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Resilient Families Plus

**Learning Impact Fund
Evaluation Report**

Resilient Families Plus

Evaluation Report and
Executive Summary

December 2019



WESTERN SYDNEY
UNIVERSITY

Independent Evaluators

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Executive Summary

The project

Resilient Families Plus is a 10-week school-based family intervention designed for students in their initial high school years and their parents. The program aims to bolster family relations since the premise of the program is that positive family environments are associated with better social and learning outcomes (Shortt et al., 2007; Toumbourou, et al., 2013). Resilient Families Plus has been newly created from the original and established program called Resilient Families developed by Professor Toumbourou and colleagues at the Centre for Adolescent Health in conjunction with Deakin University ('program developers').

Resilient Families Plus is a new prevention program with a family home reading component and is an extension from the previous Resilient Families program. Resilient Families Plus comprises the same five core elements of the original Resilient Families program but with two extra components which focus on academic and learning outcomes in addition to the health and well-being outcomes central to the original program. Academic and learning outcomes become a new focus through the introduction of the Parent committee training session and distribution of a parent reading campaign brochure designed to encourage adolescents to read an extra 10 minutes per day.

The Resilient Families Plus pilot was conducted in Terms 2 and 4 in 2018 with Year 8 students and their parents from two Victorian secondary schools. These two schools had a high percentage of students from disadvantaged backgrounds (both schools had more than 50% students in the bottom quartile on the ICSEA¹ measure). The aim of the evaluation was to examine the feasibility of the Resilient Families Plus intervention and its readiness for trial, and to explore whether the program had an influence on academic achievement precursors such as academic self-concept (Mathematics Self-Concept and English Self-Concept) and academic resilience. The original protocol of this evaluation included a comparison of two intervention groups (Resilient Families and Resilient Families Plus) and a control group. However, low recruitment (two schools and 34 students) resulted in the need to amend the evaluation design to a smaller scale study of one intervention group (Resilient Families Plus) reducing the potential for robust estimates of impact. Accompanying this impact study was an implementation and process evaluation and cost calculation of the Resilient Families Plus program.

The evaluation of Resilient Families Plus was independently conducted by Western Sydney University between July 2017 and March 2019. The program delivery was co-funded by VicHealth and Evidence for Learning, and the evaluation was funded by Evidence for Learning.

¹ The two participating schools had a disproportionately high percentage of students from the lowest quartile (School 1: 64% and School 2: 57%) based on the Index of Community Socio-Educational Advantage (ICSEA) measure, compared to the Australian national average of 25%.

Table 1: Pilot key conclusions

Key findings
<p>1. Impact of the intervention: Students reporting at baseline low levels of academic self-concept and academic resilience may benefit from Resilience Families Plus more than students who initially reported higher levels on these academic precursor measures. This is because students with lower baseline measures of academic self-concept and academic resilience showed small increases in these measures after being involved in the program. However, these increases were not statistically significant so need to be treated with caution. The small number of schools involved in the project and students who completed both the pre- and post-surveys (2 schools, 34 students, 7 parents), incomplete program delivery at the time students sat their post-intervention survey, other well-being programs that schools were running concurrently and the lack of a control group to compare gains made over time.</p>
<p>2. Pilot challenges: There were significant challenges recruiting schools to participate in this evaluation. Neither the Victorian Education Department or research funders provided assistance in recruiting schools and other well-being programs that schools were already running (e.g. one of the two schools was implementing Respectful Relationships², a Department-sponsored well-being program with similar features), may have impacted schools' willingness to adopt Resilient Families Plus. A parallel research study undertaken by the program developer³ at the same time meant schools had to disseminate information and gather student consent forms for two separate projects may have delayed return rates, resulting in lower student participation numbers. The program developer's research study was prioritised over those of the evaluation. For example, students had to complete the program developers' survey questions before the evaluation's in the same sitting, which might explain the lower survey completion rates than those of the concurrently run study.</p>
<p>3. Implementation issues: Despite schools and parents acknowledging its value, schools faced challenges implementing the full 10-weeks of the student curriculum by the time of the post-test. For example, one school only selected to use 3 of the 10 sessions and then complemented these with other program content. Schools also reported changing the timing and sequencing of the activities. Additionally, schools did not implement the full complement of the parent components and when they did, this was out of the recommended sequence. Schools valued the flexibility the program allowed given they could select how many sessions to include as well as the timing and sequencing of these, however this resulted in poor fidelity to the prescribed program.</p>

² In 2016 [Respectful Relationships](#) education was recommended as a core component of the Victorian Curriculum. Respectful Relationships is an initiative to support schools and early childhood education settings promote and model gender respect and equality.

³ Evidence for Learning and the evaluator agreed to the program developer continuing their business as usual practices, which includes the concurrent research study to inform future improvements. However, the evaluator and Evidence for Learning were not consulted on some of the research activities that were carried out by the program team.

4. Feasibility: Schools were reluctant to implement all the student curriculum components of the program and instead chose to supplement with alternative curriculum as they deemed the student curriculum as resource and time intensive. While acknowledging the program's school-based parenting sessions, schools questioned its feasibility given challenges in managing these activities, the low interest and involvement from parents, and the time and involvement required from families and schools. The program developers identified the barriers to implementing the parent components were related to family stress, work commitments, English as a second language and schools' challenges with engaging parents.

5. Readiness for trial: Although the program is affordable, lack of adherence to the prescribed model and barriers to faithful implementation need to be addressed prior to any future trial. Schools' interest in using the program and being involved in a trial would also need to be determined.

What are the findings?

The evaluation is not able to determine the reported value and social significance of Resilient Families Plus due to the poor school uptake (9% or 2 out of 23 schools). It can be possibly argued as having low value because schools did not adopt all components of the program. This finding must be interpreted in the context that the Victorian Department of Education had endorsed another school-based program at the time of the pilot study which may have impacted the schools' willingness to adopt either all or some components of Resilient Families Plus.

The pilot study revealed that Resilient Families Plus was implemented with low program fidelity as the program developers were unable to implement the intervention as intended (based on the program logic) in the time allotted. The program developers did not adhere to their program's structure or sequence of activities (Table 7 in this report compares the recommended versus actual implementation). The intervention did not reach its intended target population, namely parents, who were requested to attend the Parent committee training session (which exhibited a 2% participation rate and was only completed after the intended timeframe) and engage with the parent reading campaign brochure (delivered after the intended timeframe). In line with the evaluation design that sought to recruit disadvantaged schools, the two participating schools had a disproportionately high percentage of students from the lowest quartile (School 1: 64% and School 2: 57%) based on the Index of Community Socio-Educational Advantage (ICSEA) measure, compared to the Australian national average of 25%.

There was some evidence to suggest small gains in student academic precursors (academic self-concept and academic resilience) which support the theory of change for the cohort of students whose baseline (pre-test) results were on the lower end of the scale measures employed. However, these findings were not statistically significant and should be interpreted with caution given noteworthy evaluation limitations, including: (1) the small number of schools involved; (2) concurrent use of other well-being programs that schools are implementing at the same time (e.g. one of the two schools was running the Departmentally-sponsored Respectful Relationships school-based program); (3) the failure to implement the full Resilient Families Plus intervention prior to the post-test date; and (4) the lack of a control group population to compare gains made over time.

Given the timing of the pre/post student testing, the two new (parent) components of Resilient Families Plus were not included in the quantitative findings presented. Furthermore, neither school had completed the full 10-week student curriculum at the time of post-test due to either a) implementation of a selective set of curriculum components (School 1) and/or b) post-test deployment by the program developers prior to the conclusion of the student curriculum delivery (School 2). The two new components of Resilient Families Plus were deemed by the school participating in the process evaluation to be inappropriate since parental participation in the school has been historically low. This school valued the flexibility the program allowed and was able to nominate what elements of the program they were going to include and how it would be implemented. Importantly though, this level of flexibility undermined the fidelity of implementation as the program logic was not adhered to, and raises questions about the program's readiness for trial.

The stakeholders participating in the process evaluation identified three primary barriers to the effective implementation of Resilient Families Plus. First, the program developers felt that a lack of support to recruit schools for Resilient Families Plus hindered school recruitment markedly. Secondly, the school leader, program developers and parents believed that improved communication in terms of timing and content amongst the stakeholders could bolster implementation of and participation in Resilient Families Plus.

Thirdly, the recurring theme of low parental participation was also identified as a barrier. Whether the origin of this barrier lies within the characteristics of parents, the school or the Resilient Families Plus program itself warrants further consideration.

The qualitative interviews with the school leader and parents provided some insight into the proposed theory of change given that the parent handbook, Parent committee training session and parent reading campaign brochure had just been completed at that time. While no parent support was evident for improved student academic precursor outcomes, one parent reported a shift in the "family outcomes" preceding level of the program logic. Although untested, it could be suggested that the parent components that were implemented prior to their interviews with the evaluators, may lead to future improvements in student academic precursors and should be investigated further.

The pilot study has identified that Resilient Families Plus is not yet ready to be evaluated in an efficacy trial. There are some important issues that need to be addressed before an efficacy trial of Resilient Families Plus could be recommended. These key recommendations include:

- Identify the school recruitment rates for the program with consideration to whether Respectful Relationships or any other similar school-based program is being implemented by schools recruited for implementation.
- Adhere to the timing and activities as specified in the program logic in future implementation of Resilient Families Plus.
- Increase compliance to the parent components of the program through:
 - strategies to partner with schools to engage parents. For example, review program components that require parent participation and assess the communication to parents, their level of commitment, and the structure of activities in the sessions.
 - review strategies to promote inclusion and participation of parents with an additional language other than English as well as families from low

socioeconomic backgrounds with challenging work conditions.

- program developers adapt their program to attract parent participation.
- Program developers adapt the student curriculum because in its current form, schools chose not to use most of it because there were other preferred programs.
- Conduct a follow-up survey after the post-intervention survey since previous research on Resilient Families shows that the program's effects occur in the medium to long-term rather than in the short-term.

How was the pilot conducted?

Recruitment challenges resulted in the pilot trial design differing from the original evaluation protocol. The revised design entailed comparing Resilient Families Plus Year 8 students' pre and post-intervention outcome data for academic self-concept (English and Maths) and academic resilience. Academic self-concept and academic resilience are precursors to academic achievement and were the primary outcomes in focus for the pilot trial. Assessment of the program's implementation occurred through interviews with participating parents, school leaders and program developers as well as through inventories completed by school leaders and validated with data collected from the program developers.

Table 2: Summary of pilot findings

Question	Finding	Comment
Is there evidence to support the theory of change?	No	The Resilient Families Plus program was not fully delivered and therefore the findings are inconclusive as to whether the theory of change can be supported.
Was the approach feasible?	No	There was low program fidelity, schools truncated the student curriculum, there was low parent uptake for the educational activities and the program was not delivered within the allocated time.
Is the approach ready to be evaluated in a trial?	No	A number of barriers to implementation need to be addressed prior to any future trial.

How much does it cost?

The program cost was calculated from the data provided by the program developers throughout the pilot study. It is rated as very low with a cost of \$14,965 per school and \$93.53 per student according to the Evidence for Learning Cost Rating approach (see Appendix 3), based on the approximate cost per student of implementing the intervention over one year.

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1 Introduction

1.1 Intervention

Resilient Families Plus is a new Australian school-based multi-component family prevention program, which is an extension from the previous Resilient Families program. The original Resilient Families, developed over fifteen years of research by Professor Toumbourou and colleagues at the Centre for Adolescent Health in conjunction with Deakin University, was designed to help disadvantaged students and parents develop knowledge, skills and support networks that promote health and well-being during the early years of secondary school (Resilient Families Plus Teacher Manual, 2018). Resilient Families aims to increase family connectedness as well as improve social support between different families and between families and schools (Shortt, Toumbourou, Power & Chapman, 2006). The program has been implemented in disadvantaged Victorian secondary schools in Australia with the purpose to: a) increase parent engagement; b) increase student social emotional learning skills (Singh, Minae, Skycastle & Toumbourou, 2019); c) increase parent involvement in the school mission and skills for ensuring healthy adolescent development; and d) increase opportunities for parents to interact and to develop skills to support schools (Buttigieg, et al., 2015). In addition to achieving all of the Resilient Families' aims and purposes stated above, the 'Plus' component of Resilient Families Plus includes an extra purpose in supporting students' academic achievement. Consequently, Resilient Families Plus not only aims to promote health and well-being of adolescents but it also aims to improve school engagement and academic outcomes for these young people. To achieve this, two additional program elements have been designed in 2017 and implemented for the first time in disadvantaged Victorian schools during 2018.

Resilient Families Plus Program Components

Developers of Resilient Families Plus have documented the original Resilient Families program and its implementation across various academic publications (see for example Shortt, et al., 2006; Shortt and Toumbourou, 2006), on web sites (see for example: [Communities that Care](#); [What Works for Kids](#)) and through registered trials (Australian Clinical Trial Registry Number: 012606000399594) including one that ran concurrently with this Resilient Families Plus evaluation (Australian New Zealand Clinical Trials Registry number: [12618001134213](#)). Unlike Resilient Families, which has been well documented, Resilient Families Plus was newly developed in 2017 and has not previously been documented. In April 2018 the program developers provided the evaluators with a written description detailing the five core components of the Resilient Families program as well as the extra two components making up Resilient Families Plus (see Appendix 1).

Resilient Families Plus subsumes all five components of Resilient Families with the addition of two new components. These two new components comprise: 1) Parent committee training session and 2) parent reading campaign brochure. The seven components of Resilient Families Plus are designed to work together to reinforce key messages and strategies aimed at building positive relationships between adolescents, their parents and other families in the school community. Each of the seven components of Resilient Families Plus and its implementation were represented in a program logic. The intended intervention has been documented by the program developers. Their [registered trial](#) and documentation provided to the evaluators in April 2018 have been quoted below in the description of the intended intervention. The text in *italics* below denotes the two components added to Resilient Families to form the new Resilient Families Plus.

Intended Resilient Families Plus intervention

- A. The intervention involves Secondary schools implementing the intervention with Year 8 students and their parents. It is a structured program that includes a student social relationship curriculum and parent education components and is designed to be integrated into the normal secondary school processes to enhance family-school partnerships. The delivery of the program occurs under a licence system that includes implementation training and support. The components are: (1) 10-session student curriculum; (2) Distribution to all families of a parent education book designed for Resilient Families titled: *Preparing adolescents for success in school and life* (Jenkin and Toumbourou, 2005). (3) Brief parent education groups, based on Parenting Adolescents Quiz (PAQ) where parents interact together to answer questions designed to improve understanding of current scientific information on adolescent health (4) Longer parent education groups, based on Parenting Adolescents: A Creative Experience (PACE), led by a trained facilitator with the aim to increase family management skills for raising healthy adolescents including: family rules, positive communication, problem solving and conflict resolution. Parents interact together in professionally facilitated groups to support each other to improve parenting behaviours; (5) Support for strategic review of school policies and practices relating to parents and families; (6) *Parent committee training comprising a half-day professionally-facilitated session to explore the benefits of being engaged in school activities and to examine potential problems and solutions;* and (7) *Parent reading campaign brochure (see Figure 1) for parents to encourage their child to spend 10 minutes extra per day reading books at home and replacing time spent on electronic devices with home reading.*



Figure 1: Parent reading brochure Reproduced with permission.

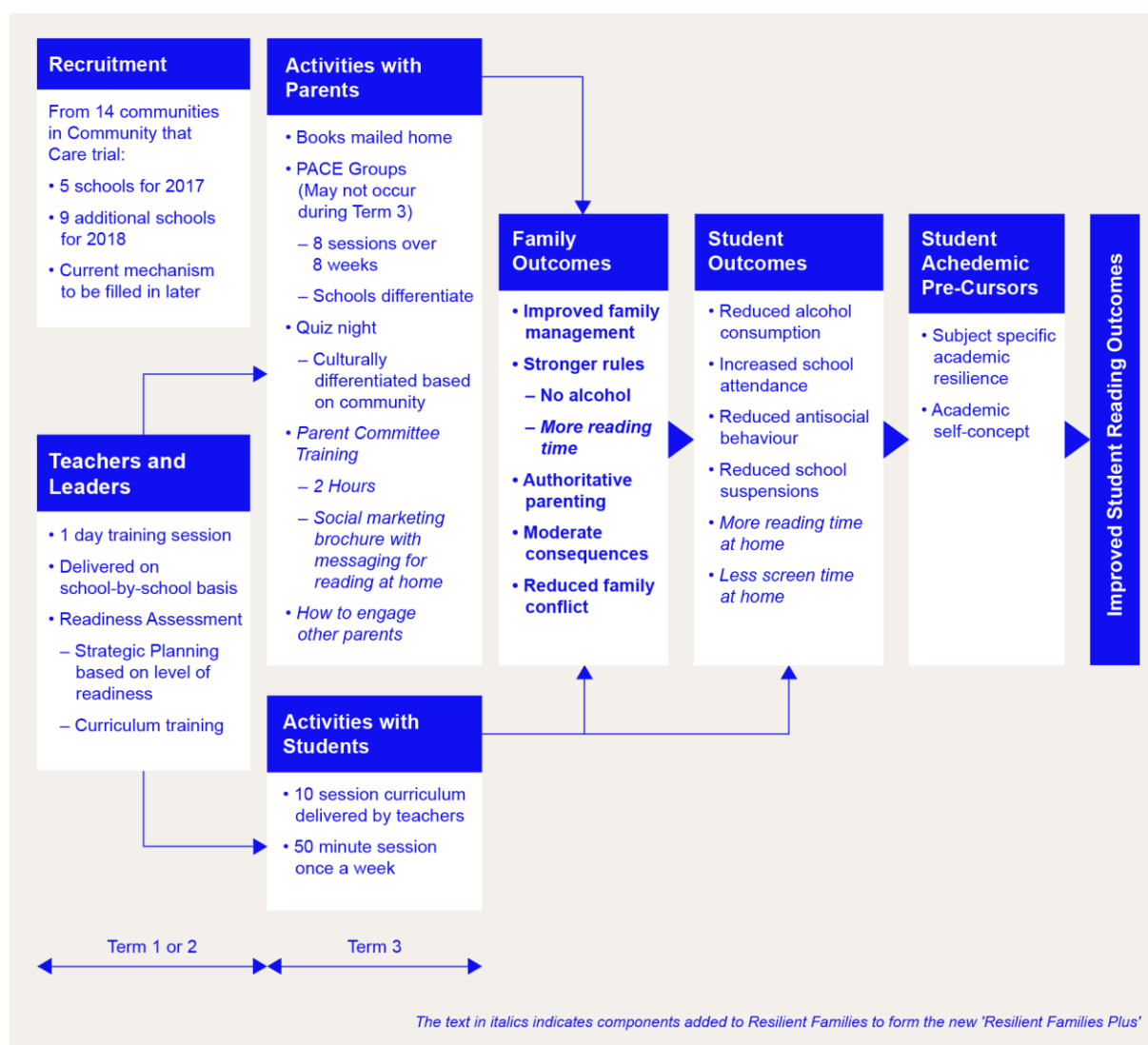
- A. Frequency/duration of the intervention: (1) Student curriculum – 10 weekly 45-50-minute sessions. (2) Parent education book completed over approximately 10 weeks at home by parents. (3) At least one 2-hour PAQ event and (4) one PACE group advertised to all parents consisting of 8-weekly sessions each of 2 hours. (5) At least one 2-hour strategic planning session with school leaders to review family-school partnership arrangements. (6) *A half-day Parent committee training session advertised to all parents and recruitment also occurring at PAQ event.* (7) *Reading at home brochure provided to parents at their committee training session.*
- B. Mode of administration: (1) Student curriculum implemented as part of usual classroom activities. (2) Parent education book is sent home by school to the registered home address. (3) PAQ and (4) PACE groups are conducted at the school. (5) Strategic planning sessions are held at the school. (6) *and (7) run concurrently with parents receiving the brochure at the Parent committee training session held at the school.*

- C. Target intensity: (1) Student curriculum - targeted to reach all students. (2) Parent education books - targeted to reach all parents. (3) PAQ and (4) PACE group attendance are optional for parents - invitations are sent to all parents. with on average 10% volunteering to attend at least one event. (5) Strategic planning sessions target two or more school leaders. (6) *Invitations to all parents are delivered for the Parent committee training and (7) Parent reading campaign brochures are provided to parents who attend.*
- D. Who administers the intervention? (1) Student curriculum implemented by secondary school teachers following 2-hour training. (2) Parent education book is self-administered at home by parents. (3) PAQ and (4) PACE group sessions are facilitated by trained school staff or external experts who have relevant counselling qualifications. (5) Strategic planning sessions led by external experts or Resilient Families staff. (6) *Parent committee training session facilitated by trained external experts and parents receive at this event the (7) Parent reading campaign brochure for personal perusal.*
- E. Strategies used to monitor adherence to the intervention: (1) Student curriculum fidelity is measured by school teacher-completed checklist and by pre-post changes in student skills. (2) The school strategy for distributing the parent education book is recorded and fidelity is assessed through a parent survey. (3) PAQ, (4) PACE and (5) *Parent committee training group session attendance and session coverage are recorded by facilitators.* Pre-post improvements in parent skills are measured in parent surveys. (6) School strategic planning outcomes are recorded by an external expert. This information is used by each school in their continuous improvement efforts and guides the implementation of the program to new student cohorts in future years.

The Resilient Families Plus program logic, pictured below in Figure 2, was constructed by the program developers in March 2017 through discussion with the evaluators and represented pictorially by Evidence for Learning. The program logic provided a schematic representation of how the program was intended to work with links to activities and outcomes and also revealed the sequence of the program and intended causal links. The program logic provided a framework for evaluating Resilient Families Plus and informed the evaluation protocol.

Resilient Families Plus theory of change

Figure 2: Resilient Families Plus program logic. Reprinted with permission.



1.2 Evaluation objectives

The overall aim of the evaluation was to examine the feasibility of Resilient Families Plus and to investigate the early evidence of impact on student academic precursor outcomes. This was explored through the specific research questions of the evaluation:

1. What is the perceived value of Resilient Families Plus? Can schools be effectively recruited into Resilient Families Plus?
2. Can Resilient Families Plus be implemented with high fidelity?
3. What are the reported barriers to the effective implementation of Resilient Families Plus?
4. What is the Resilient Families Plus program's relationship to student academic precursors (academic self-concept and academic resilience)? What evidence is there to support the theory of change?
5. What does Resilient Families Plus cost per school and per student?
6. Is the intervention ready to be evaluated in a trial?

These research questions differ from those initially reported in the protocol because of school recruitment challenges faced by the program developers, which made the original evaluation design unviable. The original protocol and rationale for the changes as well as the finalised trial design are outlined in Sections 2.1 and 2.2.

1.3 Background evidence

Research evidence convincingly demonstrates that family factors are important determinants of adolescent health and well-being and that positive family relationships is linked to improved social and learning outcomes for young people (Tully, 2007). Resilient Families Plus is an extension of the original Resilient Families program and comprises the same five core elements of the original program but has two additional components of a Parent committee training session and distribution of a parent reading campaign brochure designed to encourage adolescents to read an extra 10 minutes per day.

The development of the Resilient Families program was based on research “showing that providing information and support to families when students are in early high school can lead to improvements in adolescent health and well-being” (Resilient Families Plus Teacher Manual, 2018, p.1). Resilient Families has been developed as a result of over 15 years of research by Professor John Toumbourou and colleagues at the Centre for Adolescent Health, in conjunction with Deakin University. To date there has been one randomised controlled trial in Australia of the Resilient Families program, funded by the National Health and Medical Research Council (NHMRC) (Project Grant No. 251721) but no research has been conducted into the new program Resilient Families Plus. The key findings and research issues from these studies and evidence-base informing Resilient Families and subsequently Resilient Families Plus are discussed below.

Research published on the Resilient Families controlled trial predominantly investigates the program’s effect on preventing early adolescent depressive symptoms (Singh et al, 2019), antisocial behaviour (Shaykhi, Ghayour-Minaie & Toumbourou, 2018) and alcohol usage (Toumbourou, Douglas Gregg, Shortt, Hutchinson & Slaviero, 2013). The intervention study and resulting publications were led by Professor Toumbourou, who holds responsibility for the intellectual property for Resilient Families. Prior to this evaluation study, Resilient Families has only been researched by the program developer and colleagues and has never been externally evaluated. Predating the Resilient Families program, Professor Toumbourou and colleague (Toumbourou & Gregg, 1999; 2001) were contracted as external evaluators of Parenting Adolescents: A Creative Experience (PACE), which later became a component of Resilient Families.

Given that no evaluation of the impact of Resilient Families Plus had been conducted, this pilot evaluation was designed to test if the program could be delivered as prescribed in schools with students and their parents and whether the program had an influence on academic achievement precursors such as academic self-concept (in Mathematics and English) and academic resilience before a trial. In this case, the primary question was not about the impact of Resilient Families Plus but its feasibility, implementation and delivery in schools.

Key findings: Impact of the original Resilient Families program

Some beneficial effects of the original Resilient Families program have been found in terms of reduction in alcohol usage, antisocial behaviour and depressive symptoms in early adolescents, however the program has had mixed results. The student curriculum of the program seeks to promote protective factors through bolstering students’ resilience and other social-emotional skills. Building these protective factors have been hypothesised by the developers of Resilient Families to be the process through which early adolescents can be influenced to reduce alcohol usage and decrease depressive symptoms. This

postulated theory of change was not supported in findings from the randomised controlled trial, where there was no effect of the Resilient Families student curriculum found on the development of social-emotional skills in early adolescents (Singh, et al., 2019). In a one-year follow up in the same Resilient Families trial, participants of the student curriculum reported a non-significant change in their increase in lifetime alcohol usage from Year 7 (33%) to Year 8 (47%), compared to students in control schools (Shortt, et al., 2007). However, a two-year longitudinal follow-up of the same students found a significant reduction in adolescent alcohol use (Toumbourou, et al., 2013). Buttigieg et al., (2015) reported no overall intervention effect on depressive symptoms. However, they did find that for students whose parents participated in the parent education events, there was a significant risk reduction of depressive symptoms at two-year follow-up and these findings were replicated in a more recent publication (Singh, et al., 2019). Shaykhi et al (2018) found no overall reduction in the development of adolescent antisocial behaviour, however students whose parents participated in the parent education events had significantly lower increases at one-year follow-up. Findings from the Resilient Families randomised controlled trial appear to show that benefits for students and their families' health and well-being occur over time rather than in the short or medium term.

An earlier yet related implementation trial was conducted on PACE. The Parenting Adolescents: A Creative Experience (PACE), are parent education groups led by a trained facilitator with the aim to increase family management skills for raising healthy adolescents including: family rules, positive communication, problem solving and conflict resolution. The evaluation of the standalone PACE whole-school parenting program with the post-survey (T2) being administered three months after the initial survey (T1), demonstrated impacts on risk behaviours and protective factors. In particular, relative to students in control schools at T2, students from the intervention schools reported significant improvement in maternal care and reported reductions in their conflict with parents and substance use. The largest effects were evident for students whose parents participated in PACE sessions but there were also significant impacts for peers in the intervention schools whose parents did not attend PACE. To explain this finding, Toumbourou and Gregg (2001) postulate that the program had a transmission effect across peer networks.

Research issues: Recruitment and implementation

The evaluation involving PACE and the controlled trial on the original Resilient Families program have involved a focus on supporting and improving disadvantaged families and their children in Australia. The PACE evaluation was conducted across 28 secondary schools (14 intervention and 14 control) in Western Australia and Queensland whereas the Resilient Families trial was exclusively conducted over-sampling disadvantaged Victorian schools. Recruitment into the Resilient Families controlled trial resulted in 62% of the thirty-nine invited schools accepting to participate and being randomly assigned to either a control (12 schools) or intervention (12 schools) group. At a school-level there was responsiveness to participate in the PACE and Resilient Families trials.

The Resilient Families controlled trial parent recruitment procedures for the PAQ event and PACE sessions varied to ensure that the approach taken best suited the individual needs of the school communities. Parent participation at the PAQ event was reported to be 9% of all parents/carers with a child enrolled in the Year 7 or 8 cohort receiving the Resilient Families' student curriculum. To bolster parent numbers to promote attendance at the PAQ, invitations were extended to parents whose children were not completing the program. Consequently, one school opted to invite parents of Year 6 feeder primary schools. Another school implementing the program with their Year 7 students extended an invitation to the Year 8 parents to attend the PAQ. This wide-ranging varied approach to recruitment led to attendance at the PAQ as a percentage of total enrolments varying across schools from 3% (five families) to 17% (28 families). Compared with PAQ, lower participation numbers for parents' involvement in PACE sessions were reported. Eighty-one parents (Year 7 2004 and Year 8 2005) participated in

PACE sessions which represented 4% of target families in the schools. This was less than the reported 10% of parents who participated in the earlier PACE trial (Toumbourou and Gregg, 2002). On average groups implemented seven from the possible ten PACE sessions. Parental retention for PACE was 77%. The rate and scope of parent participation in both trial studies (Resilient Families and PACE) was remarked by the researchers to be low. Reach of the intervention to parents was also limited due to the fact that the parents' handbook could only be mailed out to just over 50% of intervention parents who provided contact details.

There was both better delivery of the intended intervention, and adherence (fidelity of the intended treatment model) to the students' intervention relative to the parent education intervention components. In terms of the Resilient Families student curriculum, schools commenced implementation in 2004 and 2005. Consistent with the program logic sequencing of curriculum delivery activities (see Figure 1), teachers in ten schools taught the program with Year 7 students in either Term 2, 3 or 4. Two schools however, deviated from the school term delivery and elected to implement their program in Terms 1 and 2 in 2005 and with a Year 8 cohort. Fidelity of the student curriculum by the teachers through checklists indicated the program was implemented as intended. Qualitative evidence showed that teachers welcomed the program and parents who participated in the intervention expressed the value of the program. Research designs employing mixed methods approaches to evaluate the impact of Resilient Families and PACE have been conducted by the program developers. The impact of these programs on students' health and well-being has been the primary outcome of interest. There have been links made to improving students' learning outcomes however this has yet to be examined (Shortt et al., 2007). To date there have been no independent evaluations of the Resilient Families program. Additionally, there is no evidence evaluating the newer Resilient Families Plus program's implementation and effectiveness. To address this issue, the program developers made an application to Evidence for Learning for an independent pilot study to be conducted.

1.4 Ethical review

Ethical approval was first granted by Western Sydney University's Human Ethics Committee on 3rd July 2017 and subsequently approved by the Victorian government and non-government schools through their respective ethics approval processes. These applications and affiliated information and consent forms were prepared by the Western Sydney University team in consultation with Evidence for Learning and the Resilient Families Plus delivery team. Deakin University's Human Ethics Committee had previously approved the delivery of Resilient Families as part of a larger overarching project referred to as the Communities that Care trial from 14th December, 2015 until 14th December, 2019. Consistent with the initial evaluation protocol and approved ethical procedures from both universities (Western Sydney University and Deakin University), the Resilient Families Plus delivery team recruited the randomly selected intervention and control schools and distributed the information and consent forms to participating schools. Active parent and child consent was necessary to participate in the evaluation's pre and post student surveys. All students regardless of whether they consented or not to the evaluation study received the Resilient Families Plus program since it was part of the school's curriculum.

Four ethics amendments were required and approved over the duration of the evaluation. The first amendment was in response to the Resilient Families Plus delivery team notifying the evaluators and Evidence for Learning on 8th June, 2017 that their original ethics approval would not suffice and they were required to submit a new ethics application on 24th June, 2017. The evaluation team modified the project's title on the information and consent forms to align with the project title Deakin used to communicate the project to schools, parents and students. The amendment was deemed necessary for recruitment purposes so as to avoid confusion, cognitive overload and the potential of participants feeling research fatigue given that Deakin's submission also required pre and post surveys. Western

Sydney University's amendment was approved on 28th August, 2017 and Deakin's new ethics submission was approved on 29th August, 2017.

The remaining three approved amendments were because of recruitment challenges experienced by the program developers. Amendments approved 23rd October, 2018, 17th December, 2018 and 27th March, 2019 were to firstly change the research design to a smaller scale mixed methods evaluation comparing pre and post surveys with intervention schools only (i.e. no control schools) and secondly to increase and modify the parent interview schedule to strengthen the qualitative component of the evaluation given the challenges with recruiting schools for the program and consequently the impact of this on pre and post survey completion numbers. The final approved amendment entailed modifications to the interview questions for the program developers. The purpose for adding and modifying to these questions was to provide more comprehensive information for the pilot trial.

1.5 Project team

Evaluators

Dr Katrina Barker is a Senior Lecturer in Educational Psychology and a Senior Researcher in the Centre for Educational Research, School of Education at Western Sydney University, Australia. As Principal Investigator in the study, Katrina had overall responsibility for the evaluation design, delivery of the evaluation within budget and leading the evaluation team and the final report.

Dr Danielle Tracey is an Associate Professor in the Centre for Educational Research, School of Education and Translational Health Research Institute at Western Sydney University Australia. Danielle was responsible for the analysis of the implementation and process evaluation.

Dr Jacqueline Ullman is a Senior Researcher in the Centre for Educational Research, School of Education at Western Sydney University. Jacqueline was responsible for organisation and analysis of the student survey data and relevant school-level data presented in the final report.

1.6 Delivery team

Resilient Families Plus developers

Dr John Toumbourou is a Professor of Psychology and Chair in Health Psychology at Deakin University. John is the co-developer of Resilient Families Plus and was responsible for developing the program logic, recruitment of schools, training and program delivery.

Dr Matin Ghayour Minaie is a post-doctoral research fellow at Deakin University. Matin contributed to recruiting schools and conducted training and program materials for delivery.

2 Methods

2.1 Trial design and overview

Agreed evaluation protocol

Recruitment challenges experienced by the Resilient Families Plus delivery team resulted in the original evaluation protocol being unviable. The protocol included a rigorous quasi-experimental mixed methods design which comprised two intervention groups (Resilient Families and Resilient Families Plus) plus a control group, and utilised a repeated measures (pre-intervention vs. post-intervention), within-between participant design. The evaluation was to examine whether the original Resilient Families program influenced academic outcomes and to test whether Resilient Families Plus, with the additional two components, provided additional benefits above and beyond the original program. The primary outcomes of interest were students' reading comprehension and numeracy NAPLAN scores. The original protocol outlined the rationale for selecting Year 8 student participants so that their Year 7 NAPLAN scores could be used as a baseline measure and their Year 9 NAPLAN scores provided a post-intervention measure. The original program, through previous trials, had been linked to social and well-being outcomes and consequently the evaluation was commissioned to examine whether academic outcomes could also be influenced by the initiative. It was therefore **hypothesised** that the extra two components focusing on promoting reading in adolescents in Resilient Families Plus would provide an even stronger association to academic achievement. Consistent with the underlying premise that the two interventions lead to gains in English and Maths self-concept and academic resilience, these academic precursors were the secondary outcomes of interest. Accompanying this impact study was an implementation and process evaluation, in addition to a cost calculation, which focused exclusively on the Resilient Families Plus program. The purpose was to evaluate the effectiveness and feasibility of the two additional components (Parent committee training session and parent reading campaign brochure) added to Resilient Families and thereby forming the new program Resilient Families Plus.

Trial design and overview

Responsive to the challenges confronted by the Resilient Families Plus delivery team in terms of recruitment, amendments to the evaluation design were necessary and letters of variation from the original protocol were formally approved by Evidence for Learning. In addition, the sequence and scope of the changes were documented and approved through ethics amendments. The final design of the pilot trial remained as a mixed methods approach but on a much smaller scale thereby reducing the potential for robust estimates of impact. Consequently, the protocol research questions on the effect of the intervention on academic achievement were altered to emphasise the theory of change. Inverse to the quantitative component, the qualitative component was strengthened with more in-depth interview protocols used to obtain feedback on how the intervention might be refined to ensure that into the future there is confidence that the program can be delivered. Table 3 depicts the fundamental changes between the protocol and final trial design.

Table 3: Evaluation's initial protocol and implemented pilot design

Evaluation components	Protocol	Final pilot design
Research questions	<ol style="list-style-type: none"> 1. What is the effect of the two interventions (Resilient Families and Resilient Families Plus) on academic achievement? 2. What is the effect of the two interventions on academic self-concept? 3. What is the effect of the two interventions on academic resilience? <p>Implementation and process evaluation including a cost calculation of Resilient Families Plus.</p>	<ol style="list-style-type: none"> 1. What is the perceived value of Resilient Families Plus? Can schools be effectively recruited into Resilient Families Plus? 2. Can Resilient Families Plus be implemented with high fidelity? 3. What are the reported barriers to the effective implementation of Resilient Families Plus? 4. What is the Resilient Families Plus program's relationship to student academic precursors (academic self-concept and academic resilience)? What evidence is there to support the theory of change? 5. What does Resilient Families Plus cost per school and per student? 6. Is the intervention ready to be evaluated in a trial?
Research design	Pre and post surveys of Resilient Families, Resilient Families Plus and control schools.	Pre and post surveys of schools implementing Resilient Families Plus only and no comparison schools.
School recruitment	<p>A total of 28 schools. There were 14 randomly assigned intervention Victorian schools subsumed in the larger Communities That Care (CTC) national trial (Rowland, Toumbourou et al., 2013: http://dx.doi.org/10.1136/bmjopen-2012-002423).</p> <p>The 14 schools recruited by the Resilient Families Plus team will be those who nominate to complete the current Resilient Families as well as Resilient Families Plus initiative from the 5 schools recruited in 2017 (cohort 1) and 9 schools recruited in 2018 (cohort 2) (total number of intervention schools (n) = 14) with equal numbers of disadvantaged</p>	<p>CTC schools were randomly assigned either Resilient Families or Resilient Families Plus but this was abandoned with recruitment to Resilient Families Plus only to ensure at least two schools were recruited to this intervention group with the purpose to complete the process and cost evaluation. Control schools were invited to convert to an intervention school as part of the strategy to increase school recruitment into the intervention. Ethics approval was granted for the change in sampling.</p>

	Victorian schools selected for the control group (n = 14).	
Participant recruitment	All Year 8 students across the intervention (Resilient Families and Resilient Families Plus) and control group. Families of Year 8 students for the intervention schools.	Resilient Families Plus Year 8 students to complete the pre and post intervention surveys. Parent, school leader, program developer and program developer interviews post intervention.
Theory of change measures	Primary outcome of interest: Academic Achievement: NAPLAN scores for Year 8 students across the intervention and control groups. Pre-data to be drawn from Year 7 reading comprehension and numeracy NAPLAN results (2016 for cohort 1 and 2017 for cohort 2). These scores to be compared to their Year 9 NAPLAN results (2018 for cohort 1 and 2019 for cohort 2) as the post-intervention measure. NAPLAN reading comprehension and numeracy scales will be the NAPLAN measures. Secondary outcomes of interest: Academic self-concept and academic resilience as precursors to academic achievement.	Precursors to academic achievement are the central focus: English and maths self-concept and academic resilience.
Process and cost evaluation measures	School leader, program developer and parent logs to provide fidelity checks of the intended intervention. 8 parent interviews and 8 teacher interviews Cost calculator log to be completed by the Resilient Families Plus school leader and also to be completed by the program developers.	School leader, program developer and parent logs to provide fidelity checks of the intended intervention. 2 parent interviews. 1 Resilient Families Plus school leader interviews. 2 Program developer interviews. Cost calculator log completed by the Resilient Families Plus school leader and also completed by the program developers.
Quantitative analysis plan	Analysis to be conducted: Latent curve modelling to fit a linear growth trajectory to evaluate whether students assigned to the intervention	Descriptive and bivariate analyses were conducted to investigate comparisons between: 1. student baseline mean data and reported/normative mean data on

	groups increased at a faster linear rate from each other and the control group for the primary and secondary outcomes.	academic self-concept and academic resilience and 2. pre/post intervention comparisons of student and schools' mean data on academic self-concept and academic resilience.
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2.2 Participant recruitment and selection

The Resilient Families Plus delivery team were responsible for the recruitment of the intervention (Resilient Families and Resilient Families Plus) and control schools. These schools were nested in the larger-scale Communities that Care (CTC) trial. Recruitment entailed over-sampling disadvantaged schools and matching the intervention schools with the control schools on NAPLAN Year 7 scores, socio-economic factors, and sector type (i.e. government vs. non-government schools). The evaluators randomly assigned schools to their treatment group. In line with the program logic, the pre intervention surveys were to occur either in the school term before commencement of the student curriculum or in the initial week of the school term in which the intervention was to start. Control school pre intervention surveys were to match the timing of the intervention schools. Similarly, the intervention and control schools were to complete post intervention surveys concurrently and these were to be scheduled for the end of the school term when all components of the program had been completed as per the program logic.

At the outset of the recruitment process, the delivery team experienced difficulties recruiting intervention schools but had better success recruiting control schools. At the end of 2017, the delivery team was not able to implement the intervention as scheduled in the protocol timeline for cohort 1 because schools either declined the invitation to join the study or expressed interest but wanted to commence in 2018. Nine months of recruitment by the program delivery team, commencing in August 2017 to May 2018, resulted in one Resilient Families Plus intervention school and five control schools being recruited. Despite schools showing some initial interest in participating, they did not tend to convert to consenting and implementation. Consequently, further deviations from the protocol timeline eventuated since cohort 2's scheduled activities did not occur in Term 1, 2018. Evidence for Learning approved a program delivery extension and implemented a risk management plan for the project in May, 2018. The plan required the delivery team to invest their energy into recruiting Resilient Families Plus schools rather than Resilient Families or control schools. Exclusive attention to recruiting Resilient Families Plus schools ensured that the protocol's process and cost evaluation remained viable and a small pilot trial of the new intervention could be examined. Table 4 reports the delivery team's weekly recruitment update at the start of 2018 and the point in time that Evidence for Learning and the evaluation team consulted with the delivery team and Deakin University's Research Partnerships Manager, to implement strategies from the risk management plan. Control schools were invited to convert to a Resilient Families Plus intervention school. One control school accepted this invitation however, the program developers were unable to secure this school's implementation in 2018. The delivery team was able to secure consent in Term 3 for a second Resilient Families Plus school and they commenced implementation in Term 4. The evaluation's final sample therefore comprised two Resilient Families Plus schools.

Table 4: Eight months of recruitment by the delivery team

Date and activity	Intervention	Control
28 th February 2018		

Invitations	11	12
Consents	1	0
5th May 2018		
Invitations	23	25
Consents	1	5

By 5th May, 2018 the delivery team had recruited five control schools and one Resilient Families Plus intervention school had commenced the student curriculum in week 5 of Term 2. In Term 3 another Resilient Families Plus school consented and commenced implementation in Term 4. To attain this sample, twenty-three intervention and twenty-five control schools had received invitations to participate and had met with the delivery team. The concerning low recruitment resulted in a risk management plan being activated in May, 2018 and implementation commencing in June.

Active parent and student consent was required for the evaluation's collection of pre and post intervention surveys and student NAPLAN data. Return rates for consent were slow and the numbers were low.

2.3 Data collection

Data collection for the evaluation team occurred at the same time with the delivery team's pre and post survey data collection. The delivery team, at our initial set up meetings, refused the request to stop their student surveys because it was considered to be 'business as usual' and informed improvements to the program. The evaluators consequently needed to coordinate the data collection process with the delivery team. Conscious of the potential fatigue for the schools, the evaluators worked with the delivery team to avoid duplication of data collection. The result of this negotiation was that the developers' survey would continue as usual and the additional questions (i.e., self-concept and academic resilience scales) from the evaluation team were added through a new survey link embedded at the end of the delivery team's survey. The delivery team agreed to provide the demographic data from their survey to the evaluators. The evaluation team consulted with the delivery team on what demographic measures needed modification or adding, to ensure the needs of the evaluation were met. To ensure the success of embedding the survey link, the evaluation team also made requests to the delivery team to avoid having their five questions on sexting and viewing pornography at the end of the survey as it may reduce the likelihood of students transitioning to the evaluation survey or affect their survey responses after answering questions on this topic.

The online surveys were conducted in schools by the delivery team and on occasions with the support of school staff. The evaluation's survey items for the pre and post intervention surveys are reported in Appendix 2.

2.4 Timeline

Table 5: Evaluation timeline

Activity	When Proposed/Commenced	Actual Implementation/Finalisation
Project Set-up and Preparation		
Project Logic Model	February 2017	March 2017
Project Protocol, including Letters of Variation	March 2017	August 2017 Agreed Protocol; Variation letters to the protocol throughout 2018-2019 with the last variation approved March 2019
Signed Service Agreement (E4L & WSU)	March 2017	May 2017 and revision approved March 2019
Signed Service Agreement (E4L & Deakin)	March 2017	October 2017
Signed Service Agreement (WSU & Deakin)	Feb 2018	June 2018
WSU Ethical Approval - Human Ethics Committee	July 2017 - Initial Project Design Approval Granted	March 2019 - Final Ethical Amendment Approved
WSU Ethical Approval - VIC DET	June 2017 - Initial Project Design Approval Granted	Sept 2017 - Final Ethical Amendment Approved
Deakin Ethical Approval - Human Ethics Committee	Initially, pre-existing; New Deakin ethics – submitted by program developers June 2017	August 2017
School-Level Recruitment	July 2017	Recruitment activities continued over 2017 and 2018, concluding Aug 2018
Program Implementation		
Student Curriculum [10 x Sessions]	Program Recommended Delivery = all 10 sessions, over 10 weeks of a single school term	School 1: 3 sessions delivered over Term 2, 2018 School 2: 10 sessions delivered over Term 4, 2018
Parent Training Events (PAQ, PACE, & Parent committee training)	Program Recommended Delivery = Concurrent with Student Curriculum	No PAQ delivery No PACE delivery Limited delivery/uptake in both Schools for Parent committee training: School 1: 14 th Dec 2018 School 2: 13 th Dec 2018
Distribution of Parent Support Resource – Resilient Families Plus (Parent Handbook)	Program Recommended Delivery = Concurrent with Student Curriculum	School 1: 6 Dec 2018 School 2: 3 Dec 2018

Distribution of Parent Support Resource – Resilient Families Plus (Parent Reading Campaign Brochure)	Program Recommended Delivery = Concurrent with Student Curriculum	School 1: 14 Dec 2018 School 2: 13 Dec 2018
Evaluation Components		
Student-Level Recruitment	May 2018	July 2018
Student Pre-Test	Prior to the commencement of RF+ Activities, including Student Curriculum and all Parental Engagement Activities	School 1: 24 May 2018 [*5 weeks into Term 2] School 2: On two days in August 2018 (9th & 23rd)
Student Post-Test	At the conclusion of all RF+ Activities, including Student Curriculum and all Parental Engagement Activities	School 1: 19 July 2018 [*3 weeks past curriculum conclusion] School 2: 29 Nov 2018 [*7 weeks into Term 4]
School Stakeholder Interviews	At the conclusion of all RF+ Activities, including Student Curriculum and all Parental Engagement Activities	School 1: 14 Dec 2018 [Parent]; 19 Dec 2018 [School Leader]; School 2: 17 December 2018 [Parent]
Program developer Interviews	At the conclusion of all RF+ Activities, including Student Curriculum and all Parental Engagement Activities	14 March 2019 15 March 2019

NB: 2018 Term Dates (VIC): Term 2 = 16 April - 29 June; Term 4 = 8 Oct. - 21 Dec.

3 Findings

3.1 Participants

School Characteristics

The two schools recruited for participation in the Resilient Families Plus evaluation were located in urban regions in the state of Victoria, classified as “Major Cities” by the *MySchool* website (ACARA, n.d.). *MySchool* data was used to make comparisons between the two participating schools’ demographics and data for the Australian average school (Figures 3-4).

As can be seen in Figures 3 and 4, the two participating schools were situated below the Australian average on the measure of community socio-educational advantage (ICSEA), pointing to some student disadvantage as measured by parents’/carers’ occupation and levels of education. A closer look at ICSEA distributions by quartile, shows that the two participating schools had a disproportionately high percentage of students from the lowest quartile, 64% (School 1) and 57% (School 2) compared to the Australian national average of 25%.

Figure 3: ICSEA scores for participating schools against Australian average

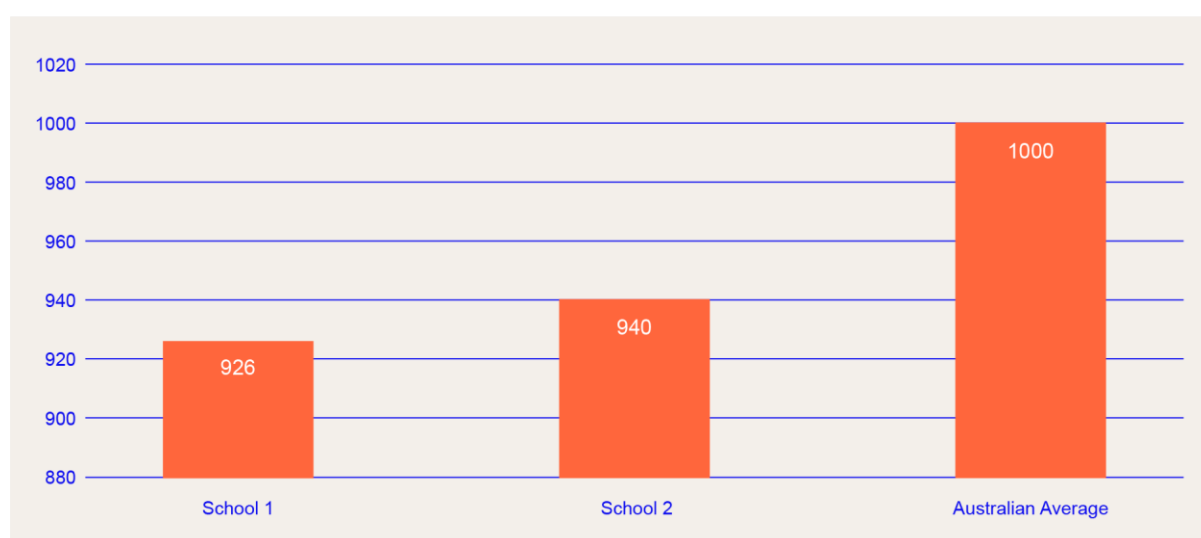
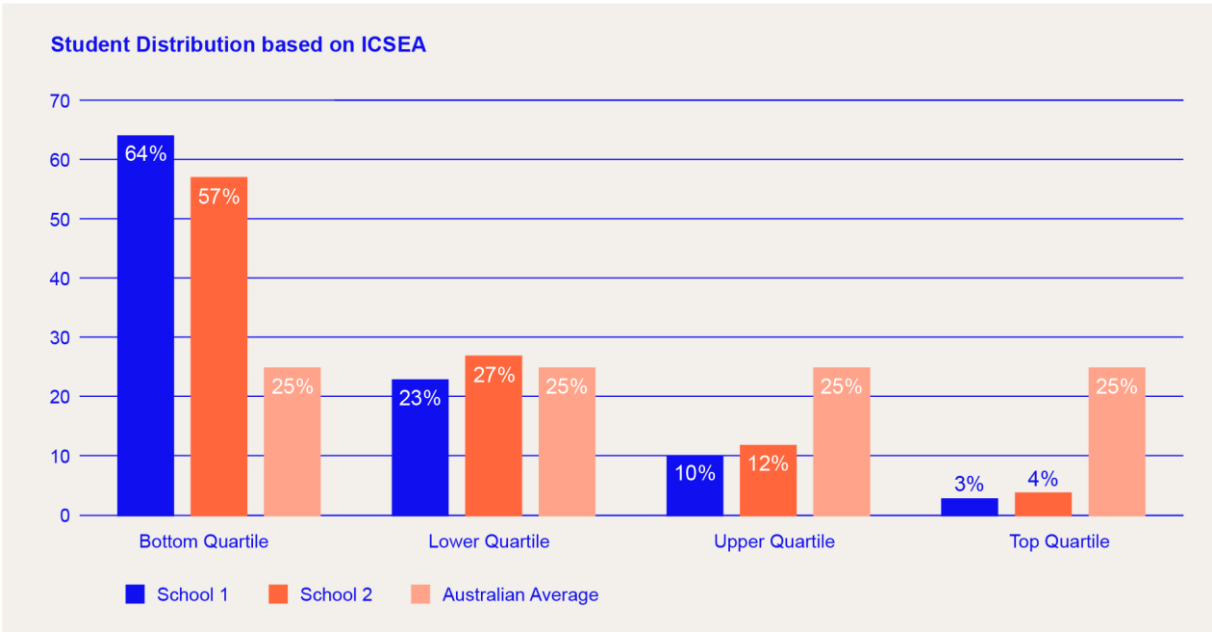
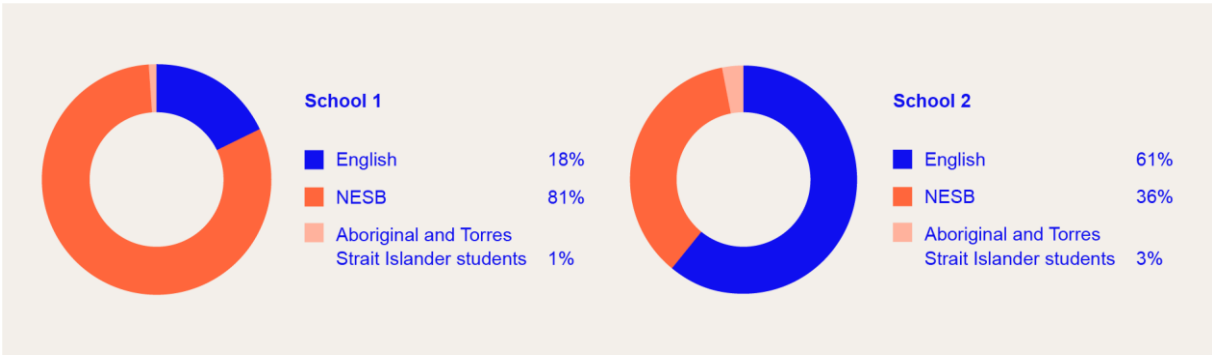


Figure 4: Student distribution by ICSEA quartiles in participating schools against Australian average



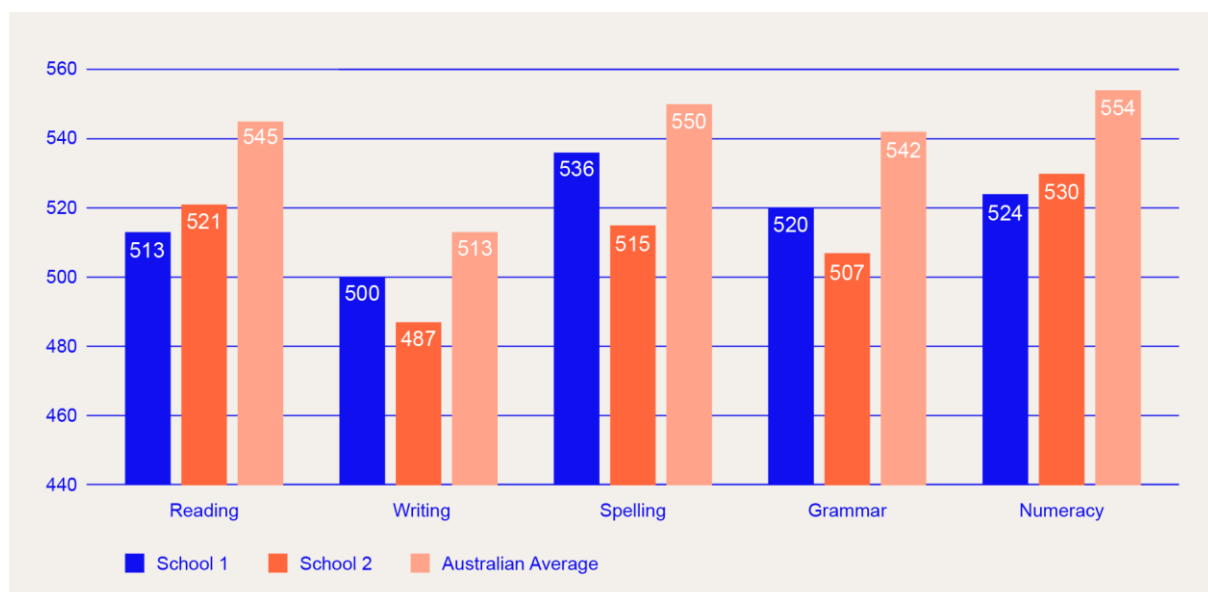
Compared to 2016 Australian Bureau of Statistics (2017) data, which shows that 21% of the Australian population speaks a language other than English at home, families within the participating schools had a much larger proportion of non-English speaking background (NESB) students. In School 1, 81% of the students came from NESB households, compared to 36% in School 2 (Figure 5).

Figure 5: Students’ linguistic background (English/NESB) for participating schools



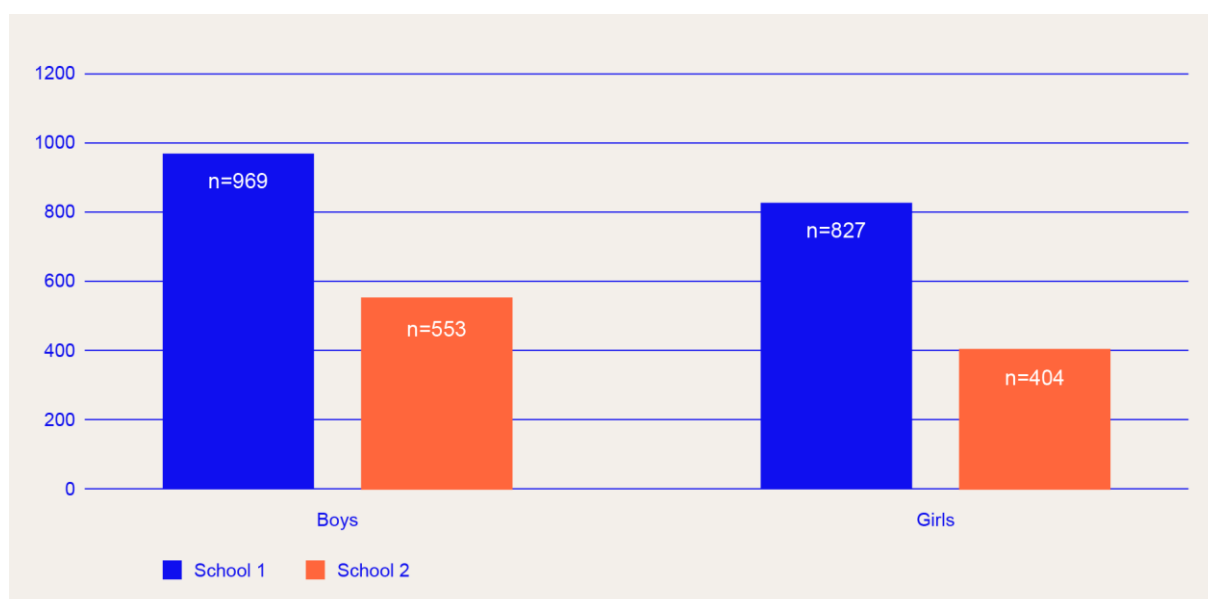
When compared to Australian averages, Year 7 NAPLAN scores for the participant cohort (e.g. year 7 during 2017) were lower for the two participating schools, as can be seen in Figure 6. While each of the domains evidenced average scores below the Australian student average, as reported on *MySchool*, when considering 90% confidence intervals for these mean scores, these were significantly below Australian averages for most (School 1) or all (School 2) of the five domains.

Figure 6: 2017 NAPLAN mean score comparisons, Year 7 students



Additional investigations show that both participating schools had larger numbers of male students (Figure 7).

Figure 7: Sex composition (boys/girls) for participating schools

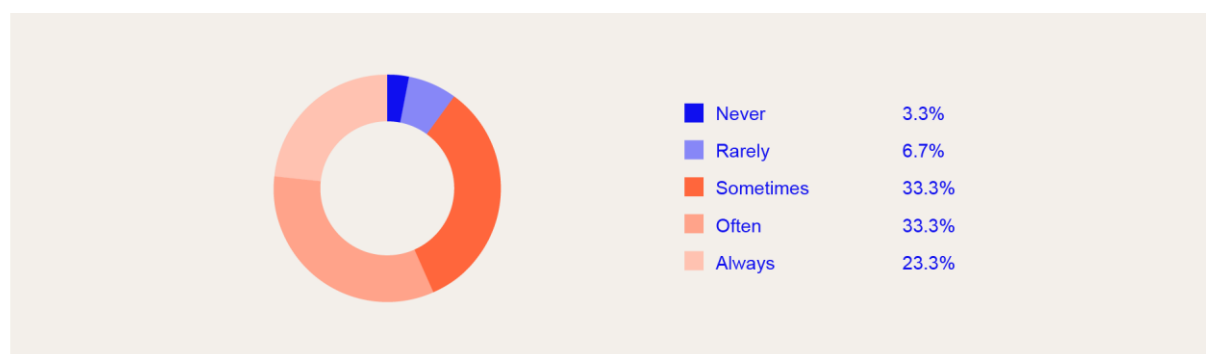


Student Characteristics

Of the 34 students who provided complete pre/post-test data, just over half were female (n=19; 56%). While the majority were themselves born in Australia (n=23; 68%), most students reported that both their parents were born overseas, with only 21% of fathers (n=7) and 18% of mothers (n=6) born in Australia. With the exception of a small number of students whose parents were from the Pacific Island region (e.g. Fiji, Samoa, New Zealand), most parental countries of origin were within South, East and Southeast Asia.

In keeping with their school-level data as reported above, the majority of participants spoke a second (or third) language, with just 21% of the sample reporting that they “always” spoke English at home (Figure 8). While three of the students were recent migrants, having moved to Australia within a period of five years prior to the data collection (2018-2014), almost the full sample (n=33; 97%) self-reported a high level of English language proficiency, indicating that they could “read, write and speak [English] well”.

Figure 8: Participants’ reported frequency of speaking English at home



3.2 Implementation and Feasibility

This section details the findings regarding the implementation and feasibility of Resilient Families Plus examined through a collection of qualitative and quantitative evidence. More specifically, the following research questions are addressed:

1. What is the perceived value of Resilient Families Plus? Can schools be effectively recruited into Resilient Families Plus?
2. Can Resilient Families Plus be implemented with high fidelity?
3. What are the reported barriers to the effective implementation of Resilient Families Plus?

Research Question 1: What is the perceived value of Resilient Families Plus? Can schools be effectively recruited into Resilient Families Plus?

Interviews with key stakeholders and an audit of the recruitment rates provided by the program delivery team throughout the pilot study provide valuable insight into the social significance of Resilient Families Plus. Firstly, Table 6 demonstrates that the **uptake of schools into Resilient Families Plus was low (9%)**. Of particular interest is the observation that school recruitment rates were much lower than what had been witnessed in the previous Resilient Families program and for the current proposed control group.

Table 6: School recruitment rate as reported by the program delivery team on 25th July 2018

Type	Number of schools invited	Number of schools agreeing to participate	Percentage of uptake
Intervention school	23	2	9%
Control school	25	6	24%

Resilient Families randomised controlled trial	39	24	62% Shortt, et al., 2006
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Program delivery team's perspective

The program delivery team reported that the **low recruitment rate** into Resilient Families Plus was a new issue that they had not faced with other trials of the previous Resilient Families. The delivery team expressed that the **schools were too busy delivering another program** (which had received endorsement from the Victorian government) to also participate in Resilient Families Plus, as demonstrated below:

“The largest and most important reason that schools gave us was that they were overwhelmed with the other programs they were doing and a lot of them did cite Respectful Relationships as the main reason that they were not going to go ahead. We had schools that said yes because we did the recruitment study in 2017. We had a lot of them that were saying tentatively yes or yes-maybe who said no then finally because they got a mandate that they must do the other program as a priority. So we had a fallout rate that was unexpected.”

Additionally, the program developers identified **deteriorating school-family partnerships** that undermined school readiness for Resilient Families Plus as a further rationale for why a low school recruitment rate was achieved, as evidenced in their comments below:

“The other thing that became apparent to us is that their [school's] ability to work with family-school partnerships has deteriorated... their level of readiness to do the type of work we wanted to do is much lower now than it was back when we started doing this work in 2004 to 2009.”

“Teachers are actually afraid of raising the family issues with the students because they feel that the students are seeing some bad things in their families and they are worried about raising issues that they won't be able to resolve. So we saw that as a sort of need for the teachers and the leaders to be able to get more training and support if they were able to get over those anxieties to be able to work things forward.”

“We describe those as low readiness because what it means is the actual key leaders within the school are in a position where they need to resolve some issues, emotional issues and also that they relate to setting up - write behavioural agreements and policies with parents so that you can feel secure and safe again in school leadership and also, for the parents to know how to behave and what the norms are and the expectations.”

Finally, although recognising the low recruitment rates, the program delivery team expressed their commitment to the social significance of Resilient Families Plus and reported that:

“using less devices, which is a really, a very serious issue that most of the families have... so they are desperate finding a way to get their children off the device.”

Participating school leader's perspective

One of the participating school leaders **questioned the acceptability of the family activities** in Resilient Families Plus (as emphasised in their quote below). As demonstrated in Figure 2, and Table 7 Resilient Families Plus requires more involvement and time from families than the previous Resilient Families program.

"I think it's an excellent program and I really support what they're trying to do. But I think - yeah, I think in its entirety, it - I think it's a very difficult thing for schools to manage in terms of parent - you know what I mean, run parent forums and things."

"In a perfect world, I would love all these parenting programs to happen but they're just not easy and they require probably more time for less impact at our school because of the demographic and the cohort and I said this in the beginning. That's why we only used part of it."

The school leader explained that the school utilised only 3 of the possible 10 sessions in the student curriculum of Resilient Families Plus. These **curricula were valued** and identified as **"different from Respectful Relationships"** yet **not as engaging** as other programs:

"The other thing being there's also a lot of other resources that are probably more engaging for our students."

Finally, the school did agree to participate but at the end the school leader concluded that the **value of the outcome did not justify the resource allocation** in the school:

"I think I've probably put in more time than I was expecting to run this and probably more time than I think was necessary given the small amount of the resources that we used."

Participating parent's perspective

Participating parents who agreed to be interviewed were only able to provide limited feedback about Resilient Families Plus as they reported little involvement and knowledge of the program. Regardless, they valued two specific components of the program: **the high quality content in the parent handbook (part of the original Resilient Families)**, and the **helpful advice given in the Parent committee training session (new component in Resilient Families Plus)**.

"Having the book has been nice to see that if this is what they were covering in the classrooms then it follows our own personal philosophy on how we interact with our kids. So, yeah, that's nice to see, for us."

"When I listen to the teacher at the morning tea the way they talk, very interesting. Like I give time, like give the kid one hour to do playing game. After that stop, you have to do reading. Do like the timetable for them and for me I have to pay attention to my son, what he says. I don't want him to get upset and that's sort of the way I resolve it with my son. Just pay attention to him and don't scream and don't shout at him."

Research Question 2: Can Resilient Families Plus be implemented with high fidelity?

Interviews with key stakeholders and an audit of the program implementation collected by the program delivery team throughout the pilot study were analysed to determine if Resilient Families Plus was delivered as per the protocol outlined in the program logic (see Figure 2). Table 7 demonstrates that the implementation of Resilient Families Plus in this current pilot study varied to the recommended program logic in three important ways, which resulted in poor fidelity. First, the activities that schools delivered as part of the program were flexible. Such adaptability is highly valued by schools and often a marker of effective collaboration with schools, yet minimises implementation fidelity for evaluation. Secondly, the completion and sequence of activities varied from what was recommended in the program logic. Thirdly, low parental participation undermined the delivery of the new components of Resilient Families Plus.

Schools were able to use components of Resilient Families Plus flexibly

Schools are complex communities with unique members and needs. As such, partnering organisations typically need to be skilled at working with schools to allow for flexibility and school input into shaping programs that operate to benefit their students and families (Tully, 2007). This flexibility, however, can undermine fidelity of implementation and thus readiness for evaluation. In the current pilot, schools were able to select how they incorporated Resilient Families Plus, as evidenced by comments from both the school leader and program developers:

“In the schools that we were working with, the first step was to tailor the Resilient Families session content to get as much of it as we could get into the schools. At that first set up meeting where they felt that what the exercises that were in the program, if they were able to show that they believe that content was already covered by something they were doing, then that was fine in the sense that we felt the students were getting everything that was in the curriculum that some of it was covered.” (program developer)

“We prefer the schools to run the whole sessions, but considering there are lots of other programs running there, we don’t want to duplicate the things that they are doing... So we are flexible with that, because we know that they are running different programs and it’s not just our program. With the other sessions, that’s the same thing. So they run usually the whole sessions, but if they are running other programs that already covered the issues, the topics, they can escape that.” (program developer)

“So, we didn’t fully implement the program. We sort of took parts of it that were missing from our current curriculum and we changed - so we took mainly their conflict and conflict resolution scenarios and we also had a meeting where (program developer) looked over our existing structure of the unit that we teach our students about resilience. Then (program developer) gave us a few suggestions for how we could change.” (school leader)

“We basically picked the parts that would fit and that we thought would add to an existing resilience unit program that we had already developed for our students using other curriculum materials ... So, it wasn’t - we didn’t just run their program.” (school leader)

Sequence and completion of activities varied notably from the program logic

Implementation records provided by the program developer (see Table 7) highlighted that the implementation of Resilient Families Plus differed from that recommended in the program logic (see Figure 2).

The text in italics below denotes the two components added to Resilient Families to form the new Resilient Families Plus.

Table 7: A comparison of recommended implementation versus actual implementation, as reported by the program delivery team

Activity as reported by program delivery team	1 st term of delivery	2 nd term of delivery	3 rd term	4 th term

Activities and sequence recommended in the Resilient Families Plus Program Logic	Activities with Teachers and Leaders -School planning (includes readiness assessment and staff training)	Activities with Students ·10 session curriculum delivered by teachers once/week Activities with Parents -Books mailed home -PACE groups -Quiz Night - <i>Parent committee training 2 hours</i> - <i>Social marketing brochure with messaging for reading at home</i>		
Actual delivery in School 1 (as reported by the program delivery team)	Activities with Teachers and Leaders ·School planning (includes readiness assessment and staff training) Activities with Students ·Commenced week 5 of the term. 4 session curriculum delivered by teachers		Activities with Parents ·Parent handbooks mailed home · <i>Parent committee training</i>	
Actual delivery in School 2 (as reported by the program delivery team)	Activities with Teachers and Leaders ·School planning (includes readiness assessment and staff training)		Activities with Students ·10 session curriculum delivered by teachers but not full implementation Activities with Parents ·Parent handbooks mailed home · <i>Parent committee training</i>	

Table 7 demonstrates that the two unique components of Resilient Families Plus (i.e. parent committee and distribution of the parent reading campaign brochure) occurred much later than recommended by the program logic and outside the evaluation timeframe. For example, the student curriculum sessions were conducted in either the 1st or 2nd term yet the parent committee and reading guide distribution occurred at the end of school Term 4.

Interviews with program developers and the school leader indicated poor implementation fidelity, as expressed by the comments below.

One school leader indicated that ‘we couldn’t implement the Resilient Families framework as it sits because it would not have been a success’ and questioned the poor timing of some activities:

“I have no idea (impact of Parent Booklets). It was done at the end of the unit. It should have been done - they should have been sent out really during the unit or at the beginning or something, not at the end of the year before Christmas, you know... If I'd have known that resource was available, I probably would have timed it differently.”

The school leader also explained that they only implemented a small portion of Resilient Families Plus estimating “15 per cent to 20 per cent” of their program... “two or three lessons”

The program developer acknowledged poor implementation fidelity due to the barriers they faced in the study:

“The other thing we had hoped to do was to be able to set up the implementation of the program in such a way, guided by the evaluators, so that it could be evaluated. Again, we have ended up in a situation where basically the way that the program ran, there is not a confidence that it can be evaluated within the original framework.”

Low parental participation undermined the implementation of Resilient Families Plus

The two new components of Resilient Families Plus that aim to shift the academic precursors of students rely on the participation of families. Resilient Families has previously reported low parental participation with publications quoting parent participation rates of 9% for PAQ events and 4% for PACE (Shortt et al., 2006). The program implementation records provided by the program delivery team indicate that 3 parents and 4 parents, from each school respectively, attended the Parent committee training session at the end of Term 4. Based on the average student Year 8 enrolment numbers across the intervention schools, parental participation rate was recorded to be 2%. This equates to 8% of parents whose children were consented to participate in the evaluation.

The program delivery team identified an increase in casual and shift work as one reason why parents were not as involved in this program as they had been in the original Resilient Families program controlled trial and PACE studies:

“So for the families, they are more than happy for their kids to be part of the study. When it gets to themselves to participate ... they’re working more hours, double shifts, casual work and shift work and things like ... So it is really hard for them to manage their time and to be able to be part of the study.”

Secondly, furthering earlier comments about school’s busyness and poor school-family partnerships, the program delivery team saw a decrease in the capacity of the school personnel to organise and run parent programs compared to their previous experience:

“But the idea of actually having an (parent) event was difficult for them; actually scheduling the event was very hard for the schools. We didn’t get them to schedule in the end; we couldn’t get them to set a time and it was always the same story that they were just overwhelmed.”

A lack of parent involvement in the school beyond Resilient Families Plus was expressed by both the school leaders and a parent who agreed to be interviewed:

“So, the Resilient Families program (the parts around the parental engagement) as it existed did not suit our demographic and the - I guess the involvement of our parents.” (school leader)

“I couldn't tell you when most parent participation events happen. I know there's a parent and friends' group, but I think even they struggle to find a time to meet. Apart from our parent teacher interviews or conferences, whatever they call them now. I don't have a huge amount of involvement with this school.” (Parent)

Research Question 3: What are the reported barriers to the effective implementation of Resilient Families Plus?

Given the poor implementation fidelity described above, it is useful to analyse the qualitative data to determine reported barriers to implementation that may be malleable to improvement. Three main barriers to implementation in the pilot study were identified by stakeholders.

Recruitment challenges: Lack of support in recruiting schools

The program developers commented that they experienced more barriers to implementing Resilient Families Plus than the original Resilient Families as schools were busy implementing a government-endorsed program. The program developers believed that school recruitment was significantly hindered because they were solely responsible for recruitment, as evidenced by the quotes below:

“We assumed because it was focused on improving educational outcomes in Victoria, that it would have been set up with state government approval and with the Department of Education as a partner...When we went into the project, E4L informed us fairly late in the day that in fact, there had been no setup and there was no official approval for the project within the Department of Education. Neither Vic Health nor E4L had done anything to get official approval and they said that was my job and I was to do it (approaching schools). So we were a bit surprised at that and I think that is a critical flaw in the way the project was set up because it meant that the study was simply a research project from Deakin University and I think that would have been more attractive if it had been an official government project as was Respectful Relationships.”

“I think the next time we go and try and do something like this, we will make sure that we have got government backing and the government can tell us when to do it because they probably don't want to be doing it at the time when they are already asking the schools to do another priority program.”

Improving communication across stakeholder relationships

All stakeholders identified a lack of effective communication as a barrier to successful implementation. The main communication lines that were reported as ineffective included school and family; and school and program developers.

Parent-school communication

As discussed elsewhere, the school leader cited low parental involvement as a barrier to the implementation of Resilient Families Plus. The participating parents identified that parent-school communication was problematic on the whole (e.g. *“I don't know if it's just a high school thing, I find the communication from X High School a little bit late”* parent). With regards to the Resilient Families Plus

program parents felt that beyond the initial permission notes that were signed, they did not receive adequate communication about the program:

"I mean I was aware after signing the forms at the beginning of the year, or however long ago it was, but apart from that I wasn't aware or reminded or updated on what was going on monthly, every term, whatever, no."

"When I was at the meeting last week, they handed me some books about the program (parent handbook), and when I opened up the envelope, there was a letter in it dated the thirteenth of the eleventh. So, they obviously haven't been sent out to families." (parent)

As shown in the quotes below, they also explained that they desired more communication, namely to be able to discuss with their child at home about the content.

"Definitely like more (communication)" (parent)

"Even if it's not even a weekly, a term overview of things that they would be covering. So, at least you've got a conversation starter at home over dinner to say that I read that you had been doing in Resilient Families. What sorts of things have you been doing in class? Just even things like that, just conversation starters that you can have around the dinner table at home... Because often you'll say to the kids what they did at school today, it's like nothing." (parent)

School-program developer communication

Both the school leader and program developers valued the relationship with each other to support the success of Resilient Families Plus in a busy and complex environment. Both also suggested that improvements in communication were needed to facilitate improved implementation. The program developers provide a **monitoring document for the schools** to indicate when specific activities occur and who attends but:

"they don't complete it unfortunately" and "usually teachers don't really sit and tick the boxes and complete it after the sessions and that's one of the issues that we have with just the feedback."

The school leader valued the delivery team's responsiveness and flexibility in communication but recommended that a **long-term planning document was required** to facilitate the school's ability to plan and run activities:

"I think the communication was excellent and the flexibility that they had was excellent and they were punctual, and they did everything that they said that they would do. It's just that annual timeline that I think would be more useful and that's from a school leader perspective, in terms of managing." (school leader)

"So, the morning tea came a bit too late for me to be able to organise it well. Yeah. I didn't have enough lead in time..." (school leader).

Low parental participation

A substantial and recurring barrier discussed by the program developer and school leader was a lack of parental interest, capacity and/or involvement in school in general. This was reported to result in both school's reluctance to implement Resilient Families Plus and in parent's poor attendance at events. Two primary reasons were provided as to why parent participation was low.

Low capacity of parents to participate

The school leader and program developer identified characteristics of the parents that inhibited participation to be having English as a second language, family stress and work commitments:

“So that's really all and I think that when - because I looked through the materials and I honestly feel like I wished that we could do this at our school. I wished that we had the parents that would be willing to work with their kids through this stuff because it looked really powerful. But we couldn't really. So, I don't think that based on our unique experience - because we're like off the charts in terms of cultural diversity, language background other than English, low socioeconomic status in our area.” (school leader)

“So I've been trying to understand what's changed and I think one of the things that we are hearing from the stakeholders is that problems such as family breakdown, family violence are more prominently discussed and I think that people are also - another that came up in the discussions we've had with those parents who have talked to us, is they talk more and more about the casualization of their work roles... Many of them say they are in a position where they don't get to call the shots in their jobs; they are called in at odd hours.” (program developer)

As a possible resolution to this situation, the program developers proposed that **students and families could receive incentives** to participate in Resilient Families Plus:

“But unfortunately it didn't work because of the barriers that we've mentioned and I think if we were to start from the beginning, maybe we ask for more funding and put in place incentive for school students and families who are participating. These would help us a lot I believe and perhaps considering more time.”

One of the parents who was able to attend, however, identified potential barriers to participation as **not receiving enough notice for events** and the **inaccessibility of resources in the program**. She provided the example of the parent handbook that was 115 pages long with no images, commenting:

“I think ...as a parent if you were coming and it's with little or no knowledge, you'd be pretty overwhelmed.”

Increasingly deteriorating school-family partnerships

As mentioned earlier, the developers believed that the school-family partnership had deteriorated since they conducted the original Resilient Families program. In order to address this issue they proposed that a **dedicated officer be placed in schools** to work on school-family partnerships:

“We know how to do readiness building; it's a step-by-step time consuming, but doable project where you work with those people that are available and then you work out to solve problems that can enable more and more to participate until such time as you change the social norm in the teachers and the parents about how we work together. But the scale of the problem now is much greater and it needs a dedicated officer who was just focused on that and I think it would be potentially at least a part-time job for someone over a year.”

The new components of Resilient Families Plus are not fit for purpose

The school and parent participation rates provided by the program developers demonstrate that engagement is a fundamental barrier to implementation. Three possible hypotheses may be drawn from the quantitative and qualitative data about the nature of this barrier. The first is that parents are not actively involved in their adolescent's schooling and Resilient Families Plus program due to their

inherent characteristics, and if this is the case, it must be rectified in order to witness positive effects to academic precursor outcomes for students. Alternatively, and as a second hypothesis, it might be that parents **do want** to be involved but do not have the time to commit to the various parent components and this suggests the program's design may not fit the program's targeted participant group. The third opposing hypothesis is that the components of Resilient Families Plus that require parental involvement are not valued or considered appropriate by either the school or parents, as expressed by the school leader who proclaimed "it wasn't a perfect fit for our cohort" and thus must be re-considered.

3.3 Quantitative Evidence to support the Theory of Change

Outcomes of the pilot on Resilient Families Plus are examined through the theory of change. This section addresses not only whether the intervention was effective in terms of producing desired outcomes but also considers whether the program functioned in the manner in which it was theorised. To address this aim, the following research question was addressed:

Research Question 4: What is the Resilient Families Plus intervention's relationship to student academic precursors (academic self-concept and academic resilience)? What evidence is there to support the theory of change?

In keeping with a rigorous evaluation design, the Resilient Families Plus program developers were advised to conduct surveys with the participating Year 8 students at two key time points: (1) a pre-test conducted prior to the start of their school's delivery of the student curriculum elements and parental engagement activities and (2) a post-test conducted at the conclusion of the student curriculum elements and, ideally, concurrent parental engagement activities which includes the PAQ, PACE, Parent committee training session and parent reading campaign brochure.

Due to various school engagement challenges, including the recruitment of parent participants, timing of the student post-test was not in keeping with the program logic in the current evaluation. While participating Year 8 students completed an online pre-test prior to the start of their school's delivery of the student curriculum element of the Resilient Families Plus intervention, their post-tests were not aligned with the recommended sequence. In both schools, post-testing occurred prior to Resilient Families Plus parental engagement activities (PAQ, PACE and Parent committee training session), inclusive of the distribution of resource materials (Parent handbook and Parent reading campaign brochure).

Furthermore, it is important to note that, while the standard Resilient Families Plus student curriculum is based on a 10 session/weekly delivery (Shortt et al., 2006), actual curriculum delivery during this evaluation varied across the two locations. To aid in recruitment, the two participating schools were offered flexible delivery by the Resilient Families Plus delivery team, each employing a truncated version of the Resilient Families Plus student curriculum.

For these reasons, we note that the findings presented below represent an incomplete evaluation of the full Resilient Families Plus intervention and should be interpreted with some caution.

The online pre/post intervention surveys contained three scale measures of two key psychosocial variables, viewed as academic precursors:

1. *Academic Self-Concept* (two measures, 8 items each): Academic self-concept is regarded as a proxy measure of students' actual academic outcomes (Byrne & Worth-Gavin, 1996) and positive self-concepts are considered to be advantageous within academic settings. This outcome was measured by two domain-specific subscales [Mathematics (8 items) and English Literature (8 items)] of the *Academic Self-Description Questionnaire II* (Marsh, 1990), found to have excellent

internal consistency ($\alpha = 0.92$). Items were measured using a 7-point Likert scale, ranging from “strongly disagree” to “strongly agree”, with higher values indicating more favourable outcomes.

2. *Academic Resilience* (6 items): Academic [sometimes ‘educational’] resilience has emerged as a context-specific form of individual psychological resilience and, as argued by Colp and Nordstokke (2014), was created to offer greater assessment and prediction specificity to resilience research (Cassidy, 2016). Closely related to individual psychological resilience, which examines the capacity for dealing with challenges and adversity, academic resilience is concerned primarily with the relevance of resilience in an educational context and is defined as “a capacity to overcome acute and/or chronic adversity that is seen as a major threat to a student’s educational development” (Martin, 2013, p. 488). This outcome was measured by the *Academic Resilience Scale* (Martin & Marsh, 2006), found to have strong internal consistency ($\alpha = 0.89$). Items were measured using a 6-point Likert scale, ranging from “strongly disagree” to “strongly agree”, with higher values indicating more favourable outcomes.

Baseline/Pre-Test Observations

In order to gain a more complete understanding of the participating cohort, students’ pre-test (or baseline) scale data was compared to published average data for each of the three measures. As shown in Tables 8-9, participants’ baseline data was comparable to published mean scores.

Table 8: Comparison btwn. baseline (pre-test) participant data and published scale means, ASDQII Scales

Constructs	Evaluation (N = 34)		(Marsh, 1994)	
	M	SD	M	SD
Mathematics Self-Concept	4.48	1.19	3.78	1.52
English Self-Concept	4.52	0.80	4.06	1.91

Table 9: Comparison btwn. baseline (pre-test) participant data and published item means, Academic Resilience

Items	Evaluation (N=34)		(Martin & Marsh, 2006)	
	M	SD	M	SD
1. I believe I’m mentally tough when it comes to exams	5.01	1.73	4.39	1.40
2. I don’t let study stress get on top of me	5.09	1.56	4.46	1.69
3. I’m good at bouncing back from a poor mark in my schoolwork	4.75	1.83	4.94	1.29
4. I think I’m good at dealing with schoolwork pressures	4.97	1.66	4.59	1.36
5. I don’t let a bad mark affect my confidence	4.53	1.66	4.58	1.45

6. I'm good at dealing with setbacks at school (e.g., bad, negative feedback on my work)	4.84	1.71	4.76	1.38
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Pre/Post-Test Comparisons

Additional analyses investigated participants' pre/post-test mean score comparisons across each of the three measures. Table 10 presents full scale mean comparisons. Negligible decreases were apparent from Time 1 to Time 2 across both of the academic self-concept measures, neither of which approached statistical significance. A modest gain in participants' academic resilience from Time 1 to Time 2 was also noted.

Table 10: Paired t-test, full scale measures

Constructs	Mdiff	SD	t-test	p
Mathematics Self-Concept	-0.04	0.54	-.480	.635
English Self-Concept	-0.15	0.69	-1.243	.223
Academic Resilience	0.16	0.82	1.115	.273

Tables 11-12 below outline mean score comparisons at the item level for each of the three measures. As can be seen, most items across the two academic self-concept measures evidenced a trivial decline between Time 1 and Time 2.

Table 11: Paired t-test, Mathematics Self-Concept, Individual Items

Items	Mdiff	SD	t-test	p
1. I am hopeless when it comes to mathematics classes.	-0.04	1.13	-.190	.851
2. I learn things quickly in mathematics classes.	-0.00	0.97	-.000	1.000
3. I have always done well in mathematics classes.	0.12	0.84	-.799	.430
4. Compared to others my age I am good at mathematics classes.	-0.04	1.17	-.183	.856
5. Work in mathematics classes is easy for me.	-0.07	0.75	-.572	.571
6. I get good marks in mathematics classes.	0.01	0.97	.032	.975
7. It is important to me to do well in mathematics classes.	-0.11	1.39	-.436	.646
8. I am satisfied with how well I do in mathematics classes.	-0.22	1.43	-.902	.374

Table 12: Paired t-test, English Self-Concept, Individual Items

Items	Mdiff	SD	t-test	p
1. I have always done well in English literature classes.	-0.18	1.24	-.867	.392

2. Work in English literature classes is easy for me.	-0.11	1.13	-.572	.571
3. Compared to others my age I am good at English literature classes.	-0.28	1.10	-1.497	.144
4. I get good marks in English literature classes.	0.00	0.87	.000	1.000
5. I am satisfied with how well I do in English literature classes.	-0.07	1.06	-.403	.689
6. I learn things quickly in English literature classes.	-0.15	1.10	-.780	.441
7. I am hopeless when it comes to English literature classes.	-0.35	1.86	-1.089	.284
8. It is important to me to do well in English literature classes.	-0.04	1.25	-.172	.865

As can be seen in Table 13, several of the academic resilience items did evidence some gains across Time 1 and Time 2. Specifically, Item #5 (“I don’t let a bad mark affect my confidence”) showed a gain of 0.35 points on the 6-point Likert scale, generating a Cohen’s d_{RM} effect size of 0.32 – between the threshold for ‘small’ (0.20) and ‘medium’ (0.40) effect size (Cohen, 1988). Likewise, Item #4 (“I think I’m good at dealing with schoolwork pressures”) showed a gain of 0.31 points, with a Cohen’s d_{RM} effect size of 0.26. However, using a 95% confidence interval, lower and upper limits cross zero and, thus, these effect sizes should be interpreted with caution especially since they were not statistically significant.

Table 13: Paired t-test, Academic Resilience, Individual Items

Items	Mdiff	SD	t-test	p
1. I believe I’m mentally tough when it comes to exams.	0.22	1.85	.695	.492
2. I don’t let study stress get on top of me.	-0.11	1.59	-.421	.676
3. I’m good at bouncing back from a poor mark in my schoolwork.	0.13	1.25	.620	.540
4. I think I’m good at dealing with schoolwork pressures.	0.31	1.10	1.646	.109
5. I don’t let a bad mark affect my confidence.	0.35	1.11	1.852	.073
6. I’m good at dealing with setbacks at school (e.g., bad, negative feedback on my work).	0.04	0.69	.373	.711

Within-Cohort Analyses

Additional analyses were performed to investigate whether or not sub-cohorts of the total sample evidenced different trends in outcomes between Time 1 and Time 2. Specifically, the sample was divided into “low”/“high” bands on each of the three measures using participants’ baseline/pre-test scores. Reported mean scores in the literature (Marsh, 1994; Martin & Marsh, 2006) were used to determine bands for the two academic self-concept measures (“high” self-concept > 4.0), and the measure of academic resilience (“high” academic resilience > 4.5).

Table 14 shows outcomes for the measure of mathematics self-concept. While high baseline achievers (n=22) showed a minor decrease in their average scores, it is notable that low achievers showed an increase of 0.26 points on a 7-point Likert scale.

Table 14: Wilcoxon Signed-Rank Test, Low/High Mathematics Self-Concept (SC) Pre/Post-Test Comparisons

	Pre-test		Post-test		Wilcoxon Signed-Rank Test	
Groups	M	SD	M	SD	Z	p
Low Maths SC (n=12)	3.10	0.70	3.36	0.93	-1.376 ^a	.169
High Maths SC (n=22)	5.24	0.53	5.03	0.678	-2.412 ^b	.016

Note: a. based on negative rank. b. based on positive rank

Table 15 shows outcomes for the measure of English self-concept. While high baseline achievers (n=26) showed a minor decrease in their average scores between Time 1 and Time 2, it is notable that low achievers showed an increase of 0.27 points on a 7-point Likert scale.

Table 15: Wilcoxon Signed-Rank Test, Low/High English Self-Concept (SC) Pre/Post-Test Comparisons

	Pre-test		Post-test		Wilcoxon Signed-Rank Test	
Groups	M	SD	M	SD	Z	p
Low English SC (n=8)	3.44	0.63	3.71	1.00	-0.423 ^a	.672
High English SC (n=26)	4.86	0.49	4.58	0.56	-2.372 ^b	.018

Note: a. based on negative rank. b. based on positive rank

Table 16 shows outcomes for the measure of academic resilience. While high baseline achievers (n=23) showed a trivial increase in their average scores between Time 1 and Time 2, it is notable that low achievers (n=11) showed an increase of 0.43 points on a 6-point Likert scale.

Table 16: Wilcoxon Signed-Rank Test, Low/High Academic Resilience Pre/Post-Test Comparisons

	Pre-test		Post-test		Wilcoxon Signed-Rank Test	
Groups	M	SD	M	SD	Z	p
Low Aca. Resil. (n=11)	3.32	0.65	3.75	1.11	-1.435 ^a	.151
High Aca. Resil. (n=23)	5.60	0.76	5.63	0.95	-0.442 ^b	.658

Note: a. based on negative rank. b. based on negative rank

School level comparative analysis revealed some differences in mean scores across the three academic precursor measures (Figures 9-11). Given that School 2 implemented a greater overall percentage of the Resilient Families Plus student curriculum, these results hint at a positive association between

curriculum dosage and the selected academic precursors; as can be seen in the Figures below, students in School 2 evidenced moderate gains in these measures between pre/post testing. School 1 showed a decline in both of the academic self-concept measures and a trivial increase in academic resilience.

Figure 9: Comparison btwn. Schools' baseline (pre-test) means, English Self-concept

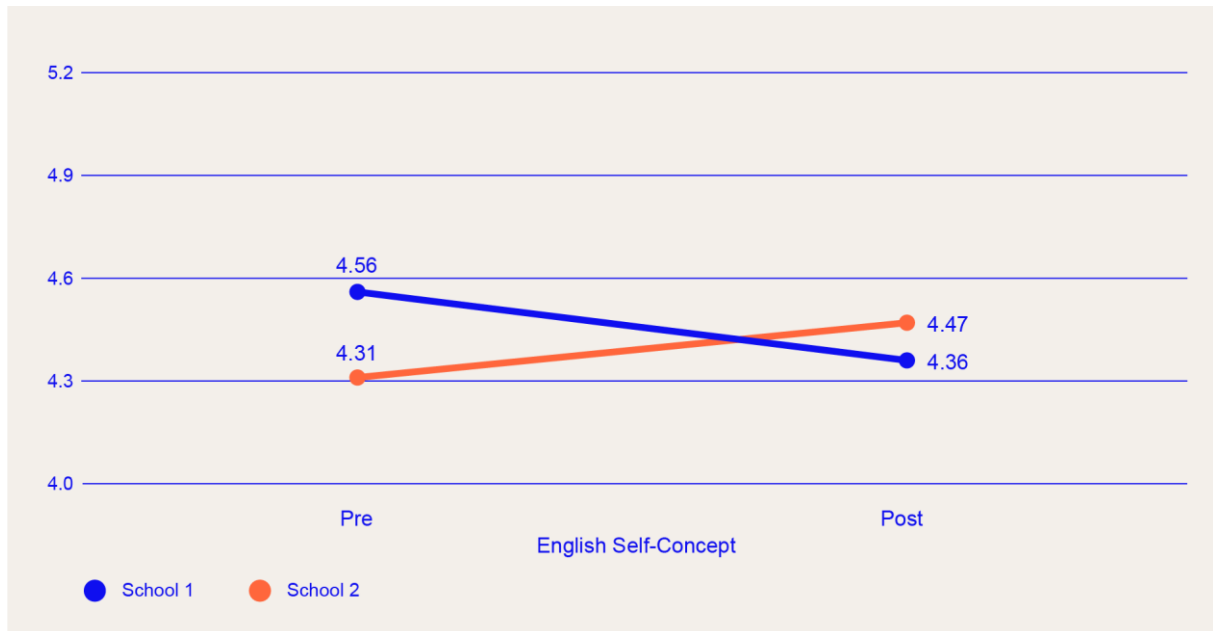


Figure 10: Comparison btwn. Schools' baseline (pre-test) means, Mathematics Self-concept

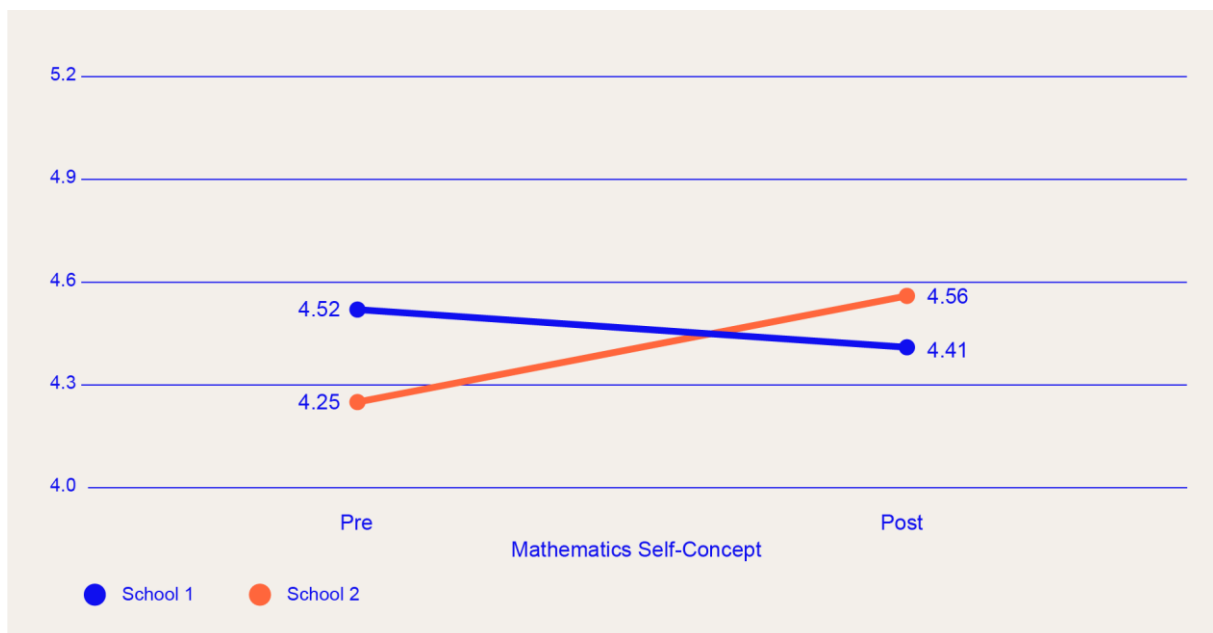
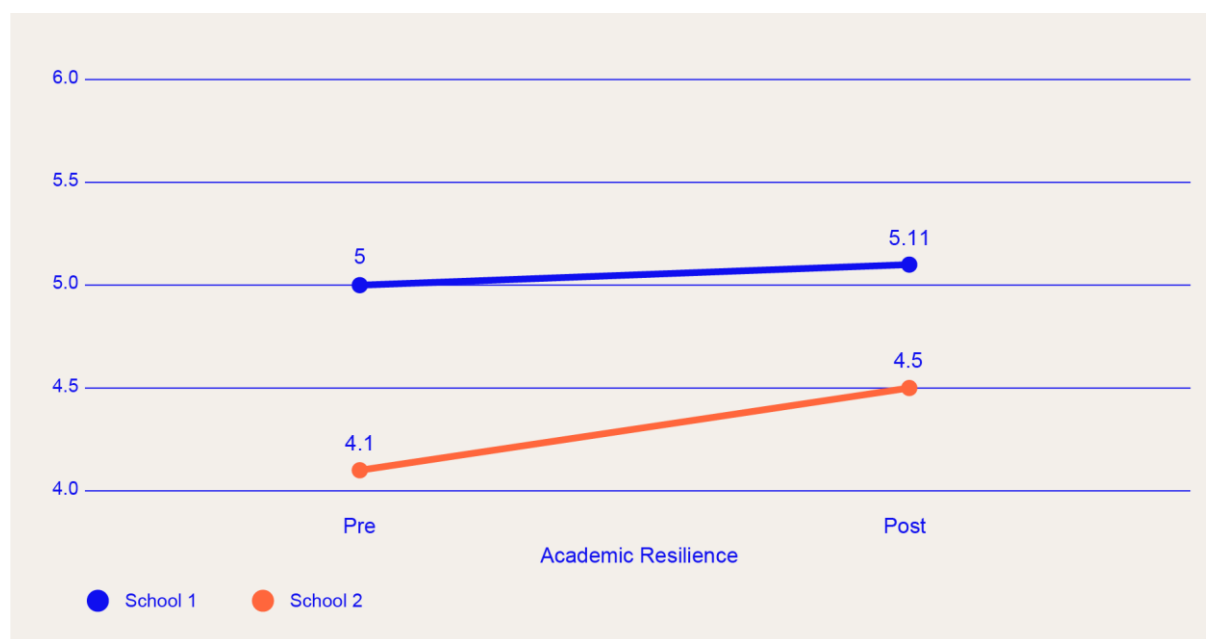


Figure 11: Comparison btwn. Schools' baseline (pre-test) means, Academic resilience



It is important to acknowledge that no PAQ, PACE, or Parent committee training session had been conducted before students in both intervention schools completed their post surveys (School 1 - July, 2018; School 2 - November, 2018). Parents were mailed a copy of the parent handbook in early December and a total of 7 parents received a copy of the parent reading campaign brochure in mid-December, 2018. Consequently, no parent recourses or parental engagement activities were implemented prior to students completing their post intervention surveys. Based on the delivery of the parent components of the program, the findings above must only be interpreted in terms of the contribution the student curriculum had on their academic self-concept and academic resilience. Impact of the student curriculum was most pronounced for students who initially reported lower levels of academic self-concept and academic resilience. Relative to their pre survey results, at post survey they showed gains across maths and English self-concept as well as academic resilience. Students reporting higher ratings across these measures at pre intervention remained similarly high in the reporting of academic resilience and marginally lower for maths and English self-concept post intervention. These findings demonstrate evidence, although weak in its form, that the psychological drivers of academic self-concept and academic resilience are credible constructs to the veracity of the theory for the student curriculum but does not verify the full program's logic and therefore caution needs to be taken.

Since the initial evaluation protocol was made unviable due to recruitment challenges, it was not possible to quantitatively examine the effects of Resilient Families Plus on 'student reading outcomes' as stipulated in the program logic. Notwithstanding this, the full Resilient Families Plus program was only partially completed and therefore the findings on the evidence supporting the theory of change would remain inconclusive.

3.4 Qualitative evidence to support the theory of change

Interviews with the program developers, school leadership and parents of participating Year 8 students provided some further complementary data to answer Research Question 4 and identify the relationship between the Resilient Families Plus program and student academic precursors, from the perspective of key stakeholders. The analyses of the qualitative data to inform Research Question 4 is valuable as, unlike the quantitative data, it occurred at a time when the Parent committee training session and parent reading campaign brochure had been implemented.

Interview data provided no support for the attainment of improved 'student academic precursor outcomes' or 'student reading outcomes' identified in the program logic constructed by the program developers (see Figure 2). One **parent**, however, did report that Resilient Families Plus had improved the way he managed his child's time and communicated rules and expectations, as demonstrated by his comments below. This may indicate that a shift occurred at the 'family outcomes' level in the program logic model which may lead to future improvements in student outcomes (see Figure 2).

"When I listen to the teacher at the morning tea the way they talk, very interesting. Like I give time, like give the kid one hour to do playing game. After that stop, you have to do reading. Do like the timetable for them and for me I have to pay attention to my son, what he says. I don't want him to get upset and that's sort of the way I resolve it with my son. Just pay attention to him and don't scream and don't shout at him."

"I like the program; it's very, very helpful... Like before I don't even know how to handle with my son until today I come to school. I listen to teacher and ask him to work it out, like set the time, the program, how to talk. As adult meant to say yes, you will do this, have to do it for - you have to set a good example. You have to do it, instead of saying yes and then you - one second later you say no. The kid don't like it. So then when you say yes you have to do."

The **School Leader** expressed the opinion that the portion of the student curriculum utilised at the school resulted in positive student outcomes such as relationship skills:

"I definitely think it had a positive impact on students... the conflict - yeah, the stuff that we included was good and was useful and the students understood it ... It was good, and it resonated with the students and we were able to use it"

Although this feedback is encouraging, the focus of this evaluation was to identify the impact on student academic pre-cursor outcomes when Resilient Families Plus was implemented, and no change in student academic outcomes or pre-cursors were identified by the school leader.

Similarly, the **program developers** reported that they had received positive feedback about how family interactions had improved (as described below). There was no report, however, of an improvement in student academic pre-cursor outcomes.

"From what we've had, the feedback that we've had they liked the homework, most of them and just being connected to their children was one of the things that they liked. Being able to communicate with them. Sit with them. Talk to them was a positive thing that we've heard about them ... the communication was the first thing. Rules and responsibilities in the family, that they can set some rules together and having that rapport if you like, having that connection back was a positive thing for them."

In sum, the interviews with key stakeholders did not provide evidence to support the theory of change that Resilient Families Plus results in improved student academic precursor outcomes. One parent, however, reported that they learnt about how to manage their child's screen time and reading, and communicated more effectively with their child. These findings should also be interpreted with an understanding of the implementation data presented in section 3.2.

3.5 Cost

Cost data were collected and calculated in accordance with the EEF Guidance on Cost Evaluation (2016). Cost data were collected through surveys and interviews from the program developers and a participating school. Both direct costs and school staff costs are reported in addition to the cost per student estimated calculated by the evaluators.

The program delivery team and one participating school provided data about the cost involved in running Resilient Families Plus throughout the pilot study. The cost data was self-reported and thus presents individuals' estimates of resources, personnel time and associated costs. Nonetheless, it provides insight into the potential costs to schools and to the program delivery team in running Resilient Families Plus.

In total, Resilient Families Plus was costed at \$14,965 per program for the program delivery team (presented in Table 17). Based on the number of student participants being 160, this equates to a per student cost of \$93.53.

In addition, it is estimated that participating schools would need to provide approximately 40 hours of teacher time as in-kind to support the delivery of Resilient Families Plus and some administrative support for distribution of materials to families and organising of events.

The program cost is rated as Very Low (under \$160 per student) according to the Evidence for Learning cost rating (Appendix 3).

Table 17: Cost incurred by Resilient Families Plus Program Delivery Team per School (Self-report)

Item	Type of cost	Cost*
Training of school staff (parent engagement policy development)	Printing x 6 Personnel	\$789
Administering pre-survey to students as part of standard program delivery	Personnel	\$700
Training of school staff (teachers to deliver 10 session student curriculum)	Printing x 6 Binding x 6 Personnel	\$984
Distribution of Student Workbook	Printing x 160	\$712
Training of school staff for Parenting Adolescents Quiz	Printing x 2 Personnel	\$808
Delivery of 2-hour Parenting Adolescents Quiz	Personnel Resources	\$806
Training of school staff for delivery of 8 session Parenting Adolescents: A Creative Experience (PACE)	Printing x 2 Personnel	\$1,009

Delivery of PACE over 8 sessions	Personnel	\$6288
Distribution of Parent Handbook to parents	Printing x 160 Postage	\$1,303.60
2-hour Parent committee training (RF+ only)	Printing x 3 Personnel	\$789
Distribution of Reading Guide to parents (RF+ only)	Printing x 160	\$176
Administering post-survey to students as part of standard program delivery	Personnel	\$600
TOTAL		\$14,965

Note. Calculations for one program assume a cohort of 160 Year 8 students.
*Costs are reported in AUD.

3.6 Limitations

There were a number of limitations to this evaluation. The limitations are important to acknowledge because they characterise the design and methodology of the evaluation. The limitations influence the interpretation of the findings and the conclusions that can be drawn. Discussing the limitations provide an opportunity to refine the intervention design, materials and theory but also inform and optimise a future evaluation design. Each of the limitations and the implications for the evaluation and future trial are discussed below.

Recruitment

Recruitment challenges and the impact on the project's timeline activated a risk management plan. Consequently, although the process and cost evaluation was implemented according to the original protocol's design, program delivery was modified to focus exclusively on Resilient Families Plus. The revised methodology weakened the evaluation design because there were no comparison groups (ie. no original Resilient Families and a control group). Insufficient sample size was an outcome from the recruitment challenges. The findings are therefore not generalisable given the sample could not be considered representative of the population and statistical analyses applied were limited due to the small sample size and inability to compare across an intervention and non-intervention group.

Concurrent evaluation

Beyond recruitment and corresponding change to the project's design, another factor affecting the sample size was the program developer's concurrent research project (see Australian New Zealand Clinical Trials Registry number: [12618001134213](#)). The concurrent research project conducted by the program developers placed competing demands on the evaluation participants. Implications of the concurrent evaluation are outlined below.

Hesitantly the evaluators and Evidence for Learning agreed in the project's set up meetings for the developers to continue their business as usual practices. This entailed the developers evaluating their program for future improvements through student pre and post intervention surveys. Later however, and without consultation with either the evaluators or Evidence for Learning, their business as usual practices replicated the evaluation's original protocol design with the inclusion of a comparison group. Pre and post student surveys from the evaluation's control schools were added to the developer's business as usual practices. Additionally, the developers added parent surveys as well as focus group interviews with teachers, school leaders and parents to their business as usual practices.

The developer's research project activities hindered the evaluator's data collection and the quality of evidence available to evaluate Resilient Families Plus. Parallel recruitment and duplicate data collection caused fatigue from the participants. Findings on the evaluation's assessment of social validity of the program may therefore be confounded. Substantiating evidence for these conclusions are considered in depth below.

There were differences recorded between the number of completed student pre and post- intervention surveys favouring the developers over the evaluators. Students needed to be motivated to click on the link to the evaluator's survey within the developer's pre and post online surveys. This extra step may be a factor explaining why the developers had higher survey response rates for the same survey sitting. The program developers included five questions at the end of their survey on sexting and pornography despite the evaluators requesting for these to be removed or at least repositioned in the survey to avoid distraction. One of the developers acknowledged that the students' survey completion might have been low for the evaluator's survey because the students were "naughty" and "did not complete it". Non-completion of the evaluation survey occurred despite supervision. Although the supervision varied with the developers being present and on some occasions school staff.

The dual projects placed extra demands on schools to circulate two information and consent forms and repeat follow-ups for the return of the consent forms for the separate studies. Consent return rates were low and the time taken for their return was slow. Recruitment of school leaders and parents for the evaluator's interviews occurred at the same time the program developers were also recruiting. Despite being aware of the evaluator's timelines for interviews with participants, the program developers scheduled their evaluation with the same participants (ie. parents and school leaders) to occur before the evaluators. Further limiting for the evaluation, the questions used for the developer's evaluation incorporated many of the same questions previously circulated for feedback by the evaluators. Results from the evaluation may deviate from the truth given the potential of contamination. A parent participant interviewed by the developers and later by the evaluators conferred:

"They were looking for feedback on the program, quite specifically what our thoughts were on it and how we felt about it."

The evaluator's experienced difficulties because some of the parents who had already participated in the developer's focus group interviews were no shows for their consented and scheduled interviews. Furthermore, school staff previously interviewed by the developers declined requests for interviews from the evaluators. Fatigue and reluctance to participate in the evaluation was noted in an interview with a school leader:

"I wasn't able to get more staff to volunteer - they came to the - I basically took them out of classes to come to the morning tea, you know what I mean, to meet the team (developers) and do some evaluation stuff. But at this point of the year, they were very reluctant to agree to a half an hour phone interview (with the evaluators)."

Further confounding the evaluation was at least one other study subsumed within the developer's research project. The study the evaluators are aware of entailed a PhD student designing an App for the PAQ component of the program and investigating parent-child relationships and conflict. In their interview with the evaluators, one of the developers acknowledged:

"we wanted to use the opportunity of doing research" and "the parents were recruited, they had two parts that their children were doing and the parents were also invited to come and do some surveys as well with [PhD student's] project"

Developers planned for the App's inclusion with cohort 2's implementation and consequently the evaluators requested details to include this adaption and emerging evidence of how this new dimension may be associated with the primary and secondary outcomes of interest for the evaluation. First requests to document this substantial adaption were made in February 2018 but not received until 10th December 2018. The App was launched at the two Resilient Families Plus schools in December. Parents were asked if they learnt about the App at the Parent committee training session:

"Yes, yes, I did. I haven't had a chance to look at it yet, but I do - yeah, I've got a piece of paper about that somewhere. There was a handout, there was a piece of paper with a QR code on it to access the app, which I haven't done yet."

The same parent detailed in their interview that another data collection opportunity, which was outside the scope of either the developer's or evaluator's study, had occurred at the Parent committee training session.

"A student there from Deakin, she was doing a bit of research. She asked if I could hang around and talk to her, that was fine, I can't think of her name now. But I was the only parent there. She was looking at a link between home relationships, home families and their success at school, I think that's what she was talking about. She was asking me about our family situation and our expectations."

Additionally, the schools were subsumed in the Community That Cares trial. Both schools were implementing surveys across all school year levels including the Year 8 cohort from the evaluation:

"because we picked the schools that are working on the Communities That Care project, some of them did do a Communities That Care survey" (developer)

The developer's role in an evaluation is to implement the program according to the program's logic. However, the evaluators and Evidence for Learning contributed to role confusion by initially agreeing to pre and post student surveys, thereby providing the potential for a research agenda for the delivery team. Multiple research projects affected recruitment and participation in the evaluation and caused fatigue.

Post intervention surveys

Inconclusive findings on the Theory of Change for this pilot trial have emerged due to the intervention not being fully implemented and the post intervention surveys for Schools 1 and 2 occurring at different time points and with different elements of the program having being completed. School 1 commenced the student curriculum in the week beginning 21st May 2018 (week 5 of Term 2) and completed it the week beginning 25th June. Their post intervention survey was conducted after the school holidays on 19th July (beginning of Term 3). School 2 commenced the student curriculum in the week beginning 8th October (week 1 of Term 4) and completed in the final weeks of Term 4. Their post intervention survey occurred in the week beginning 26th November (four weeks before the end of Term 4). In School 2, the

student curriculum continued to be delivered after the post survey. The developer acknowledged in their interview:

“we have ended up in a situation where basically the way that the program ran, there is not a confidence that it can be evaluated within the original framework.”

Due to the full intervention not being delivered, inconsistencies in what was delivered and different dosage of the program between the two schools when the post intervention surveys took place, there was no true post intervention survey and consequently the findings need to be interpreted with caution.

Documented intervention and developer’s preparedness

A necessary first task for the evaluators was to rigorously document the conditions of implementation through the confirmation of the intervention and its materials to provide a base for effective implementation (Gottfredson et al., 2015). To comply with this approach there were repeated requests to the developers to provide materials on the program (Resilient Families and Resilient Families Plus) to the evaluators. The first comprehensive outline was received in April, 2018 and manuals for the student curriculum (including the student handbook), parent handbook, parent reading campaign brochure and PACE were provided at the beginning of 2019. However, the PAQ and Parent committee training materials were not supplied to the evaluation team.

The program materials supplied to school representatives were labelled as ‘Resilient Families’ despite being provided to schools recruited to participate in Resilient Families Plus. The materials did not accurately represent the two new additions to the new program Resilient Families Plus to school representatives and, thus, did not fully inform them of the program core components and the expectations. For example, page 1 of the teacher’s manual, which describes the student curriculum to the school stakeholders, provides a summary of the Resilient Families program rather than Resilient Families Plus, missing critical details about the focus of the intervention. Page 2 of this manual lists the five core components of Resilient Families but overlooks detailing the two extra components for Resilient Families Plus. School leader comments show that they did not have a complete understanding of the program’s core components:

“If I’d have known that resource was available, I probably would have timed it differently.”

Before any future trial of Resilient Families Plus, the program materials should be updated to reflect relevant additions to the program to ensure that school representatives are provided with clarity of purpose and expectations.

In sum, the limitations to the evaluation centred around: 1) recruitment; 2) competing research projects; 3) inconsistencies in the timing and program dosage for the post intervention surveys; 4) timing for when the documentary evidence was provided to the evaluators; and 5) developer’s level of preparedness. These factors affected the evaluation’s methodology, interpretation of findings and the conclusions. They also highlight factors that need to be considered in the future, if a trial is to be conducted, so that these limitations can be avoided.

3.7 Readiness for trial

The pilot study has identified that Resilient Families Plus is not yet ready to be evaluated in an efficacy trial. There are some important issues that need to be addressed before an efficacy trial of Resilient Families Plus could be recommended. Evidence for supporting this assessment and recommendations for how to ensure the program is ready for a future trial are discussed in Section 4.1 through the focus on answering Research Question 6: Is the intervention ready to be evaluated in a trial?

4 Conclusion

4.1 Formative findings and Interpretation

The research questions provide a useful framework to highlight the formative findings and interpretation of the pilot trial on Resilient Families Plus.

RQ1. What is the perceived value of Resilient Families Plus? Can schools be effectively recruited into Resilient Families Plus?

The reported value and social significance of Resilient Families Plus is unable to be determined due to the poor school uptake (9%) and possibly argued as having low value because schools did not adopt all components of the program. This finding must be interpreted in the context that the Victorian government had endorsed another school-based program at the time of the pilot study which may have impacted the schools' willingness to adopt either all or some components of Resilient Families Plus. The two new components of Resilient Families Plus were deemed by the school participating in the process evaluation as incongruent with the context of low parental participation in school. The results of the pilot study indicate that it is difficult to effectively recruit schools into Resilient Families Plus.

RQ2. Can Resilient Families Plus be implemented with high fidelity?

The pilot study revealed that Resilient Families Plus was implemented with low program fidelity as the program developers were unable to implement the intervention as intended in the program logic in the time allotted. The program developers did not adhere to their program's structure or sequence of activities. The intervention did not reach its intended target population, namely parents, who were requested to attend the Parent committee training session (which exhibited a 2% participation rate and was completed after the intended timeframe) and engage with the parent reading campaign brochure (delivered after the intended timeframe).

RQ3. What are the reported barriers to the effective implementation of Resilient Families Plus?

The stakeholders participating in the process evaluation identified three primary barriers to the effective implementation of Resilient Families Plus. First, the program developers felt that a lack of support for Resilient Families Plus from Evidence for Learning and VicHealth hindered school recruitment markedly. Secondly, the school leader, program developer and parents believed that improved communication in terms of timing and content amongst the stakeholders could bolster implementation of and participation in Resilient Families Plus. Thirdly, the recurring theme of low parental participation was also identified as a barrier. Whether the origin of this barrier lies within the characteristics of parents, the school or the Resilient Families Plus program itself warrants further consideration.

RQ4 What is the Resilient Families Plus program's relationship to student academic precursors (academic self-concept and academic resilience)? What evidence is there to support the theory of change?

Given the timing of the pre/post student testing, the two new (parent) components of Resilient Families Plus were not included in the quantitative findings presented. Furthermore, neither school had completed the full 10-week student curriculum at the time of post-test due to either a) implementation of a selective set of curriculum components (School 1) and/or b) post-test deployment prior to the

conclusion of the student curriculum delivery (School 2). Findings show some gains in student academic precursors (academic self-concept and academic resilience) which support the theory of change, specifically for the cohort of student participants whose baseline (pre-test) results were on the lower end of the scale measures employed. However, given the noteworthy evaluation limitations, including (1) a concurrently run, Departmentally-sponsored school-based program; (2) the failure to implement the full Resilient Families Plus intervention prior to the post-test date; and (3) the lack of a control group population to compare gains made over time, findings should be interpreted with caution.

The qualitative interviews with the school leader and parents provided some insight into the proposed theory of change given that the parent handbook, Parent committee training session and parent reading campaign brochure had just been conducted at that time. While no support was evident for improved student academic precursor outcomes, one parent reported a shift in the “family outcomes” preceding level of the program logic. Although untested, it could be suggested that the parent components that were implemented prior to their interviews with the evaluators, may lead to future improvements in student academic precursors and should be investigated further.

RQ5. What does Resilient Families Plus cost per school and per student?

The program cost was calculated from the data provided by the program developers throughout the pilot study. It is rated as Very Low with a cost of \$14,965 per school and \$93.53 per student. Resilient Families Plus is an affordable program.

RQ6. Is the intervention ready to be evaluated in a trial?

The pilot study has identified that Resilient Families Plus is not yet ready to be evaluated in an efficacy trial. There are some important issues that need to be addressed before an efficacy trial of Resilient Families Plus could be recommended. These key recommendations include:

- Identify the school recruitment rates for the program at a time when the Victorian government is not endorsing the roll-out of Respectful Relationships or any other similar school-based program.
- If a similar school-based program continues to be endorsed by the Victorian government, investigate how to distinguish Resilient Families Plus from other programs and/or provide resources to schools so that schools are able to adopt Resilient Families Plus.
- Adhere to the timing and content as specified in the program logic in future iterations of Resilient Families Plus.
- Program logic to account for where the pre and post intervention surveys are scheduled to ensure a true post intervention survey which captures for complete program delivery (student curriculum and parent engagement activities and affiliated resources).
- Conduct a review of the Resilient Families Plus strategies to partner with schools to engage parents.
- Conduct a review of the Resilient Families Plus components that require parental participation and review how they are communicated, level of commitment, and structured for parents.
- Conduct a review into how best to promote inclusion and participation of parents with an additional language other than English and families from low socioeconomic backgrounds with challenging work conditions.
- Business as usual data collection, such as pre and post student and parent surveys, by the program developers should not be permitted during a future external evaluation trial.
- Include a follow-up survey after the post-intervention survey since previous research on Resilient Families show that the program’s effects occur in the medium to long-term rather than in the short-term.

- All program materials made available to the evaluators at the commencement of the evaluation.
- Program specifications and preparedness to be enhanced to improve and standardised the intervention. This should include:
 - Update Resilient Families program manuals (5 core components) so as to accurately reflect Resilient Families Plus (7 core components).
 - Parent committee training session to be manualised.
 - Confirmation of whether the App is a component of the program and if it is, confirm whether it is a supplement, alternative or replacement for the PAQ parent event.

Table 18: Pilot key conclusions

Key findings
<p>3. Impact of the intervention: Students reporting at baseline low levels of academic self-concept and academic resilience may benefit from Resilience Families Plus more than students who initially reported higher levels on these academic precursor measures. This is because students with lower baseline measures of academic self-concept and academic resilience showed small increases in these measures after being involved in the program. However, these increases were not statistically significant so need to be treated with caution. The small number of schools involved in the project (2 schools, 34 students, 7 parents), incomplete program delivery at the time students sat their post-intervention survey, other well-being programs that schools were running concurrently and the lack of a control group to compare gains made over time.</p>
<p>4. Pilot challenges: There were significant challenges recruiting schools to participate in this evaluation. Neither the Victorian Education Department or research funders provided assistance in recruiting schools and other well-being programs that schools were already running (e.g. one of the two schools was implementing Respectful Relationships, a Department-sponsored well-being program with similar features), may have impacted schools' willingness to adopt Resilient Families Plus. A parallel research study undertaken by program developers³ at the same time meant schools had to disseminate information and gather student consent forms for two separate projects may have delayed return rates, resulting in lower student participation numbers. The program developer's research study was prioritized over those of the evaluation for example, students had to complete the program developers' survey questions before the evaluation's in the same sitting, which might explain the lower survey completion rates than those of the concurrently run study.</p>
<p>5. Implementation issues: Despite schools and parents acknowledging its value, schools faced challenges implementing the full 10-weeks of the student curriculum by the time of the post-test. For example, one school only selected to use 3 of the 10 sessions and then complemented these with other program content. Schools also reported changing the timing and sequencing of the activities. Additionally, schools did not implement the full complement of the parent components and when they did, this was out of the recommended sequence. Schools valued the flexibility the program allowed given they could select how many sessions to include as well as the timing and sequencing of these, however this resulted in poor fidelity to the prescribed program.</p>

6. Feasibility: Schools were reluctant to implement all the student curriculum components of the program and instead chose to supplement with alternative curriculum as they deemed the student curriculum as resource and time intensive. While acknowledging the program's school-based parenting sessions, schools questioned its feasibility given challenges in managing these activities, the low interest and involvement from parents, and the time and involvement required from families and schools. The program developers identified the barriers to implementing the parent components were related to family stress, work commitments, English as a second language and schools' challenges with engaging parents.

7. Readiness for trial: Although the program is affordable, lack of adherence to the prescribed model and barriers to faithful implementation need to be addressed prior to any future trial. Schools' interest in using the program and being involved in a trial would also need to be determined.

References

Footnotes and references

Australian Bureau of Statistics (ABS), 2017. *Census reveals a fast changing, culturally diverse nation*. Media release No. 073/2017. [online] Available at: <https://www.abs.gov.au/ausstats/abs@.nsf/lookup/Media%20Release3> [Accessed 5 July 2019]

Australian Curriculum, Assessment and Reporting Authority (ACARA). (n.d.). *MySchool*. Available at <https://www.myschool.edu.au/> [Accessed 5 July 2019]

Buttigieg, J. P., Shortt, A. L., Slaviero, T. M., Hutchinson, D., Kremer, P. and Toumbourou, J. W., 2015. A longitudinal evaluation of the resilient families randomized trial to prevent early adolescent depressive symptoms. *Journal of Adolescence*, 44, pp. 204-213. <https://doi.org/10.1016/j.adolescence.2015.07.014>.

Byrne, B. and Worth Gavin, D., 1996. The Shavelson model revisited: Testing for the structure of academic self-concept across pre-, early, and late adolescents. *Journal of Educational Psychology*, 88(2), pp. 215-228. ISSN: 00220663

Cassidy, S., 2016. The Academic Resilience Scale (ARS-30): A New Multidimensional Construct Measure. *Frontiers in Psychology*, 7(1787), pp.1-11. doi:10.3389/fpsyg.2016.01787

Cohen J, 1988. *Statistical Power Analysis for the Behavioral Sciences*. New York, NY: Routledge Academic. DOI: <http://dx.doi.org/10.1126/science.169.3941.167>

Colp, S. M. and Nordstokke, D. W., 2014. Exploring the measurement of academic resilience. In: *Proceedings of the Symposium presentation at the Canadian Psychological Association's 75th Annual Convention*. Vancouver, British Columbia: 5-7 June 2014.

Gottfredon, D. C., Cook, T. D., Gardner, F. E. M., Gorman-Smith, D., Howe, G. W., Sandler, I. N., & Zafft, K. M. (2015). Standards of evidence for efficacy, effectiveness, and scale-up research in prevention science: Next generation. *Prevention Science*, 16, pp.3-35. DOI: 10.1007/s11121-015-0555-x

Jenkin, C. and Toumbourou, J. W., 2005. *Preparing adolescents for success in school and life: Part of the PACE and Resilient Families initiative*. Camberwell, Victoria: ACER. ISBN: 9780646455396

Marsh, H. W., 1990. The structure of academic self-concept: The Marsh/Shavelson model. *Journal of Educational Psychology*, 82, pp.623-636. ISSN: 0022-0663

Marsh, H.W., 1994. Using the National longitudinal study of 1988 to evaluate theoretical models of self-concept: The self-description questionnaire. *Journal of Educational Psychology*, 86(3), pp. 439-456. ISSN: 0022-0663

Martin, A.J., 2013. Academic buoyancy and academic resilience: exploring 'everyday' and 'classic' resilience in the face of academic adversity. *School Psychology International*, 34, pp.488–500. DOI: 10.1177/0143034312472759

Martin, A. and Marsh, H., 2006. Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools*, 43(3), pp. 267-281. DOI: 10.1002/pits.20149

Resilient Families Plus teacher manual, (2018).

Rowland, B., Toumbourou, J., Osborn, A., Smith, R., Hall, J., Kremer, P., Kelly, A., Williams, J. and Leslie, e., 2013. A clustered randomised trial examining the effect of social marketing and community mobilisation on the age of uptake and levels of alcohol consumption by Australian adolescents. *BMJ Open* 3:e002423. DOI: 10.1136/bmjopen-2012-002423

Shortt, A.L., and Toumbourou, J. W., 2006. The Resilient Families program: Helping to prepare adolescents for success in school and life. *Youth Studies Australia*, 25, pp. 57–58.

Shortt, A.L., Toumbourou, J., Power, E. and Chapman, R., 2006. The Resilient Families Program: Promoting health and well-being in adolescents and their parents during the transition to secondary school. *Youth Studies Australia*, 25(2) pp.33-40. ISSN: 1038-2569

Shortt, A. L., Hutchinson, D. M., Chapman, R. and Toumbourou, J. W., 2007. Family, school, peer and individual influences on early adolescent alcohol use: First-year impact of the Resilient Families programme. *Drug and Alcohol Review*, 26(6), pp. 625–634. DOI: 10.1080/09595230701613817

Singh, N., Minaie, M.G., Skvarc, D. and Toumbourou, J.W., 2019. Impact of a secondary school depression prevention curriculum on adolescent social-emotional skills: Evaluation of the Resilient Families Program. *Journal of Youth and Adolescence*, 48(6), pp.1100-1115. DOI: 10.1007/s10964-019-00992-6

Toumbourou, J.W. and Gregg, M.E., 1999. *Evaluation Report of Program for Parents: A National Youth Suicide Prevention Project*, Parkville, Australia: Centre for Adolescent Health.

Toumbourou, J.W. and Gregg, M.E., 2001. Working with families to promote healthy adolescent development. *Family Matters*, 59, pp. 54-60. ISSN: 1030-2646

Toumbourou, J.W. and Gregg, M.E., 2002. Impact of an empowerment-based parent education program on the reduction of youth suicide risk factors. *Journal of Adolescent Health*, 31(3), pp.277-285. [https://doi.org/10.1016/S1054-139X\(02\)00384-1](https://doi.org/10.1016/S1054-139X(02)00384-1)

Toumbourou, J. W., Gregg, D. M. E., Shortt, A. L., Hutchinson, D. M. and Slaviero, T. M., 2013. Reduction of adolescent alcohol use through family–school intervention: A randomized trial. *Journal of Adolescent Health*, 53(6), pp. 778–784. <https://doi.org/10.1016/j.jadohealth.2013.07.005>

Tully, L., 2007. *Early intervention strategies for children and young people 8 to 14 years. A literature review*. Ashfield, NSW Australia: Centre for Parenting and Research, DoCS NSW. ISBN 1 7419 0041 7 Available at: https://www.facs.nsw.gov.au/data/assets/pdf_file/0009/321597/research_ei_strategies_review.pdf

Appendix 1: Resilient Families Plus as documented by the developers April 2018

Resilient Families Program

An effective program for engaging secondary school parents

“Resilient Families” is a school-based family intervention program designed by Professor John Toumbourou from Deakin University. The program helps secondary schools to engage parents to develop knowledge, skills and support networks to promote student health, well-being and school achievement. Resilient Families emphasises strengths and defines “family” to include the variety of arrangements people make to nurture and care for children and young people.

The “Resilient Families” program:

1. Assists schools to effectively plan to increase parent engagement
2. Increases student social emotional learning skills
3. Increases parent involvement in the school mission and skills for ensuring healthy adolescent development
4. Increases opportunities for parents to interact, develop skills and support your school.

The “Resilient Families” program has been evaluated and refined over a decade based on two national school trials. The program offers up-to-date information from Professor Toumbourou’s expert research team.

Resilient Families Program Components

1. School planning: Policies and practices to encourage parent engagement
2. 10-session student curriculum
3. Brief parent education information: books and Quiz night for parents (Parenting Adolescents Quiz: PAQ)
4. 8-week group program for parents (Parenting Adolescents: a Creative Experience: PACE)
5. Referrals for families needing more help
6. Parent Committee training (RESILIENT FAMILIES PLUS ONLY)

School planning:

Resilient Families staff meet with the school leadership to plan program and policy objectives. A half day professionally-facilitated “staff development” training session is provided to explore the benefits of working with parents and to examine potential problems and solutions.

Student curriculum:

Teachers participate in a half day training that provides guidance in the delivery of a 10-session curriculum that can be flexibly placed within the schools health and well-being or pastoral care program. The curriculum Includes social relationship homework that students complete with their parents.

The outlines of the Resilient Families Student Curriculum are listed as below:

1. Setting the scene
2. Communication
3. Family

4. Problem solving
5. Responsibilities and rules in the family
6. Conflict
7. Conflict resolution
8. Emotional awareness
9. Emotional management strategies
10. Wrap up session

In each session we set objectives, classroom activities and homework, plus providing tips for teachers.

PAQ:

This component is a 2-hour social evening for parents with Year 7/ Year 8 children. The evening uses a fun quiz format to impart research-based information to help parents promote healthy youth development.

The PAQ has been designed to provide an entertaining “adult-learning” evening where tables of parents can interact in a light-hearted competition to answer a set of questions presented by a quiz-leader. The PAQ questions have been carefully selected to encourage parents to reflect on some of the major issues in adolescent health. The major aims of the PAQ are to encourage parents to utilise further educational opportunities, to reduce family risk factors associated with adolescent maladjustment, and to enhance family protective factors. The PAQ program is targeted to identify family problems at a school community level. The evening serves as an opportunity for parents of early high school students to socialise and share parenting experiences.

The PAQ brings parents together in tables of five to ten for an evening of education and entertainment. Tables respond to a series of multiple-choice questions relevant to adolescent health and parenting adolescents. Parents interact to determine a table response and are then provided with feedback regarding “expert recommendations” and the rationale for such recommendations. Questions are grouped into modules tackling issues such as communicating with adolescents, handling conflict, preventing drug and alcohol problems, and monitoring mental health issues. Answers to the questions are based on best-available current research evidence, including clinical practice. To ensure the night is entertaining, fun modules dealing with youth culture are interspersed throughout the program. These modules also serve to highlight the importance of parents familiarising themselves with their children’s interests. To motivate participants, a light-hearted competition is encouraged between tables and fund raising is organised by the school around the evening. It is believed that the PAQ format might attract some parents who may otherwise not attend a parent information night.

During the PAQ opportunities are provided to actively involve parents in identifying behavioural strategies, creating further modelling of parenting practices. One of the activities used in the PAQ involves three tables selecting a parent “expert” with adolescents who do not do the housework. Each table considers strategies that these parents might use to encourage housework and the experts then rate how well these strategies would work in their home. Tables compete for bonus points in this exercise.

Educational principles underpinning the PAQ include interactive learning (parental responses are followed by feedback and discussion); modelling (during the evening tables of parents are invited to conduct demonstrations of communication and other skills under conditions of reinforcement for bonus points); and multiple learning mediums (verbal presentations and visuals are backed-up with written information sheets). The focus of the PAQ is to more widely disseminate information, to demonstrate skills, and to increase the priority placed on parenting in the early secondary school

years. Through the evening, parents have the opportunity to compare their practices with those of other parents and with professional recommendations. Parents are advised of situations requiring further assistance, and through negotiation with school welfare staff opportunities for such assistance are made available.

In conclusion, the PAQ has been designed to provide a practical, evidence-based approach to parent education for the parents of early secondary school adolescents.

PACE:

Is an 8-week parenting program that provides practical information on a range of issues facing young people and their families. Groups provide a safe and positive forum in which the strengths and experiences of parents can be shared and explored (below you can see the program outlines). There are 6 core sessions and 2 optional sessions and the wrap up session will be combined with the last session.

In PACE 8 week sessions, the following subjects will be covered:

1. Adolescent development
2. Communication/Listening
3. Conflict /Problem solving
4. Assertion/Family (Responsibilities and rules in the family)
5. Resilience
6. Conflict resolution
7. Drug and alcohol (optional)
8. Sexuality (optional)
9. Mental health (optional)
10. Loss and grief (optional)
11. Work and study (optional)
12. Planning for success (Wrap up session)

Parent Education Book:

Helping your child succeed in school and life is a simply written and engaging book that sets out the major issues parents face in raising children through the early secondary school period and the parenting strategies they can use to build family resilience.

Parent Committee Training:

Resilient Families staff meet with Y7/8 parents to plan an effective family-school partnership. A half day professionally-facilitated training session is provided to explore the benefits of being engaged in the school activities and specifically children's' academic activities and to examine potential problems and solutions.

The following topics will be covered in the training session:

1. The importance of effectively working with the school
2. Parent-school partnership and Preventing Youth problem
3. School role in building strong partnerships with families
4. Evidence for Parent Engagement in School
5. Parents role in students' behaviour and academic success

6. The importance of setting high expectations and rules for children's behaviour and academic success (e.g., set reasonable boundaries for computer devices including television, electronic games and online socialising)
7. The importance of family relationship and its impact on children's academic success
8. Strategies to enhance family harmony and to promote children's academic success.
9. The home reading campaign (encouraging students to read books and less device use at home)
10. The family relationship campaign (prompting family harmony to give children a better chance to be academically successful)
11. Brochure campaigns (key messages for **home reading campaign** include: 1) Parents to encourage their student to spend 10 minutes extra per day reading books at home; 2) Replacing the time spent on phones and devices with more home reading will improve skills – key messages for **family relationship campaign** include: 1) Family relationship and its effect on children's academic success; 2) Strategies to enhance family harmony)
12. Parent committee to develop a strategy plan to spread the word to other parents in the school (e.g. Ask school to send out the brochures with a letter from the Principal; Talk to the parents that they know; Organise a competition with a prize draw for the families that participate in home reading)

Appendix 2: Pre and post surveys

Pre and Post test survey items

Academic Self-concept:

Academic Self-Concept (two measures, 8 items each): This outcome was measured by two domain-specific subscales [Mathematics (8 items) and English Literature (8 items)] of the *Academic Self-Description Questionnaire II* (Marsh, 1990), found to have excellent internal consistency ($\alpha = 0.92$). Items were measured using a 7-point Likert scale, ranging from “strongly disagree” to “strongly agree”, with higher values indicating more favourable outcomes.

Mathematics subscale

1. I am hopeless when it comes to MATHEMATICS classes.
2. I learn things quickly in MATHEMATICS classes.
3. I have always done well in MATHEMATICS classes.
4. Compared to others my age I am good at MATHEMATICS classes.
5. Work in MATHEMATICS classes is easy for me.
6. I get good marks in MATHEMATICS classes.
7. It is important to me to do well in MATHEMATICS classes.
8. I am satisfied with how well I do in MATHEMATICS classes.

English Literature subscale

1. I have always done well in ENGLISH LITERATURE classes.
2. Work in ENGLISH LITERATURE classes is easy for me.
3. Compared to others my age I am good at ENGLISH LITERATURE classes.
4. I get good marks in ENGLISH LITERATURE classes.
5. Work in ENGLISH LITERATURE classes is easy for me.
6. I learn things quickly in ENGLISH LITERATURE classes.
7. I am hopeless when it comes to ENGLISH LITERATURE classes.
8. It is important to me to do well in ENGLISH LITERATURE classes.

Academic Resilience:

Academic Resilience (6 items): This outcome was measured by the *Academic Resilience Scale* (Martin & Marsh, 2006), found to have strong internal consistency ($\alpha = 0.89$). Items were measured using a 6-point Likert scale, ranging from “strongly disagree” to “strongly agree”, with higher values indicating more favourable outcomes.

Academic Resilience

1. I believe I am mentally tough when it comes to exams
2. I don't let study stress get on top of me
3. I'm good at bouncing back from a poor mark in my schoolwork.
4. I think I'm good at dealing with schoolwork pressures.

5. I don't let a bad mark affect my confidence.
6. I'm good at dealing with setbacks at school (e.g., bad mark, negative feedback on my work).

Additional Post test survey items

Intervention dosage measures:

Additional survey items were added to the post test

An additional seven questions relating to dosage were included in the post intervention survey. These items were:

1. 10 lessons were delivered to your Year 8 class as part of the *Resilient Families* program. How many of these lessons did you attend?
None 1-5 lessons 6-9 lessons All 10 lessons
2. 2. How many weeks did you do your homework for the Resilient Families program?
None 1-3 weeks All scheduled weeks
3. The response choices for the final four post survey questions were: Yes, No or Unsure.
4. Did at least one of your parents attend the 2-hour **Parenting Adolescent Quiz** at school?
5. Did you see at least one of your parents look at the handbook or app that came home to them from the Resilient Families session on **Parenting adolescents: A creative experience** and/or did they talk to you about it?
6. Did at least one of your parents attend the session on **Parent Committee Training** at school?
7. Did you see at least one of your parents look at the reading guide that came home to them from the Resilient Families program and/or did they talk to you about it?

Appendix 3: Evidence for Learning cost rating

Cost ratings are based on the approximate cost per student per year of implementing the intervention over three years. Cost ratings are awarded as follows:

Cost rating	Description
\$	Very low: up to about \$4000 per year per class of 25 students, or less than \$160 per student per year.
\$	Low: \$4001 to \$8000 per year per class of 25 students, or up to about \$320 per student per year.
\$	Moderate: \$8001 to \$30000 per year per class of 25 students, or up to about \$1200 per student per year.
\$	High: \$30001 to \$50000 per year per class of 25 students, or up to \$2000 per student per year.
\$	Very high: over \$50000 per year per class of 25 students, or over \$2000 per student per year.