outcomes. In contrast to the analyses of the RBRI and *Clowning Around* scores throughout the primary years, we had no completely

satisfactory 'pre-intervention' baseline scores to serve as controls for the positive youth development indicators. Therefore we used a variety of proxy baseline measures that had the best face validity. In the context of the Grade 7 results we therefore use the word 'improved' in the sense that after controlling for a range of child, family and community context variables, Pathways children scored as well as (but usually not better than) the control group. This is important because if one simply compares the Pathways and control children on a range of measures related to connection to school and attitudes to learning in Grade 7 (as well as antisocial behaviour and attitudes and personal efficacy), the Pathways children tend to score worse, sometimes markedly so. In other words, no differences between Pathways and control children indicates the success of family support in bringing children up to the same level as the children at the same schools whose parents did not feel the need for such support.

Putting methodological issues to the side for the moment, our findings about classroom behaviour and attachment to school are important, for a number of reasons. One reason is quite practical: schools in Australia are increasingly resorting to strict disciplinary methods, particularly suspensions and expulsions, in dealing with difficult student behaviour (Michail 2011). The limited evidence on the effects of these practices suggests that they can increase the risks of subsequent antisocial behaviour rather than achieving the intended deterrent impact (Hemphill et al. 2009). There is no doubt about the seriousness of the challenge of hard-to-manage student behaviours. Teacher-rated aggressive behaviour in primary-age children, especially when it is at "chronic" levels, has been found to be associated with the development of conduct disorder and juvenile and adult offending (Schaeffer et al. 2003). This suggests that effective methods for improving difficult classroom behaviours and boosting attachment to school could have significant crime prevention benefits.

School disciplinary policies rarely acknowledge the central role of family circumstances in contributing to a child's challenging behaviour. This report presents evidence that quite substantial improvements in such behaviours might be achieved by supporting parents to deal with the challenges of poverty, family violence, being a single parent or recent immigrant, and so on. Schools are of

course not equipped to undertake this kind of work, which is why Pathways-style partnerships between schools, community agencies and families are of such value. Adopting such an ecological or whole-of-community approach could strengthen the developmental system locally, revolutionise schools' disciplinary practices, and make a useful contribution to the prevention of youth offending.

Using the *Clowning Around* scores as outcome variables, we found that family support improved children's social relationships and capacities for self-regulation (or the management of negative emotions). Consistent with this, we found that family support also improved (in the sense explained above) Grade 7/8 levels of impulsivity, ease of communication between child and parents, prosocial values, levels of personal efficacy, capacity for perseverance, and being a friendly person. The self-regulation dimension of *Clowning Around* includes items related to offending, getting angry, and getting into fights, and we probed these behaviours further in the Grade 7/8 survey through the construction of the Delinquent and Violent factors and other indicators of positive (or negative) development. The modeling produced results fully consistent with the assertion that family support can reduce offending and antisocial behaviours.

Reducing impulsivity and promoting self-regulation (as risk factors for offending and antisocial behaviour) are central objectives of many early prevention initiatives (Farrington 2003; Deković et al. 2011), but so far the evidence that family support can be an effective strategy has been quite limited. The fact that we found that effects on child classroom behaviour were most pronounced for low efficacy parents underscores the need for experimentation with strategies that empower the most vulnerable families. The analysis of the effects of family and community contexts in the Grade 7/8 survey provides some guidance on how this might be done. Although based on only two items, high scores on the Authoritarian Parents scale corresponded to consistently poor child outcomes, suggesting that parent training that focuses on family rule setting in the context of explanation and openness of communication should be a priority. Strengthening home behavioural expectations and standards (including around the use of drugs and alcohol) also emerged as important in many of the youth development analyses, suggesting an approach to 'parent training' that actively

involves older children and young people might be effective. A further intriguing finding was how important for Grade 7 children were the caring and supportive attitudes and practices of adults other than their parents, and of a supportive and caring community more generally.

All this evidence further strengthens the argument that family support (and community efficacy in caring for children) should have a more central place in youth crime prevention. As Beelman and Lösel (2006) observe, a lack of social competencies is a common characteristic of aggressive and delinquent children and adolescents. The social relationships scale in *Clowning Around* captures a child's sense of trusting and being trusted by parents and teachers, and generally feeling positive about her life and relationships. While child social skills training, especially through cognitive behavioural approaches, has increasing evidence for its effectiveness, our findings suggest that improving parent efficacy and supporting families and communities to be more caring and supportive of children should be a complementary strategy to child-focused methods. Indeed, in the broader field of child development there is a growing call for approaches that strengthen "the resources and capabilities of adults who care for them rather than continuing to focus primarily on the provision of child-focused enrichment …" (Shonkoff & Fisher 2013). Our results are entirely consistent with this call.

Our finding that the strongest effects on child outcomes during the primary years were achieved through lower levels of Pathways involvement suggests that prevention strategies based on family support need not be excessively prolonged or expensive, especially since families in the 1-10 contacts range comprised about half the family support sample. This adds to the already strong evidence on the cost-effectiveness of early prevention strategies (Manning et al. 2011). However, this finding should not be over-emphasised at this point in our program of research on the effects of the Pathways Project.

First, although not reported in detail in this report, there were some positive (but non-significant) effects of more extended contact on primary school outcomes. These effects need to be explored further using larger samples.

Secondly, of course, are our findings that more intensive family support seemed to improve the ease of child-parent communication in Grades 7 and 8 to a level higher than in the control group, and also was associated with reducing impulsivity scores to the control levels and, similarly, boosting school attachment to the control group levels. A third, most important consideration, is that at this stage we have not incorporated in the modelling a measure of *parent adversity* (as opposed to child reports of "bad things in their life") that was recorded for all Pathways clients, usually early in their involvement in the Service. Our hypothesis is that if we matched Pathways parents at a given level of involvement (low, moderate or high) on their level of adversity, high levels of contact may well emerge as critical to positive outcomes for the most vulnerable families. This will be explored in later papers.

Finally, it is necessary more generally to caution that although we have used in this report the language of cause and effect, the most we can conclude in reality is that we have identified some promising statistical relationships. The exigencies of data collection in the frequently unpredictable environment of schools and families in a socially disadvantaged community limited the range of information we could collect or record. This means that matching has been carried out using fewer variables than scientific purity would dictate. However, even if we had dozens of variables to create matched samples, the standard of evidence would still fall short of that which can be produced through randomised designs.

The Pathways database has enormous strengths, including facilitating the exploration of the effects of a highly dynamic and complex suite of preventively oriented family support activities. The findings of current and forthcoming analyses of the Pathways database contribute to prevention science by stimulating innovation in a field that is currently over reliant on a limited number of evidence-based programs that are hard to replicate in a wider context (Shonkoff & Fisher 2013), and by providing reliable pointers to promising new prevention strategies that can be tested through carefully designed small scale experiments. Our findings highlight the value of adopting policies that promote collective action to support vulnerable young people, and demonstrate that

family support can be a key part of this holistic approach. However, such policies will only achieve results on a large scale if they build capacity and strengthen connections across multiple developmental domains, including communities and schools as well as families.

Acknowledgments

References

Allard, T., Chrzanowski, A. & Stewart, A. (2012). Targeting crime prevention to reduce offending: Identifying communities that generate chronic and costly offenders. *Trends & Issues in crime and criminal justice 445*.

Australian Social Inclusion Board. (2011). *Breaking cycles of disadvantage*, Commonwealth of Australia: Canberra.

Beelman, A. & Lösel, F. (2006). Child social skills training in developmental crime prevention: Effects on antisocial behavior and social competence. *Psicothema 18*, 603-610

Branch, S., Homel, R. & Freiberg, K. (2012). Making the developmental system work better for children: Lessons learned from the Circles of Care Programme. *Child and Family Social Work. DOI: 10.1111/j.1365-2206.2012.00845.x*

Catalano, R. Hawkins, J. Berglund, M. Pollard, J. & Arthur, M. (2002). Prevention science and positive youth development: Competitive or cooperative frameworks? *Journal of Adolescent Health*, 31, 230-239.

Channa, M., Stams, G., Bek, M., Damen, E., Asscher, J. & van der Laan, P. (2012). A meta-analysis of intensive family preservation programs: Placement prevention and improvement of family functioning. *Children & Youth Services Review 34*, 1472-1479.

Dearing, E., McCartney, K., & Taylor, B. (2006). Within-child associations between family income and externalizing and internalizing problems. *Developmental Psychology, 42*, 237-252.

Deković, M., Slagt, M.I, Asscher, J.I., Boendermaker, L., Eichelsheim, V.I. & Prinzie, P. (2011). Effects of early prevention programs on adult criminal offending: A meta-analysis. *Clinical Psychology Review, 31,* 532–544.

Department for Communities and Local Government (2012). *Working with troubles families: A guide to the evidence and good practice.* Eland House, Bressenden Place, London: Author.

Developmental Crime Prevention Consortium (1999). *Pathways to prevention: Developmental and early intervention approaches to crime in Australia.* Canberra: Australian Government Publishing Service.

Eccles., J., Brown, B., & Templeton, J. (2008). A developmental framework for selecting indicators of well-being during the adolescent and young adult years. In B.V. Brown (Ed.) *Key indicators of child and youth well-being* (pp. 197-236). New York: Lawrence Erlbaum Associates.

Elias, G., Hay, I., Homel, R., & Freiberg, K. (2006). Enhancing parent-child book reading in a disadvantaged community. *Australian Journal of Early Childhood, 31,* 20-25.

Farrington, D. P. (2002). Developmental criminology and risk-focused prevention. In M. Maguire, R. Morgan & R. Reiner (Eds.), *The Oxford handbook of criminology* (3rd ed., pp. 657-701). Oxford: Oxford University Press.

Farrington, D. (2003). Key results from the first forty years of the Cambridge Study in Delinquent Development, in T.P. Thornberry and M. Krohn (eds) *Taking stock of delinquency: an overview of findings from contemporary longitudinal studies*, pp. 137-84. Kluwer.

France, A. & Homel, R. (2006). Societal access routes and developmental pathways: Putting social structure and young people's voice into the analysis of pathways into and out of crime. *Australian and New Zealand Journal of Criminology, 39*, 295-309.

France, A., Freiberg, K., & Homel, R. (2010). Beyond risk factors: towards a holistic prevention paradigm for children and young people. *British Journal of Social Work, 40* (4): 1192-1210.

Freiberg, K., Homel, R. & Lamb, C. (2007). The pervasive impact of poverty on children: tackling family adversity and promoting child development through the pathways to prevention project. In France, A. & Homel, R. (Eds.), *Pathways and Crime Prevention: Theory, Policy and Practice* (pp. 226-246)*.* Cullumpton, Devon, UK: Willan Publishing

Freiberg, K., Homel, R., Batchelor, S., Carr, A., Hay, I., Elias, G., Teague, R. & Lamb, C. (2005). Creating pathways to participation: A community-based developmental prevention project in Australia. *Children and Society*, 19, 144-157.

Freiberg, K., Homel, R. & Branch, S. (2010). Circles of Care: The struggle to strengthen the developmental system through the Pathways to Prevention project. *Family Matters, 84,* 28-34.

Freiberg, K., Homel, R. & Branch, S. (2014). The Parent Empowerment and Efficacy Measure (PEEM): A tool for strengthening the accountability and effectiveness of family support services. *Australian Social Work.* DOI: 10.1080/0312407X.2014.902980

Freiberg, K., Homel, R. & Branch, S. (2015). *The development and psychometric properties of an interactive measure of social and emotional wellbeing for middle childhood.* Griffith University, paper under review.

Goldstein, H. (2011). *Multilevel statistical models (4th edition).* Sussex, UK: Wiley.

Hemphill, S. Toumbourou, J.; Herrenkohl, T.; McMorris, B. & Catalano, R. (2006). The effect of school suspensions and arrests on subsequent adolescent antisocial behaviour in Australia and the United States. *Journal of Adolescent Health, 39*, 736-744.

Hemphill, S.A., Smith, R.; Toumbourou, J.; Herrenkohl, T.; Catalano, R.; McMorris, B. et al. (2009). Modifiable determinants of youth violence in Australia and the United States: A longitudinal study. *Australian and New Zealand Journal of Criminology, 42,* 289-309.

Hemphill, S., Toumbourou, J., Smith, R., Kendall, G., Rowland, B. & Freiberg, K. et al. (2010). Are rates of school suspension higher in socially disadvantaged neighbourhoods? An Australian study. *Health Promotion Journal of Australia, 21*, 12-18.

Hilferty, F., Mullan, K., van Gool, K., Chan, S., Eastman, C., Reeve, R., Haas, M., Griffiths, M. & Katz, I. (2010). *The evaluation of Brighter Futures, NSW Community*

Services' Early Intervention Program, Final Report. Sydney, UNSW: Social Policy Research Centre SPRC Report 13/10.

Homel, R. (2005). Developmental crime prevention. In Nick Tilley (Ed.), *Handbook of crime prevention and community safety* (pp. 71-106)*. Cullumpton, Devon, UK: Willan Publishing.

Homel, R., Lincoln, R. & Herd, B. (1999). Risk and resilience: Crime and violence prevention in Aboriginal communities. *Australian and New Zealand Journal of Criminology, 32,* 182-196.

Homel, R., Freiberg, K., Lamb, C., Leech, M., Hampshire, A., Hay, I., Elias, G., Carr, A., Manning, M., Teague, R. & Batchelor, S. (2006a). *The Pathways to Prevention Project: The First Five Years, 1999-2004.* Sydney: Griffith University & Mission Australia

Homel, R., Freiberg, K., Lamb, C., Leech, M., Batchelor, S., Carr, A., Hay, I., Teague, R. & Elias, G. (2006b). The *Pathways to Prevention Project*: Doing developmental prevention in a disadvantaged community. *Trends and Issues 323*: 1-6

Homel, R., Freiberg, K., Branch, S. & Le, H. (2015). Preventing the onset of youth offending: The impact of the Pathways to Prevention Project on child behaviour and wellbeing. *Trends and Issues in Crime and Justice. XX*

Klika, J.B., Herrenkohl, T. I., & Lee, J.O. (2013). School factors as moderators of the relationship between physical child abuse and pathways of antisocial behaviour. *Journal of Interpersonal Violence 28(4),* 852-867. Sage Publications.

Kumpfer, K.L. & Alvarado, R. (2003). Family-strengthening approaches for the prevention of youth problem behaviors. *American Psychologist, 58*(6/7), 457-465.

Layzer, J., Goodson, B., Bernstein,L. & Price, C. (2001). *National Evaluation of Family Support Programs: Final Report Volume A: The Meta-Analysis.* Washington, DC: Department of Health and Human Services.

Lerner, R. (2004). *Liberty: Thriving and civic engagement among American youth*. Thousand Oaks, CA: Sage.

Lerner, R. Dowling, E. & Anderson, P. (2003). Positive youth development: Thriving as a basis of personhood and civil society. *Applied Developmental Science,* 7(3), 172-180.

Lerner, R. M., Lerner, J. V., Almerigi, J. B.,Theokas, C., Phelps, E., Gestsdottir, S., Naudeau, S., Jelicic, H., Alberts, A., Ma, L., Smith, L.M., Bobek, D.L., Richman-Raphael, D., Simpson, I., Christiansen, E.D. & von Eye, A. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents: Findings from the first wave of the 4-H Study of Positive Youth Development. *The Journal of Early Adolescence, 25*, 17–71.

Lerner, R., & Overton, W. (2008). Exemplifying the integrations of the relational developmental system: Synthesizing theory, research, and application to promote positive development and social justice. *Journal of Adolescent Research, 23*, 245–255.

Lerner, R.M., Wang, J., Chase, P.A., Guitierrez, A.S., Harris, E.M., Rubin, R.O. & Yalin, C. (2014). Using relational developmental systems theory to link program goals, activities, and outcomes: The sample case of the 4-H Study of Positive Youth Development. *New Directions for Youth Development, 144*, 17-30.

Manning, M, Homel, R & Smith, C. (2010). A meta-analysis of the effects of early developmental prevention programs in at-risk populations on non-health outcomes in adolescence. *Children and Youth Services Review, 32.*

Manning, M., Homel, R. & Smith, C. (2011). An economic method for formulating better policies for positive child development. *Australian Review of Public Affairs, 10*(1), 61-77*.*

Michail, S. (2011). *Understanding school responses to students' challenging behavior: A review of the literature.* Parramatta NSW: UnitingCare Children, Young People and Families.

Obradocic, J., et al (2012). Risk and adversity in developmental psychopathology: Progress and future directions. In L. Mayes & M. Lewis (Eds.), *The Cambridge handbook of environment in human development* (pp. 35-57).). Cambridge University Press.

O'Connor, M., Sanson, A., Toumbourou, J., Hawkins, M., Letcher, P., Williams, P. & Olsson, C. (2014). Positive development and resilience in emerging adulthood. *The Oxford Handbook of Emerging Adulthood*. On-line publication DOI: 10.1093/oxfordhb/9780199795574.013.19

Quiery, N., McElhinney, Rafferty, H., Sheehy, N. & Trew, K. (2003). Empowering parents: A two-generation intervention in a community context in Northern Ireland. In Ilan Katz & John Pinkerton (Eds.), *Evaluating family support: Thinking internationally, thinking critically* (pp. 207-225). West Sussex, UK: Wiley

Rose, W., Aldgate, J., McIntosh, M. & Hunter, H. (2009). High-risk children with challenging behaviour: Changing directions for them and their families. *Child and Family Social Work, 14*, 178-188.

Rowe, K.J. & Rowe, K.S. (1995). *RBRI Profile User's Guide*. Melbourne: Centre for Applied Educational Research.

Scerra, N. (2010). Effective Practice in Family Support Services, Research Paper #1. Sydney: Uniting Care.

Schaeffer, C.M.; Petras, H.; Ialongo, N.; Poduska, J. & Kellam, S. (2003). Modeling growth in boys' aggressive behavior across elementary school: Links to later criminal involvement, conduct disorder, and antisocial personality disorder. *Developmental Psychology, 39*(6), 1020-1035.

Scott, D. (2013). *Meeting children's needs when the family environment isn't always "good enough:" A systems approach. Child Family Community Australia Information Exchange Paper No. 14.* Melbourne: Australian Institute of Family Studies

Shonkoff, J.P. & Phillips, D.A. (Eds.) (2000*). From neurons to neighbourhoods: The science of early childhood development.* Washington, D.C.: National Academy Press.

Shonkoff, J.P. & Fisher, P.A. (2013). Rethinking evidence-based practice and two-generation programs to create the future of early childhood policy. *Development and Psychopathology, 25,* 1635-1653.

Stirling, C., Munro, H., Watson, J., Barr, M. & Burke, S. (2012). *The Brighter Futures Aboriginal Families Study: A study to find out what's working, and what's not working, for Aboriginal families in the Brighter Futures program.* Sydney: NSW Family and Community Services.

Vinson, T. (2007). *Dropping off the edge: The distribution of disadvantage in Australia.* Melbourne: Jesuit Social Services Australia.

Wikstrom, P.O.H. & Loeber, R. (2000). Do Disadvantaged neighbourhoods cause well-adjusted children to become adolescent delinquents? *Criminology, 38(4)*, 1109-1142.

Figure 1. Classroom behaviour (mean RBRI): preschool to Grade 7
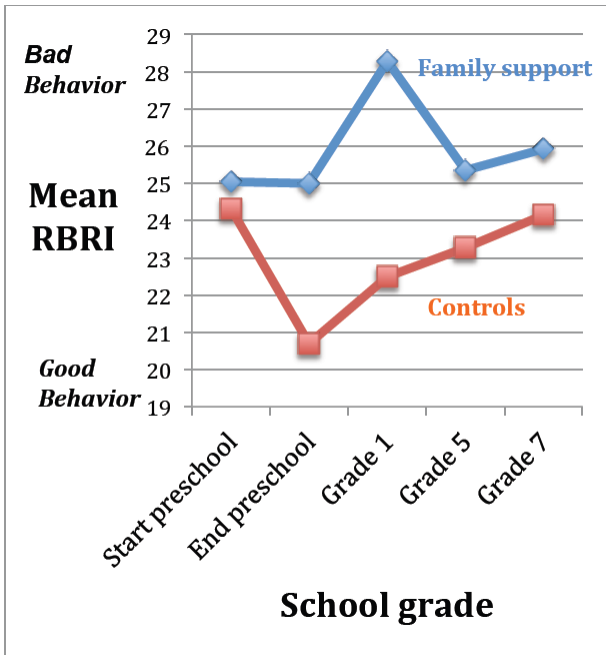
Figure 2. Improvements in behaviour (Grade 1 to Grade 7) by number of Pathways contacts
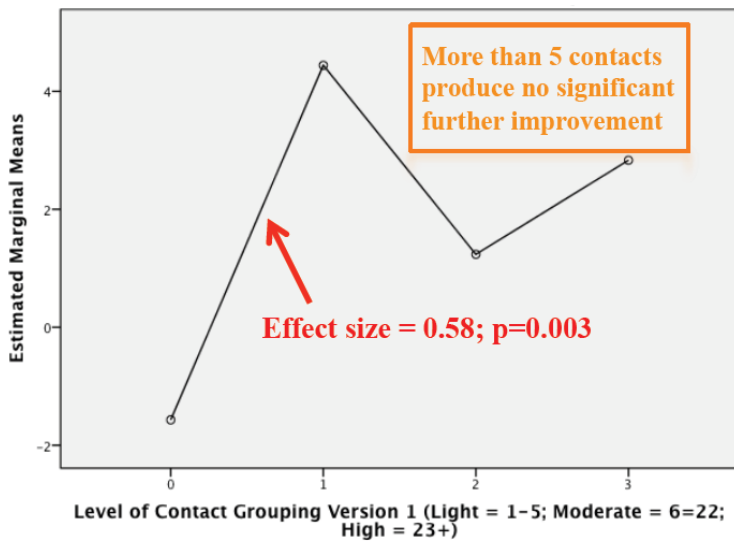
Figure 3. Improvements in child wellbeing by level of family support
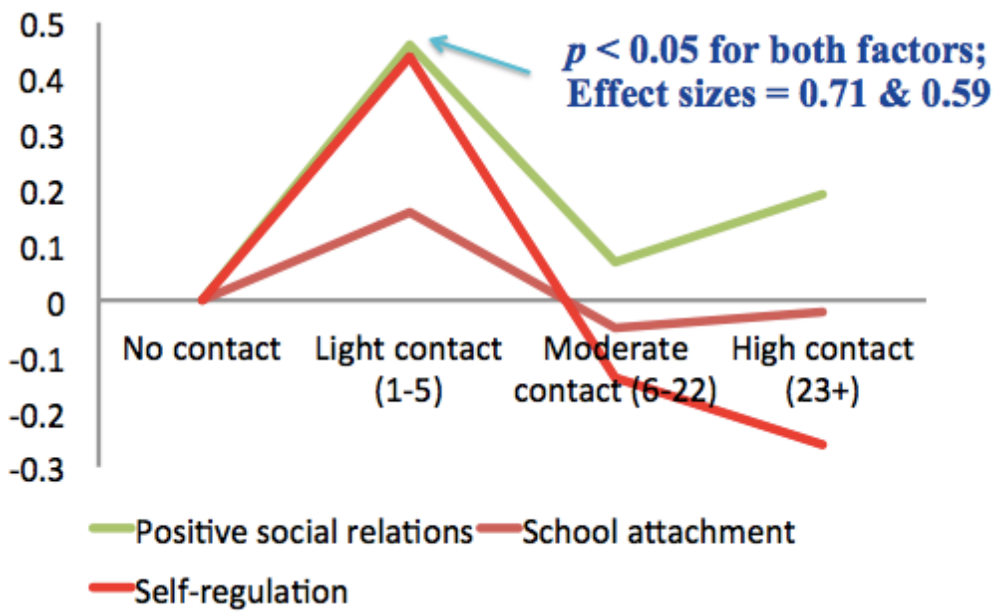
Figure 4. Improvements in child behaviour by number of Pathways contacts and level of parent efficacy
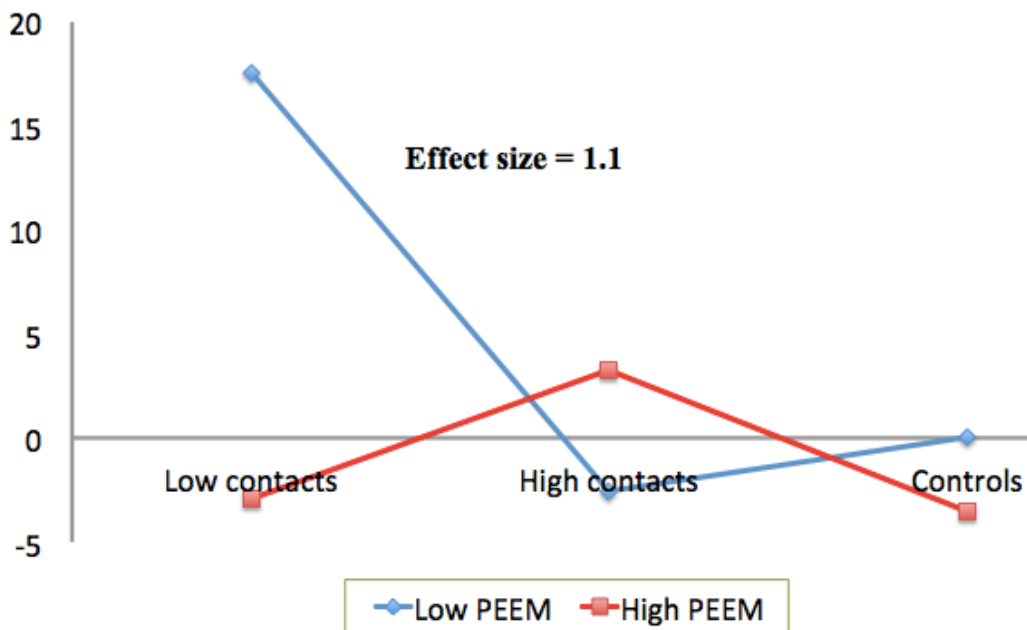
Sources for the construction of the Grade 7 (Transition to High School) Questionnaire

The Communities That Care® Youth Survey   Glaser, R.R., Van Horn, M.L., Arthur, M.W., Hawkins, J.D. & Catalano, R.F. (2005). Measurement properties of the Communities That Care® Youth Survey across demographic groups. *Journal of Quantitative Criminology, 21*, 73-102
The Hopelessness Scale for Children in   Kazdin, A., Rodgers, A., & Colbus, D. (1986). The Hopelessness Scale for children: Psychometric characteristics and concurrent validity. *Journal of Consulting and Clinical Psychology, 54* (2), 241-245.   Used with children aged 5 to 13 years. Authors claim readability falls in the range of first and second grade levels (6-7 years old) based on Fry, E. (1968). Readability formula that saves time. Journal of Reading, 11, 513-516.   Correlates with depression.
The Matson Evaluation of Social Skills with Youngsters (MESSY) in   Matson, J., Rotatori, A., & Helsel, W. (1983). Development of a rating scale to measure social skills in children: The Matson Evaluation of Social Skills with Youngsters (MESSY). *Behaviour Research and Therapy, 21* (4), 335-340.
Personal Wellbeing Index in   Cummins, Robert & Lau, Anna. (2004). The motivation to maintain subjective well-being: A homeostatic model. In Harvey Switzky (Ed.), *Personality and motivational systems in mental retardation* (pp. 255-300). San Diego, CA: Elsevier
Sense of School as a Community Scale   Battistich, V., Schaps, E., Watson, M. & Solomon, D. (1996). Prevention effects of the child development project: Early findings from an ongoing multisite demonstration trial. *Journal of Adolescent Research, 11,* 12-35.
Beacons Youth Survey in: Walker, K., & Arbreton, A. (2001). *Working together to build Beacon Centers in San Francisco: Evaluation findings from 1998–2000*. Philadelphia: Public/Private Ventures.
Protective Factors Scale   Witt, P., Baker, D., & Scott, D. (1996). *The Protective Factors Scale*. College Station: Texas A&M University.
The After School Corporation (TASC) Elementary School Survey

See

Survey Instruments used in TASC Evaluation are all available on website.

Reisner, E. (2004). *Using evaluation methods to promote continuous accountability in after-school programs: A guide*. Policy Studies Associates, Inc: Washington DC

Mental Health Inventory (MHI) (38 items – 5 factors/scales) in

Veit, C., & Ware, J. (1983). The structure of psychological distress and well-being in general populations. *Journal of Consulting and Clinical Psychology, 51* (5), 730-742.

The Psychological Sense of School Membership (PSSM) Scale

In Goodenow, Carol. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*, 79-90.

The Inventory of Parent and Peer Attachment (IPPA) (28 items about parents; 25 items about friends) in

Armsden, G., & Greenberg, M. (1987). The Inventory of Parent and Peer Attachment: Individual differences in their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16* (5), 427-454.

Three subscales: Communication Scale; Trust Scale; Alienation Scale. But analysis showed items on factors are not independent – and the attachment measure can be treated as a unifactorial measure assessing aspects of security-insecurity along a single dimension.

Parental Relationship Questionnaire:

Kenny, Maureen (1987). The extent and function of parental attachment among first year college students. *Journal of Youth and Adolescence, 16* (1), 17-29.

(Developed a 70-item parental relationship questionnaire, designed to adapt Ainsworth's (1978) conceptualisation of attachment for use with college students in a self-report format.)

Adolescent Attachment Questionnaire (AAQ) in

West, M., Rose, M., Spreng, S., Sheldon-Keller, A., & Adam, K. (1998). Adolescent Attachment Questionnaire: A brief assessment of attachment in adolescence.

Consists of 9 items: 3 scales of 3 statements each with Likert-type responses from strongly disagree to strongly agree.

Availability Scale – assesses adolescent's confidence in the availability and responsiveness of the attachment figure;

Goal-Directed Partnership Scale – assesses the extent to which the adolescent considers and is empathic to the needs and feelings of the attachment figure;

Angry Distress Scale – taps the amount of anger in the adolescent-parent relationship.
Parental Bond Scale in van Wel, F., Linssen, H., & Abma, R. (2000). The parental bond and the well-being of adolescents and young adults. *Journal of Youth and Adolescence, 29* (3), 307-318. To examine youth-parent relations developed 8 items where responses vary from 1 (entirely disagree) to 5 (entirely agree). The scale measures the degree to which youth (a) identify with parents in matters of opinion and taste; (b) view their parents as good examples in their lifestyle and approach to child raring; (c) accept their parents as educators from whom they can accept criticisms and learn; and (d) value their parents as friends and communication partners
Cantril Ladder – to measure General Well-Being Cantril, H. (1965). *The Pattern of Human Concerns*. Rutgers University Press, New Jersey.
Spence Children's Anxiety Scale (SCAS) Spence, S., Barrett, P. & Turner, C. (2003). Psychometric properties of the Spence Children's Anxiety Scale with young adolescents. *Journal of Anxiety Disorders, 17*, 605-625 See website: www2.psy.uq.edu.au/~sues/scas/preschool.html
Individual Protective Factors Index (IPFI) Springer, J.F., & Phillips, J.L. (1992). *Evaluation of the National Collegiate Athletic Association (NCAA) National Youth Sports Program*. Evaluation, Management and Training (EMT) Associates, Inc..
Self-perception profile for children and adolescents Harter, S. (1985). *Manual for the Self-Perception Profile for Children (Revision of the Perceived Competence Scale for Children*). Denver: University of Denver. 36 items. Suitable for children to age 12.

APPENDIX 2

YEAR 7 STUDENT SURVEY

Hi,

Now you are coming to the end of Year 7 and getting ready for high school, we'd really like to hear about how things are going for you.

Please answer every question to show the way *you* think. There are no right or wrong answers and your first thoughts will probably be best.

Your answers are kept private and only seen by a researcher at university who treats them confidentially. So say what you feel and keep it real. Thank you!

1.	What is your first name? Preferred name (if different) Last name …………………………………. ………………………………… …………………………………	
2.	What is your date of birth:	——————/ —————— / —————— Day Month Year
3.	How would you describe your family's cultural background? (e.g., Vietnamese Australian; Samoan; Torres Strait Island)	…………………………………………..… …………..
4.	What school do you attend now?	…….…………………………………………… ……………
5.	How many other primary schools have you attended?	………………………………………………… ……….…..…
6.	Which high school will you be going to next year?	………………………………………………… …………..
7.	Have you ever repeated a grade at school?	☐ No ☐ Yes If yes, which grade? …………………………..…………
8.	How many brothers and sisters do you have? (don't count yourself)	…………………………………………… ……………..
9.	How many of your brothers and sisters are older than you?	…………………………………………… …………..…
10.	What suburb do you live in?	…….………………………………………… ……….
11.	How many times have you changed homes since you started Grade 1?	…..………………………….…………….. ……..….
12.	Everyone's family is different. Which one of these describes *your* family best: (Just tick one)	☐ I live with my two birth parents ☐ I live with one birth parent and one other parent ☐ I live with one parent ☐ Sometimes I live with Mum, sometimes with Dad ☐ I live with my grandparents or other adult relatives who take care of me ☐ I live with foster parents ☐ Other (please describe) …………….……………………………………………
13.	There is a grown up person I can always count on to be there for me if I need them	☐ Yes ☐ No
14.	Are you a…	☐ Boy **OR** Girl ☐
15.	How would your friends and family describe you? (Tick one box on each line)	**Would they say you are:** ☐ Calm **OR** Edgy ☐ ☐ A worrier **OR** Carefree ☐ ☐ Happy **OR** Unhappy ☐ ☐ A risk taker **OR** Cautious ☐ ☐ Short-tempered **OR** Even-tempered ☐ ☐ Gentle **OR** Tough ☐ ☐ Hard to get on with **OR** Warm and friendly ☐

16.	Do you like school? ☐--------------☐--------------☐--------------☐ Yes – a lot A bit Not much No – not at all	
17.	Have you started talking about high school with your parents?	☐ Yes ☐ No
18.	Have you started talking about high school with your teacher or someone at school	☐ Yes ☐ No
19.	Who is helping you get ready for high school? (Don't say their name – just say who they are e.g.my Mum/my teacher/my big brother, etc) You can say up to 3 people	1. ……………………………………………………………………… ………. 2. ……………………………………………………………………… ………. 3. ……………………………………………………………………… ………. ☐ No-one is helping me get ready for high school
20.	Do you think you are going to like high school next year? ☐--------------☐--------------☐--------------☐ Yes – a lot A bit Not much No – not at all	
21.	Do you think you'll have trouble settling in when you get to high school? ☐--------------☐--------------☐--------------☐ Yes Probably Probably not No	
22.	How are you feeling at the moment about going to high school next year? ☐--------------☐--------------☐--------------☐--------------☐ Worried/bad A bit unsure OK Pretty good Confident/happy	
23.	Do you think you'll get in trouble with the teachers at high school? ☐--------------☐--------------☐--------------☐--------------☐ No Probably not Not sure Maybe Yes	

24.	Is there a teacher or other adult at school you can go to for help if you need someone to talk to (even about things other than school)?	☐ Yes ☐ No
25.	Do you have any good friends at this school	☐ Quite a few ☐ One or two ☐ None
26.	Do you find school work hard to keep up with?	☐ Yes very hard ☐ Sometimes a bit hard ☐ No not really hard

How many kids that you know:		None	1	2 - 3	4 or more
27.	Care about what's going on in your life?	☐	☐	☐	☐
28.	Could you ask for help or advice if you had a personal problem (like trouble at school)?	☐	☐	☐	☐
29.	Notice and say something nice when you do something good?	☐	☐	☐	☐
30.	Make you feel good?	☐	☐	☐	☐
31.	Make you feel bad?	☐	☐	☐	☐
32.	If someone at school pushed or hit you for no reason what's the _first_ thing you would do?	☐ Hit / push them back ☐ Try to hurt them worse than they hurt you ☐ Try to talk to them to work out what the problem is ☐ Just ignore it and do nothing ☐ Tell an adult like a teacher		
33.	Up to the age I am now:	☐ No really bad things have happened in my life ☐ One really bad thing has happened in my life ☐ Two or three really bad things have happened in my life ☐ More than three really bad things have		

34.	In the past 4 weeks how often did you feel so sad that nothing could cheer you up?	☐ All of the time ☐ Most of the time ☐ Some of the time ☐ A little of the time ☐ None of the time
35.	Compared to other kids my age, I care about school	☐ More ☐ About the same ☐ Less
36.	When you have a problem or very important decision to make, how important are your parents' thoughts and opinions	☐ Very important ☐ Fairly important ☐ A bit important ☐ Not important
37.	I like spending time with my family.	☐ Always ☐ Usually ☐ Sometimes ☐ Hardly ever
38.	Does your family expect you to try hard at school?	☐ Always ☐ Sometimes ☐ Not really
39.	Do you get enough help at school to learn what you need to know	☐ Yes ☐ No
40.	Do you get enough help at home to learn what you need to know	☐ Yes ☐ No

41.	How often do you feel unsafe or afraid at school?
	☐---------------☐---------------☐---------------☐
	Always Mostly Sometimes Hardly ever

42.	How often do you feel unsafe or afraid in the places you go after school?
	☐---------------☐---------------☐---------------☐
	Always Mostly Sometimes Hardly ever

43.	How well do you get along with the other kids at school?
	☐---------------☐---------------☐---------------☐
	Very well Pretty well OK Not very well

44.	How well do you get along with the teachers at school?
	☐---------------☐---------------☐---------------☐
	Very well Pretty well OK Not very well

45.	I feel close to my parents… ☐--------------☐--------------☐--------------☐ Always Usually Sometimes Hardly ever
46.	When I'm not at home, one of the adults in my family knows where I am and who I'm with… ☐--------------☐--------------☐--------------☐ Always Usually Sometimes Hardly ever
47.	I'm good at working co-operatively with others… ☐--------------☐--------------☐--------------☐ Always Usually Sometimes Hardly ever
48.	I just ignore rules I don't like… ☐--------------☐--------------☐--------------☐ Always Usually Sometimes Hardly ever

Tick the box that shows your answer for each of the following questions:	**Pretty Bad**	**Not Much Good**	**OK**	**Pretty Good**
49.	How good are you at helping other people feel better when they are upset?	☐	☐	☐	☐
50.	How good are you at making new friends?	☐	☐	☐	☐
51.	How good are you at staying friends with people?	☐	☐	☐	☐
52.	How good are you at showing you care when someone talks about their problems?	☐	☐	☐	☐

53.	I do things that I know my parents won't like	☐ Lots ☐ Sometimes ☐ Once in a while ☐ Never
54.	I feel bad when other people get hurt.	☐ Always ☐ Usually ☐ Sometimes ☐ Hardly ever

You are doing great! Keep up the good work.

55.	I stick up for people when I see them being treated unfairly	☐ Always ☐ Usually ☐ Sometimes ☐ Hardly ever
56.	I can make my life whatever I want it to be	☐ Yes ☐ No ☐ Not sure
57.	When you think about the future, do you feel…	☐ Excited ☐ Sad ☐ Happy ☐ Hopeful ☐ Confused ☐ Don't know

Tick the box that shows your answer for each of the following questions:	Agree a lot	Agree a little	Disagree a little	Disagree a lot
58. I try not to hurt people's feelings	☐	☐	☐	☐
59. Sometimes it's exciting to do things even if they might get me into trouble	☐	☐	☐	☐
60. I'm so quick to act that I often do or say things without stopping to think about it	☐	☐	☐	☐
61. My parents give me as much help as I need	☐	☐	☐	☐
62. My teachers give me as much help as I need	☐	☐	☐	☐

Tick the box that shows your answer for each of the following questions:	A lot	Some	Hardly any
63. How much praise and encouragement do you get from your parents	☐	☐	☐
64. How much praise and encouragement do you get from your teachers	☐	☐	☐

My family has rules and expectations about:	Yes	No
65. How I'm supposed to behave	☐	☐
66. Which DVDs and TV shows I'm allowed to watch	☐	☐

67.	How late I can stay up on school nights	☐	☐
68.	What I can do after school and on weekends	☐	☐
69.	How I use the computer	☐	☐
70.	Kids not smoking	☐	☐
71.	Kids not drinking alcohol	☐	☐
72.	Doing homework and keeping up with school work	☐	☐
73.	Doing chores and helping out at home	☐	☐

74.	How much do you get to have a say in deciding these rules?	☐ None	☐ A little	☐ A lot	
75.	Do your parents enforce the rules?	☐ Always	☐ Usually	☐ Sometimes	☐ Never

What happens when you do something your parents don't approve of?		Always	Usually	Sometimes	Never
76.	I get "time out" or lose privileges	☐	☐	☐	☐
77.	I get a physical punishment	☐	☐	☐	☐
78.	I get yelled at	☐	☐	☐	☐
79.	We talk about it and my parents explain why they don't like what I did	☐	☐	☐	☐
80.	My parents just ignore it	☐	☐	☐	☐

Give your opinion about the following statements by ticking one of the boxes:	Yes	Sort of	Not really	No
81. I often think about how to make the world a better place.	☐	☐	☐	☐
82. I try to care for the environment by doing things like recycling and not wasting water and electricity.	☐	☐	☐	☐
83. I usually get involved in special events and extra-curricular activities at my school (like band, clubs, sport or school plays)	☐	☐	☐	☐
84. I get involved in events that let me have a say in how my school runs (like student council)	☐	☐	☐	☐
85. I do things for special causes (like MS read-a-thons; clean-up Australia day; charities for kids in poorer countries)	☐	☐	☐	☐
86. It's easy for me to talk to my parents even when we don't agree on things	☐	☐	☐	☐
87. It's ok to beat someone up if they start the fight	☐	☐	☐	☐
88. Sometimes you have to lie to stay out of trouble	☐	☐	☐	☐
89. I think sometimes it's ok to cheat at school	☐	☐	☐	☐
90. It's ok to take something without asking as long as you can get away with it	☐	☐	☐	☐
91. I can solve problems with other people without fighting	☐	☐	☐	☐
92. If something is too hard or I don't like it, I don't bother doing it	☐	☐	☐	☐
93. I try to do what I believe is right even if my friends make fun of me	☐	☐	☐	☐
94. Most of the time I'm good at staying away from people who will get me into trouble	☐	☐	☐	☐

| 95. | I can calm myself down pretty quickly when I get mad or upset | ☐ | ☐ | ☐ | ☐ |

Give your opinion about the following statements by ticking one of the boxes:	Yes	Sort of	Not really	No
96.	I like setting myself goals and challenges and planning how to achieve them	☐	☐	☐	☐
97.	I have some special hobbies or interests	☐	☐	☐	☐
98.	I'm good at doing lots of things	☐	☐	☐	☐
99.	On the whole, I like the kind of person I am	☐	☐	☐	☐

Apart from my parents, there are adults I know who:	Yes	Sort of	Not really	No
100.	Think I'll do well as I grow up	☐	☐	☐	☐
101.	Are interested in what I'm doing and what I have to say	☐	☐	☐	☐
102.	Would step in and help me if I needed it	☐	☐	☐	☐

Most adults in my neighbourhood:	Yes	Sort of	Not really	No
103.	Watch out for kids and make sure they are safe	☐	☐	☐	☐
104.	Think kids my age are no good	☐	☐	☐	☐
105.	Try to make the place better so kids have opportunities and things to do	☐	☐	☐	☐

106.	Do you want to stay in school until Year 12?	☐ Yes	☐ No	☐ Don't know

107.	What do you want to be when you grow up?	…………………………………………………..………… …………………

108.	Which one of the following things do you think you would like to do when you finish school?	☐ Go to university ☐ Do a trade or apprenticeship ☐ Go straight into a job ☐ Join the defence forces (e.g., army) ☐ Do something else (please say what): ……………………………….. ☐ Don't know

For this set of questions, think about the things you and your 4 best friends have done in the past year.	**ME** Did **you** do this in the last year?		**MY FRIENDS** Did any of your 4 best friends do this in the last year?	
109. **In the past year, have you or your friends**:	YES	NO	YES	NO
a) Got a special award for doing well at school or outside school	☐	☐	☐	☐
b) Got suspended from school	☐	☐	☐	☐
c) Wagged school	☐	☐	☐	☐
d) Studied hard and tried to do well at school	☐	☐	☐	☐
e) Smoked cigarettes	☐	☐	☐	☐
f) Drank alcohol when your parents didn't know about it	☐	☐	☐	☐
g) Used drugs or sniffed petrol to get high	☐	☐	☐	☐
h) Been a member of a club or activity at school (e.g., sports team, band, debating team)	☐	☐	☐	☐
i) Been a member of a club or activity outside school (e.g., sports team, PCYC, scouts, church group)	☐	☐	☐	☐
j) Stole something worth more than $10	☐	☐	☐	☐
k) Picked a fight with the idea of hurting someone	☐	☐	☐	☐
l) Bullied other kids	☐	☐	☐	☐

m)	Did graffiti or damaged someone's property	☐	☐	☐	☐
n)	Did some volunteer work or helped people in the community	☐	☐	☐	☐
o)	Got bullied by other people	☐	☐	☐	☐

Great Stuff!

Please put your survey in the envelope and give it to Mum or Dad to return with their survey.

You now have a chance to win an <u>Apple iPad</u> or an <u>iPod Nano</u> just for finishing!

THANK YOU AND GOOD LUCK