“I don’t need to go to a parenting program”: Factors influencing parental engagement in preventive parenting programs for adolescent mental health

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Abbreviations and acronyms

CAPE model	Connect, Attend, Participate and Enact
FM	Family Matters
HBM	Health Belief Model
HSS	High School Staff
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RCT	Randomised Controlled Trial
SEM	Socio-Ecological Model
SEP	Socio-Economic Position
SES	Socio-Economic Status
SFP	Strengthening Families Program
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TTM	Trans-Theoretical Stages of Change Model
WHO	World Health Organisation

Abstract

Background: Adolescent mental health problems are the leading causes of disadvantage and disability worldwide, with half of all lifetime mental health disorders starting by age 14. Preventive parenting programs have been developed as one solution for reducing an adolescent's risk of mental health problems. However, their potential for public health impact has been hampered by low parental engagement. Conducted as part of this thesis, a systematic literature review using the Stouffer's *p* analysis identified that of the 11 predictors included in the review, only one, 'child mental health symptoms', reliably predicted increased parental enrolment in preventive parenting programs. Further, there was emerging evidence that parental engagement could be enhanced by using widely supported health behaviour theories, such as the Health Belief Model and the Theory of Planned Behaviour, to inform recruitment methods. In addition, the evidence from qualitative research to date has suggested that several socio-ecological factors can increase parental engagement (e.g., psychological, situational and program factors). However, this literature has been limited in the types of parental and non-parental stakeholders involved in the studies. In addition, there has been limited understanding and synthesis of the current literature surrounding parental initial engagement, which includes parental intention to enrol, and actual enrolment, in preventive parenting programs. The first aim of this thesis was to gain more understanding of parental initial engagement in preventive parenting programs, through examining the barriers and enablers for non-engaged parents (i.e., parents who were aware of a preventive parenting program and declined to engage) and non-parent stakeholders (i.e., parenting program facilitators and referring high school staff). The second aim was to develop an evidence-informed conceptual framework for parental initial engagement, to guide further research and recruitment method development.

Methods: Semi-structured interviews were conducted with 'non-engaged' parents of high school-aged adolescents to investigate the real-life factors influencing non-engagement. Additional semi-structured interviews were conducted with other key stakeholders, such as high school staff and parenting program facilitators, to further explore the barriers to parental engagement. Finally, using the data collected in both the literature reviews and semi-structured interviews, a conceptual framework was developed to include the factors associated with parental initial engagement.

Findings: The interview findings further enriched the currently limited literature, through demonstrating several key barriers to parental initial engagement. For example, parental attitudes and beliefs towards mental health, stigma, program scheduling and cost all had a direct effect on parents' intention to enrol. The combined findings of this thesis led to the development of an evidence-informed conceptual framework for parental initial engagement. This framework suggests that parental engagement is shaped by a variety of factors across multiple socio-ecological levels: intrapersonal, interpersonal, organisational, community and public policy.

Conclusions: The new evidence-informed conceptual framework provides researchers and practitioners with a means to gain further understanding of the multiple socio-ecological factors that enable or inhibit parents' initial engagement in preventive parenting programs. It provides a starting point for developing recruitment strategies to mitigate some of the potential barriers to parental initial engagement.

General declaration

I hereby declare that this thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

This thesis includes one original paper published in a peer reviewed journal and one submitted publication. The core theme of the thesis is understanding parental engagement in preventive parenting programs. The ideas, development and writing up of all the papers in the thesis were the principal responsibility of myself, the student, working within the School of Psychological Sciences under the supervision of Associate Professor Marie Yap, Associate Professor Naomi Priest, and Dr Narelle Warren.

The inclusion of co-authors reflects the fact that the work came from active collaboration between researchers and acknowledges input into team-based research.

In the case of Chapters 2 and 5, my contribution to the work involved the following:

Thesis Chapter	**Publication Title**	**Status** *(published, in press, accepted or returned for revision, submitted)*	**Nature and % of student contribution**	**Co-author name(s) Nature and % of Co-author's contribution***	**Co-author(s), Monash student Y/N***
Chapter 2	Parental Engagement in preventive parenting programs for child mental health: A systematic	Published	50%. Concept and literature review, data extraction, analysis and writing and	1) Brooke Swierzbiolek, 8% double data extraction and analysis, copy editing 2) Naomi Priest, 15% Concept, Drafting	Yes (Brooke Swierzbiolek)

	review of predictors and strategies to increase engagement		subsequent drafting	3) Narelle Warren, 7% Drafting 4) Marie Yap, 20% Concept, drafting and editing	
Chapter 5	Parents' intention to enrol in preventive parenting programs for adolescent mental health: Stakeholder views	Submitted	55%. Concept, ethics approvals, interviews, data analysis, writing and subsequent drafting	1) Jun Shin Mak, 5% double data analysis and copy editing 2) Naomi Priest, 10% Concept, Drafting 3) Narelle Warren, 10% Drafting, supervision of analysis 4) Marie Yap, 20% Concept, drafting and editing	Yes (Jun Shin Mak)

**If no co-authors, leave fields blank*

I have / have not renumbered sections of submitted or published papers in order to generate a consistent presentation within the thesis.

Student signature: **Date: 23/7/2018**

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the student's and co-authors' contributions to this work. In instances where I am not the responsible author I have consulted with the responsible author to agree on the respective contributions of the authors.

Main Supervisor signature: **Date:**

Publications and research outcomes during enrolment

Journal Articles

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Conference Presentations

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mental health disorders. Mental health and people who suffer from mental health problems and the subsequent engagement in programs designed to prevent and treat mental health problems, is still one of the most stigmatised topics in modern society, so thank you for allowing me to explore this topic with you.

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Chapter 1: Introduction and study overview

1.1 Background and statement of problem

1.1.1 Mental health problems in children and adolescents

Mental health problems, including dysregulation of mood, thought or behaviour (American Psychiatric Association, 2013), are reported by the World Health Organisation (WHO, 2016a) as a leading cause of disability and disadvantage for children and adolescents worldwide. Mental health problems in children and adolescents can be divided into several categories, including the most commonly used; internalising and externalising disorders. These terms are used to describe the type of behaviours that young people display when experiencing these disorders. For example, young people with internalising problems (i.e., anxiety and mood disorders) may demonstrate behaviours such as being withdrawn, anxious, inhibited and depressed (Liu, 2004). Internalising disorders affect the child's internal psychological environment rather than the external world (Liu, 2004). Conversely, externalising disorders (e.g., attention deficit hyperactivity disorder and conduct disorder) refer to a set of disorders that are discernible through the child's outward behaviour (Campbell, Shaw, & Gilliom, 2000; Eisenberg et al., 2001). For example, aggression, poor impulse control, and disruptive behaviours all reflect the child negatively acting on the external environment (Campbell et al., 2000; Eisenberg et al., 2001). This dichotomy is not perfect, as a child with internalising behaviours problems can have a negative effect on the external environment (e.g., negative effect on siblings) and there is a high level of comorbidity between internalising and externalising behaviour problems (Liu, 2004). However, these definitions provide a useful overview of the types of mental health problems that commonly affect children and adolescents.

1.1.1.1 Prevalence of mental health problems in children and adolescents

Worldwide, the prevalence of a person being diagnosed in their lifetime with one or more mental health problems ranges from 18.1% to 36.1% (interquartile range—IQR; Kessler et al., 2007). Specifically, internalising disorders (both anxiety and mood disorders) were the most prevalent worldwide (IQR 9.9–16.7% and IQR 9.8–15.8%, respectively), while externalising disorders were less prevalent (IQR 3.1–5.7%). Further, Kessler and colleagues' (2007) international epidemiological data determined that half of all lifetime mental health disorders started by age 14, and even earlier for anxiety and impulse control problems (11 years; Kessler et al., 2007). More specifically, in Australia, in a nationally representative survey (Lawrence et al., 2015) found that 14.4% of adolescents (or one in seven) had a diagnosed mental health disorder. Research suggests that subsequent adverse outcomes of mental health problems in adolescents include psychological distress, functional impairment, school dropout, substance use, family violence, exposure to stigma and increased risk of premature death and suicide (Fergusson, Horwood, & Lynskey, 1993; Patel, Flisher, Hetrick, & McGorry, 2007; Shaw et al., 2012; Stewart-Brown, 1998). These adverse outcomes typically continue into adulthood (Fergusson et al., 1993; Patel et al., 2007; Shaw et al., 2012) and have significant costs for society (Lee et al., 2017; Stewart-Brown, 1998). The age of onset data suggests that as early adolescence is a key developmental period (Kessler et al., 2007), it should be the focus of research in both the prevention and treatment of mental health problems, to reduce subsequent adverse outcomes and service costs.

1.1.1.2 Etiological factors for the development of mental health problems

Much research has aimed to describe the etiological factors that are either responsible for, or related to, the development of mental health problems (Kieling et al., 2011; Panter-Brick, Eggerman, Gonzakz & Sofdar, 2009; Ruiz-Casares, Thombs, & Rousseau, 2009; Zashikhina & Hogglof, 2007). These factors can be described as proximal causes that can

directly affect the individual and distal factors that are non-specific to the individual but likely to affect subsequent risks (Kieling et al., 2011). Proximal factors commonly described in school-aged children and adolescents include family peer or social problems such as bullying (Chaux, Molano, & Podlesky, 2009), family dysfunction (Lee et al., 2011), substance use (Miller et al., 2010) and academic difficulties (Arun & Chavan, 2009). Distal factors commonly include lifelong risk factors such as genetic background (Kim-Cohn et al., 2006), gender differences (Rudatsikira, Muula, Siziya & Twa-Twa, 2007), physical health and nutrition as a child (Zashikhina & Hogglof, 2007), loss of parents (Ruiz-Casares et al., 2009), natural disasters (Jia et al., 2010; Li et al., 2010) and exposure to abuse, violence or toxic substances as a child (Benjet, 2010; Bordin et al., 2007; Panter-Brick et al., 2009). This wealth of literature suggests there are multiple potential factors that can co-occur for children and adolescents that increase their risk of developing mental health problems.

All the above factors related to the development of mental health problems are important. However, the factors that can be modified through individual, environmental or social change provide opportunities to decrease the development or the severity of mental health problems for adolescents. Modifiable examples include the school environment (Arun & Chavan, 2009; Arseneault, Bowes, & Shakoor, 2010), parental stress (Gulenc, Bulter, Sarkadi & Hiscock, 2018), and parenting styles and practices (Bayer, Hiscock, Ukoumunne, Price, & Wade, 2008; Fergusson et al., 2001; Kieling et al., 2011). Importantly, there is overwhelming evidence that the development of both internalising disorders and externalising disorders is related to their proximal factors within the family system (Bayer et al., 2008; Yap & Jorm, 2015; Yap, Pilkington, Ryan, & Jorm, 2014). For example, Bayer and colleagues (2008) found that parents' stress and harsh discipline were consistent and cumulative predictors of externalising behaviours. Further systematic reviews completed by Yap and colleagues (Yap & Jorm, 2015; Yap et al., 2014) suggested that parenting

behaviours (e.g., less warmth and more inter-parental conflict) were associated with an increased risk of the child and/or adolescent developing internalising behaviour problems. Additional studies have also found that certain parenting styles increased young people's risk for externalising behaviour problems (Granic & Patterson, 2006) and delinquency (Hoeve et al., 2009). Several studies suggest that that the family environment (and more specifically, parents' behaviours and parenting styles) was a clear, modifiable set of factors that could influence and reduce the effect of adolescent mental health problems (Granic & Pattern, 2006; Hoeve et al., 2009;Yap et al., 2015; Yap et al., 2014).

1.1.1.3 Prevention and treatment of mental health problems for adolescents

There are two streams of mental health intervention: (1) treatment; and (2) prevention. Treatment for adolescents and their families typically involves both the identification of the disorder and standard treatment and relapse-prevention strategies (Mrazek & Haggerty, 1994). While this is an extremely important aspect of reducing the burden of mental health problems, a large proportion of the burden of mental health disorders remains unavertable, even with optimal treatment (Andrews, Issakidis, Sanderson, Corry, & Lapsley, 2004). Therefore, effective and integrated approaches are needed to reduce the prevalence and effect of these disorders through prevention, especially for young people (Yap et al., 2017). Prevention has been defined as the "interventions directed to averting the emergence of specific diseases, reducing their incidence and prevalence in populations" (Czeresnia, 1999, p. 705). While there are several varying definitions for different stages of prevention, this thesis follows Mrazek and Haggerty's (1994) widely adopted stages of *universal, selective* and *indicated* prevention. *Universal* prevention strategies are designed to reach the entire population and deliver an intervention that can minimise the potential risk of mental health problems and increase the protective factors. *Selective* prevention is designed to deliver interventions to individuals who have been determined to be at greater risk of developing a

mental health problem. *Indicated* prevention targets persons experiencing the early signs and symptoms of mental health problems (see Figure 1.1).

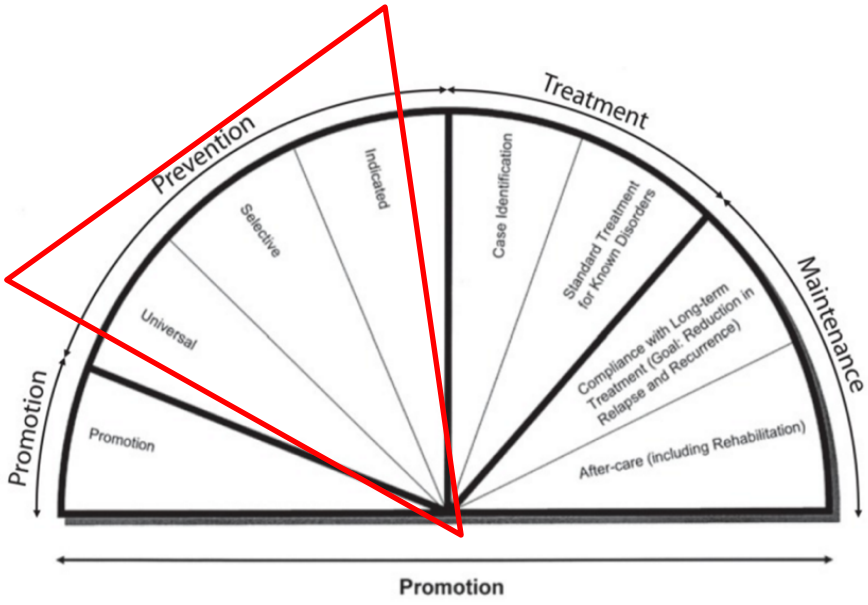

Figure 1.1. Prevention within the continuum of services (adapted from Institute of Medicine, 1994, p. 23).

1.1.2 Parental involvement in prevention of adolescent mental health problems

In addition to the empirical research demonstrating parents' potential impact on their child's mental state, there are three additional important reasons for including parents in the prevention of mental health problems in adolescents. First, most parents are intrinsically motivated to promote and enhance their adolescents' well-being (Yap, Lawrence, Rapee, Cardamone-Breen, Green & Jorm, 2017). This motivation is demonstrated by the finding that adolescent help-seeking is often facilitated by parents (Rickwood, Deane, & Wilson, 2007), who want to help their adolescent but do not always know how (Restifo & Bogels, 2009). This motivation is likely to extend to help-seeking before their adolescent is in crisis, which provides researchers and clinicians with a point to engage parents in mental health prevention.

Second, an annual Australia-wide survey of a large sample of older adolescents demonstrated that adolescents consistently reported that their parents were important figures in their lives, as important as their peers (Bullot, Cave, Fildes, Hall, & Plummer, 2017). The importance that adolescents place on their parents has been maintained over several years. Further, a national survey conducted with young people aged 12-25 years, reported similar results to Bullot and colleagues (2017) survey and suggested that adolescents would seek help from their parents if they were to experience mental health problems (Jorm & Wright, 2008; Yap, Reavley & Jorm, 2013). Reavley and colleagues (2011) then conducted a 2-year post survey completion, follow up study and found that this intention to seek help from parents was prospectively associated with actual help-seeking behaviour if the adolescent developed mental health problems. Thus, parents were found to be both a motivated, and influential support for adolescents. Third, parents could readily change one modifiable risk factor for adolescents: their own parenting styles and strategies. Both parents' intrinsic motivation and their importance in their adolescent's life, suggest that parents could play a pivotal role in the prevention of adolescent mental health problems.

1.1.3 Preventive parenting programs for adolescent mental health

One suggested strategy to increase parents' ability to reduce their adolescent's risk of developing mental health disorders is the use of preventive parenting programs for adolescent mental health (henceforth, referred to as preventive parenting programs; WHO & Calouste Gulbenkian Foundation, 2014). These preventive parenting programs include interventions that are delivered to parents with the main goals of increasing the knowledge, skills and confidence of parents, while reducing the prevalence of mental health, emotional and behavioural problems in children and adolescents (Chu, Farruggia, Sanders & Ralph, 2012; Sanders et al., 2008). These programs assume that supporting and retraining parents to develop adaptive parenting attitudes and behaviours will decrease an adolescent's risk of

developing mental health problems. Sandler, Schoenfelder, Wolchik and MacKinnon (2011) propose that a parenting program improves parenting skills and parental self-efficacy, and reduces barriers to effective parenting, which in turn allows for long-term benefits for the adolescent. This thesis follows Yap and colleagues' (2016) definition of a 'preventive parenting program', as a program aimed at preventing adolescent mental health problems through education and subsequent skill development of parent and primary caregivers, that specifically involves parents in more than 50% of the program.

1.1.4 Parental engagement in preventive parenting programs

Preventive parenting programs have shown promise in preventing both internalising disorders (Yap et al., 2016) and behaviour problems, as well as increase other child competencies (Sandler et al., 2011; Sandler, Ingram, Wolchik, Tein, & Winslow, 2015). Despite these potential benefits, many studies examining the effectiveness of such programs have reported difficulties in engaging parents (Gross, Julion, & Fogg, 2001; Ingoldsby, 2010; Orrell-Valente, Pinderhughes, Valente, Laird, & Conduct Programs Prevention Research Group, 1999; Panter-Brick et al., 2014). Further, recruitment rates, or the rate of parents signing up for family-based prevention programs are often reported as ranging from 3% to 35% of eligible parents (Smokowski, Corona, Bacallo, Fortson, Marshall & Yaros, 2018). Parental engagement in preventive parenting programs can be broadly defined as the entire process of a parent becoming involved in the program, from a parent's intention to enrol, through to actual enrolment, subsequent attendance, and the quality of the parent's participation (Dumas, Nissley-Tsiopinis & Moreland, 2007). Limited parental engagement has three major consequences for preventing mental health problems in adolescents and the development of preventive parenting programs. First, the population-level effectiveness of preventive parenting programs could be inflated, as the effectiveness of a program is a function of both its effect size per participant and the population participation rate (Braver &

Smith, 1996; Winslow, Bonds, Wolchik, Sandler, & Braver, 2009). Thus, even if a program produces a large individual participant effect size but has a small participation rate, the effect on the overall population-level effectiveness could be minimal (Winslow et al., 2009). Second, researchers' failure to both initially engage parents into the intervention arm of RCTs and have parents continue to attend (ongoing engagement) may make it more difficult to find a significant participant-level effect. This likely due to a large proportion of the intervention arm get little or no intervention due to poor ongoing engagement. This leads to difficulties assessing the participant-level effectiveness or the program, which in term limits the program evaluators ability to extend the program to the community. This limited engagement in RCTs also reduces the potential cost effectiveness of such group programs. Third, parents in the general community are not receiving the adequate dose and education required to assist in the prevention of mental health problems (Morawska & Sanders, 2006). Morawska and Sanders (2006) suggested that low completion rates of less than 50% reduce the clinical outcomes of the parenting program and have the potential to waste scarce clinical resources and funding, thus leading to disillusionment that a program is not working, as the expected outcomes are not being demonstrated.

1.1.5 Defining parental engagement

In the context of studies designed to help increase parental engagement, researchers have developed study-specific and inconsistent definitions of parental engagement (Dumas, et al., 2007; Hackworth et al., 2018). Many have limited their explanation of engagement to parents' behaviours of enrolling in and attending a program. For example, Perrino, Coatsworth, Briones, Pantin and Szapocznik (2001) described initial engagement as parents participating in at least one of the first three sessions, while Gross and colleagues (2001) defined parents as engaged if they both enrolled in and attended more than one session. These definitions, while justified, neglect the fact that most parents do not enrol at all. This is

similar to Wenning and King's (1995) finding that not all parents who sought services for their children's mental health or behaviour issues attended the first appointment. The limited exploration of intention to enrol is surprising, given that both the theories of health behaviour (such as the Theory of Planned Behaviour—TPB, Ajzen, 1991) and the research, such as by Spoth and colleagues (1997) and Dumas and colleagues (2007), have demonstrated that intention to enrol predicts a variety of health decisions.

TPB explains that a person's behaviour is determined by three factors: (1) their attitude towards completing the behaviour; that is, the perception that the behaviour will have beneficial outcomes; (2) their understanding of the subjective norms surrounding the behaviour; and (3) their belief that the behaviour is under their control (Ajzen, 1991). These factors lead to a person having the intention to act in a certain way and this intention is posited to increase the likelihood of the person acting out the behaviour more than any other factor alone (Ajzen, 1991). Thus, when applying this knowledge to engagement, it could be hypothesised that enrolment and attendance in preventive parenting program are determined in part by the parents' intention to enrol. This hypothesis has been supported by research conducted by both Spoth and colleagues (1997) and Dumas and colleagues (2007), which found that intention to enrol significantly increased parents' actual enrolment.

Parental engagement was therefore defined in this thesis according to the aforementioned definition provided by Dumas and colleagues (2007), as the entire process of a parent becoming involved in a preventive parenting program, from intent to enrol and enrolment through to attendance and participation quality. This definition was further extended in this thesis through the delineation of the following three stages of engagement: *initial engagement*, *ongoing engagement* and *quality of engagement.* The *initial engagement* stage includes two phases: a) parental *intention to enrol*, which can be measured either as an expression of interest, which occurs prior to signing consent forms, or through a direct

question (e.g., 'Do you intend to enrol?'); and b) actual *enrolment* (e.g., number of parents who signed a consent form and/or number of parents completing baseline assessments). The *ongoing engagement* component assesses c) *attendance*, which can be measured in a variety of ways (e.g., proportion of parents attending at least one session or completing at least one module of a self-administered or online intervention; the total number of sessions attended by parents; or number of parents who completed the program). The third component, *quality of engagement*, measures both what parents 'put into' and 'get out' of the program. This component is determined by participation in the activities and the completion of any homework.

1.1.6 Research examining factors that influence parental engagement

Ongoing parental engagement in both preventive and treatment intervention parenting programs was synthesised in two systematic literature reviews (Chacko et al., 2016; Ingoldsby, 2010). These reviews found that parental engagement was influenced by several factors including practical and psychological barriers and socioeconomic status. Both reviews adopted inclusion and exclusion criteria that may have resulted in the exclusion of universal and selective preventive parenting programs for parents of adolescents (over 12 years of age). In contrast, parental initial engagement has not received the same amount of research attention (Gonzalez, Morawska & Haslam, 2018). As an illustration of the limited research that has been conducted focusing on parental initial engagement, Chacko and colleagues (2016) reported that only 10% of the studies included in their review included information on initial engagement (termed 'recruitment attrition' in their paper). Further, in a recent review on parental initial engagement by Gonzalez and colleagues (2018), only eight studies published between 1996-2017 adequately reported on initial engagement of parents with a child between the age of 2 and 8 years, highlighting the dearth of research in this area.

Because of this bias towards studying ongoing engagement, most researchers have neglected the vital questions of enrolment or why target group parents chose not to take advantage of parenting programs (McCurdy & Daro, 2001). Therefore, we have limited understanding of the differences between parents who enrol and those who choose not to, which could in turn limit the generalisability of these programs for the wider population (Spoth & Molgaard, 1993; Spoth, Redmond & Shin, 2000; Spoth & Redmond, 1995). Particularly, limited initial engagement could lead to issues with external validity if the study included a small, biased sample (Spoth & Molgaard, 1993; Spoth & Redmond, 1995). For example, Spoth and Redmond's (1993) study found that one of the primary reasons for limited engagement was parents' concerns about being the subject of research. These and other barriers limit a study's external validity, as the population of parents participating may not be representative of the population of parents towards whom the program is targeted.

Further to limited generalisability, researchers are currently unable to determine the factors that distinguish between parents who enrol in a parenting program and those who continue to engage in and attend the program. Dembo and colleagues (1999) envisaged that these early (initial) and later (ongoing) engagement factors were likely to differ. In a recent randomised controlled trial (RCT) by Hackworth and colleagues (2018), the hypothesis that different factors will affect different stages of engagement was supported. The study concluded that individual and contextual factors could predict parent initial engagement while other factors, such as, family and program factors were more significant for ongoing engagement. Further, the limited research conducted with parents to date has suggested that several intervention-specific obstacles could hinder parents' initial and ongoing engagement, such as transportation, the scheduling of the program and the intervention location (Birkin, Anderson, Seymour, & Moore, 2008; Koerting et al., 2013; Mytton, Ingram, Manns, & Thomas, 2014; Spoth, Redmond, & Hockaday, 1996). Other factors such as parental and

social perceptions were found to have an influential role with regard to initial engagement. For example, parents often reported that they did not perceive a need for a parenting program, thus they did not engage in the program (Spoth et al., 1996). Additional barriers, such as the potential loss of family privacy and concern about the group dynamics or mistrust of program facilitators, could reduce initial engagement (Barlow, Kirkpatrick, Stewart-Brown, & Hilton, 2005; Bell, 2007; Dyson, Gorin, Hooper, & Cabral, 2009; Heinrichs, Bertam, Kuschel, & Hahlweg, 2005; Spoth et al., 1996). Finally, barriers that researchers have suggested could be specific to ongoing engagement include dislike of group activities, language difficulties, and parents perceiving therapists to have a low skillfulness (see the review in Koerting et al., 2013).

Comparatively, research that has been conducted in parental initial engagement in child and adolescent mental health treatment has found that greater satisfaction and motivation were linked to increased engagement (Fawley-King et al., 2012; Nock & Kazdin, 2005). Haine-Schagel and Walsh (2016) completed a review of factors which increased parental engagement in treatment and similarly suggested engagement involves an attitudinal component, that parents need to perceive that the benefits of treatment outweigh cost. A qualitative study conducted with multiple stakeholders (Baker-Ericzen, Jenkins & Haine-Schlagel, 2013) also suggested that parents, practitioners and adolescents overwhelmingly reported that their perception of the mental health problem being not serious or believing they can deal with the problem without intervention limited initial engagement. These findings are similar to Spoth and colleagues 1996 study that found when parents did not perceive a need for a parenting program they would not engage in the program. However, an added complexity for preventive parenting programs is adolescents may not be displaying symptoms, which could reduce parents perceived need to engage further. Additional barriers such as not knowing who to trust (Baker-Ericzen et al., 2013), cost (Baker-Ericzen et al.,

2013), referral source (Chamberlain et al., 1984) location of services, specifically treatment based at clinic sites (Hansen & Warner, 1994) were all associated with limited parental engagement in treatment programs. These barriers should be assessed in preventive parenting programs.

In addition, Chacko and colleagues (2016) reported that for the 10% of studies that measured initial engagement, there was an initial refusal rate of eligible parents across studies of 25% (with an additional 23% of parents not being able to be contacted to screen for eligibility), while a further 26% (range 2%–91%) dropped out of the study pre-treatment. These statistics suggested that at least a quarter of all eligible parents were not receiving information on the potential benefits of the preventive parenting program, and more than half were not attending the first session, which could have led to a boost in motivation to continue to attend through aspects such as motivational interviewing and shame-reducing techniques (Ingoldsby, 2010). Thus, understanding parental factors regarding intention to enrol is a critical first step to increase a parent's engagement in a preventive parenting program.

Finally, as regards to providing researchers and facilitators with a more in-depth understanding about the factors influencing parental engagement, further research would allow for the development of effective recruitment methodologies. Currently, recruitment methods, such as the commonly used advertisements in newsletters and letters to parents through schools and health centres, are not particularly effective, as demonstrated by Chacko and colleagues' (2016) finding regarding the limited enrolment rates of target group parents. This finding suggested that discovering the factors that affect parents' initial engagement is important and would assist in the creation of better recruitment methodologies, which in turn, could increase parental initial engagement.

The limited understanding of initial engagement in the preventive parenting program literature is an important gap to fill, as limited intention and enrolment have multiple negative

effects for individuals (parents and adolescents) and society (societal cost). The first step to filling this gap would involve a collation and synthesis of the current, somewhat limited, empirical research. As it is unknown the extent to which initial engagement and ongoing engagement involves the same or different barriers and enablers, it would be important to extend the synthesis to include both stages of engagement and to assess the similarities and differences between the factors influencing each stage. Further, it is currently unknown whether a child's age influences parental initial engagement in preventive parenting programs, however, there is research to suggest that parents' cognitions regarding child age affects parents' reactions, behaviour and parenting style. For example, parents who believe older children are more responsible for their own behaviours and mental health are more likely use more severe discipline (Dix, Ruble & Zambarano, 1989; Morrissey-Kane & Prinz, 1999). In addition, older child age has been associated with lower parent participation in treatment studies (Nock & Ferriter, 2005). This research on parent cognitions and engagement in treatment suggests a need for child age to be investigated in the preventive parenting programs space, so although this thesis focused on adolescents, it was important to synthesise the literature across different developmental phases, to assess any age and developmental differences that could affect parental engagement. Thus, a systematic literature review of quantitative literature pertaining to the predictors of parental engagement was conducted and this is presented in Chapter 2 of this thesis. Quantitative literature was the focus of this review because when it was being conducted, Mytton and colleagues (2014) had just published a systematic literature review that focused on qualitative research pertaining to parental engagement (Mytton et al., 2014 is summarised in Chapter 3).

1.1.7 Stakeholders in initial engagement

To develop a better understanding of the factors surrounding parental initial engagement, more information is required about parents' and non-parental stakeholders'

views with regard to the low initial engagement in preventive parenting programs. Axford, Lehtonen, Kaoukji, Tobin and Berry (2012) and other researchers (Aarons, Wells, Zagursky, Fettes, & Palinkas, 2009; Bickman & Rog, 2009; Spoth et al., 1997) have advocated for the importance of input from multiple different stakeholders when considering how to increase parental engagement. There are two different types of stakeholders: (1) parental stakeholders (Spoth et al., 1997), including engaged and non-engaged (i.e., aware of a preventive parenting program and declined to engage) parents; and (2) non-parental stakeholders, such as parenting program facilitators, researchers, teachers and health professionals who refer parents to these preventive parenting programs (Aarons et al., 2009). Engaged parents are the most commonly researched stakeholders and can provide perspectives on both initial and ongoing engagement (see reviews in Mytton et al., 2014 and Koerting et al., 2013), while non-engaged parents are less researched. Two studies were identified as having engaged/non-engaged parents in research about parenting programs: Birkin et al. (2008) interviewed parents of children with a diagnosis of autism who had chosen not to engage in a parenting support program; and Spoth et al. (1996) conducted a survey with parents who had declined to participate in the Project Family, a study that randomised parents by school into (1) a five-session skills training program, (2) an intensive seven-session program which included children or (3) minimal contact control condition. These parents were able to provide a unique understanding of the barriers to initial engagement in a parenting program. However, at the time of writing this thesis, there was no published research specific to parent reported barriers to initial engagement in preventive parenting programs.

Non-parental stakeholders, such as parenting program facilitators and researchers, are commonly included in engagement research (see reviews in Mytton et al., 2014 and Koerting et al., 2013). These stakeholders have been able to provide information and understanding from engaging, recruiting and working with multiple parents. Additional non-parental

stakeholders, such as professionals who may refer people to parenting programs (e.g., teachers, well-being coordinators, doctors, nurses and psychologists), could act as gatekeepers for parents through choosing the parenting programs to which they referred parents. Although they are less commonly approached to take part in studies about parental initial engagement in both prevention and intervention parenting programs, they are also an important stakeholder group.

For this research, the development of understanding of stakeholder views of parental engagement began with two systematic literature reviews that had been conducted in the last five years assessing the qualitative work conducted with multiple stakeholders (Koerting et al., 2013; Mytton et al., 2014). However, the studies reported by these two reviews were limited by their inclusion of (1) mostly parents who were at least initially engaged and subsequently dropped out or completed the parenting program; and (2) primarily researchers and parenting program facilitators in their non-parental stakeholder group. Thus, more research is needed to increase our understanding of the neglected stakeholders, specifically, non-engaged parents and referring non-parental stakeholders such as teachers.

This thesis focused on gaining an in-depth understanding about the factors influencing parental initial engagement for parents of adolescents. The focus on the engagement of parents of adolescents was taken for two reasons: (1) the peak onset of mental health problems during adolescence; and (2) to ensure a greater depth of understanding about contributing factors for a specific group of parents (Palinkas et al., 2015; Patton, 2002). Stakeholders' views are explored in Section 3.2.

1.1.8 Conceptual frameworks of parental engagement

In an effort to collate the scattered parental engagement research that has been conducted to date, several researchers have developed conceptual frameworks of parental engagement. They used both previous research and health behaviour theories to provide "a

partial sketch of what can be expected and where to look for it" (Linder & Sexton, 2011, p. S74). Existing frameworks focus on treatment-based, rather than preventive, parenting programs (McCurdy & Daro, 2001), on all types of prevention programs, such as child maltreatment and mental health problems (Randolph, Fincham, & Radey, 2009), and the later stages of engagement, or ongoing engagement (Piotrowska et al., 2016). As noted above, there is a need for research specifically aimed at understanding parents' initial engagement in preventive parenting programs for adolescent mental health from the perspectives of multiple stakeholders. Moreover, these perspectives need to be integrated with previous research and theory in an evidence-informed conceptual framework. Conceptual frameworks can provide the rationale and guidance for subsequent empirical investigations (Linder & Sexton, 2011). Thus, the development in this research of an evidence-informed conceptual framework of parental initial engagement would provide a guide for the development of recruitment methodologies that could increase parental engagement in the prevention of adolescent mental health problems. Existing theories and conceptual frameworks are further explored in Section 3.4.

1.2 Research aims

This thesis aimed to understand parental initial engagement in parenting programs that focus on preventing adolescent mental health problems. Understanding parental initial engagement in preventive parenting programs, particularly focused on adolescent mental health, would provide researchers with a clear direction for future research to increase parental initial engagement. This understanding was developed through first, conducting two literature reviews to collate existing information: (1) a systematic review of research that has evaluated potential predictors of parental engagement in preventive parenting programs, and recruitment methodologies to increase engagement; and (2) a narrative review of qualitative research. The second review aimed to build on Mytton and colleagues (2014) and Koerting

and colleagues' (2013) systematic reviews of qualitative studies and the pre-existing health behaviour models that have been used to assist researchers in understanding parental engagement. To fill some of the gaps identified in these reviews, a qualitative study of parental initial engagement was then conducted through gathering multiple parent and non-parent stakeholders' perspectives.

This thesis culminated in the development of an evidence-informed conceptual framework of parental initial engagement that integrates previous research, theoretical models and interviews with non-engaged parents and non-parental stakeholders. The aim of this framework was to provide researchers and parenting program facilitators with an understanding of the potential modifiable factors that influence a parent's initial engagement and to provide direction for future research on parental engagement.

Specifically, this thesis had three core aims:

1. To review, synthesise and investigate:
    a. the predictors of parental engagement in preventive parenting programs (see Chapter 2)
    b. recruitment methodologies that have been used to enhance parental engagement (see Chapter 2)
    c. the literature on parent-reported enablers and barriers to parental engagement in preventive parenting programs (see Chapter 3)
    d. the individual and socio-ecological health behaviour models that could be used to understand parental initial engagement in preventive parenting programs (see Chapter 3).
2. To examine the barriers and enablers for parents initially engaging in a preventive parenting program, through qualitative semi-structured interviews with non-engaged parents and non-parent stakeholders (see Chapter 5).

3. To develop an evidence-informed conceptual framework of parental initial engagement, to guide further research and recruitment method development, based on (a) the published recruitment literature; (b) stakeholder interviews; and (c) previously developed health behaviour models and frameworks of parental engagement (see Chapter 6).

1.3 Thesis outline

This thesis comprises six chapters and includes one publication and one submitted paper. Chapter 1 has introduced the societal context, the aim of the thesis, and a brief outline of the chapters of this thesis. Chapter 2 presents a published systematic literature review (henceforth referred to as Paper 1) examining the predictors of parental engagement, across both initial engagement and ongoing engagement, as well as recruitment strategies that have been used to increase engagement.

Building on this information, Chapter 3 then reviews the additional pertinent literature surrounding parental engagement in preventive parenting programs. This includes a critical synthesis of individual studies and published systematic literature reviews that review the qualitative methodologies to involve parents in engagement conversations. In addition, Chapter 3 presents a discussion of the relevant theoretical models that have been developed to date in the broader parental engagement literature, as well as the health behaviour models that underpin them. Next, Chapter 4 presents a brief overview of the methodology used in the qualitative study of non-engaged parents and non-parental stakeholder views of parental initial engagement, including the overarching methodological framework and epistemology.

Chapter 5 presents a paper that has been submitted for publication (henceforth referred to as Paper 2), reporting the findings from the qualitative study. Finally, Chapter 6 consists of an integrated discussion. It summarises the findings from both papers in the context of previously completed research and presents the proposed evidence-informed

conceptual framework. The chapter then points to specific practical implications, highlights the limitations of the current study and suggests future research that flows from the results.

Chapter 2: Systematic literature review of the predictors of parental engagement

2.1 Preamble

The main reason for wanting to understand parental engagement in preventive parenting programs is preventive parenting programs can reduce child and adolescent risk of developing mental health problems in childhood and later in life through increasing parents' skills, knowledge and self-efficacy (Sanders et al., 2008; Sandler et al., 2015; Sandler, Schoenfelder et al., 2011; Yap et al., 2016). However, if parents do not engage in preventive parenting programs, they miss the opportunity to receive psycho-education and to practise the learnt parenting skills that lead to these positive outcomes for themselves, their family and the wider society. Thus, researchers have explored parental engagement in several ways. First, hypothesised predictors of parental engagement have been measured and analysed. Second, researchers have trialled recruitment methods aimed to increase parental engagement.

Chapter 2 presents a published paper titled, *Parental engagement in preventive parenting programs for child mental health: A systematic review of predictors and strategies to increase engagement* (Finan, Swierzbiolek, Warren, Priest, & Yap, 2018). This paper has been published in the journal *PeerJ*. The aim of this paper was to investigate the predictors of parental engagement, in preventive parenting programs, across their child's lifespan, across initial engagement (intention to enrol and enrolment) and ongoing engagement (attendance) components; and the currently used recruitment methodologies through a systematic review of published recruitment literature. A broader focus on the multiple stages of engagement was conducted to provide a deeper understanding of any similarities and differences between ongoing engagement and initial engagement. It was believed that this comparison would

demonstrate whether there were factors that could increase both initial and ongoing engagement, or whether initial and ongoing engagement require different strategies. This systematic literature review search was limited to studies written in English and published between 2004-2015. This publication date range was chosen because: modern technology has given parents multiple options to attain the same information (Bayer et al., 2008; Calam, Sanders, Miller, Sadnami & Carmont, 2008;), while possibly reducing some of the barriers to engagement. I wanted to ensure that these newer programs were captured in this review so that the findings would be more relevant for engagement in contemporary programs. In addition, there was a need to make this systematic review feasible and achievable within the timeline of a doctoral project. Further, the systematic review aimed to assess whether the age of the target child affected parental engagement; therefore, it included programs for children aged 0 to 18 years. The results were followed by a discussion of the findings, which have then been further elaborated and integrated with other chapters in Chapter 6. The systematic review PROSPERO protocol and online supplementary documents are contained in Appendix A.

2.2 Paper 1: Parental engagement in preventive parenting programs for child mental health: a systematic review of predictors and strategies to increase engagement

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Parental engagement in preventive parenting programs for child mental health: a systematic review of predictors and strategies to increase engagement

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ABSTRACT

Background. Child mental health problems are now recognised as a key public health concern. Parenting programs have been developed as one solution to reduce children's risk of developing mental health problems. However, their potential for widespread dissemination is hindered by low parental engagement, which includes intent to enrol, enrolment, and attendance. To increase parental engagement in preventive parenting programs, we need a better understanding of the predictors of engagement, and the strategies that can be used to enhance engagement.
Method. Employing a PRISMA method, we conducted a systematic review of the predictors of parent engagement and engagement enhancement strategies in preventive parenting programs. Key inclusion criteria included: (1) the intervention is directed primarily at the parent, (2) parent age >18 years, the article is (3) written in English and (4) published between 2004–2016. Stouffer's method of combining *p*-values was used to determine whether associations between variables were reliable.
Results. Twenty-three articles reported a variety of predictors of parental engagement and engagement enhancement strategies. Only one of eleven predictors (child mental health symptoms) demonstrated a reliable association with enrolment (*Stouffer's* $p < .01$).
Discussion. There was a lack of consistent evidence for predictors of parental engagement. Nonetheless, preliminary evidence suggests that engagement enhancement strategies modelled on theories, such as the Health Belief Model and Theory of Planned Behaviour, may increase parents' engagement.
Systematic review registration. PROSPERO CRD42014013664.

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INTRODUCTION

Background

Mental health problems are a leading cause of disability in children and young people worldwide (*World Health Organization, 2016a*). Mental health problems can be defined as a dysregulation of mood, thought and/or behaviour, and categorized more broadly into internalizing or externalizing problems for children (*American Psychiatric Association, 2013*). In the current review, 'mental health problems' is used to encapsulate both internalizing and externalizing problems (*American Psychiatric Association, 2013*). Mental health problems are typically followed by subsequent adverse outcomes for children including psychological distress, functional impairment, exposure to stigma and increased risk of premature death (*Patel et al., 2007*).

The World Health Organization (WHO) has called for greater attention to be given to the prevention and promotion of mental health at all levels of society (*WHO, 2016b*). It is important here to differentiate between mental health promotion and prevention, as these terms are often confused or conflated. Health promotion is the development, progress or establishment of practices that increase overall health and wellbeing (*Czeresnia, 1999*), and is not addressed in the current review. Instead, the focus is on prevention, defined as "interventions directed to averting the emergence of specific diseases, reducing their incidence and prevalence in populations" (*Czeresnia, 1999*, p. 705). Despite varying definitions for different stages of prevention, here we follow *Haggerty & Mrazek*'s (*1994*) widely adopted stages of *universal, selective* and *indicated*. The goal of *universal* prevention is to target the public and deliver an intervention that can minimize potential risk and increase protective factors for mental health. *Selective* prevention is designed to deliver interventions to individuals whose risk of developing a mental health problem is higher than others in the population, while *indicated* prevention specifically targets persons at high risk.

Parenting programs to prevent child mental health problems

Recent systematic reviews demonstrate that parenting behaviours (i.e., less warmth, and more inter-parental conflict) are associated with children's and adolescents' risk of mental health problems (*Rothbaum & Weisz, 1994*; *Yap & Jorm, 2015*; *Yap et al., 2014*). Hence, parenting programs that aim to modify parenting behaviours have the potential to prevent mental health disorders in children and adolescents. These programs, whether face-to-face or online, have shown promise in preventing both internalising disorders (*Yap et al., 2016*) and behaviour problems, as well as increasing other child competencies (*Sandler et al., 2015*; *Sandler et al., 2011*). Parenting programs can be defined as any intervention delivered to parents with the main objective of increasing parental knowledge, skills and confidence, whilst reducing the prevalence of mental health, emotional and behavioural problems in children and adolescents (*Sanders et al., 2008*). These programs assume that changing parenting behaviours will in turn alter a child's risk of developing mental health problems. This assumption stems from theoretical underpinnings suggested by Sandler and colleagues (*2011*), that a parenting program improves parenting skills and parental self-efficacy, causing a reduction in barriers to effective parenting, and in turn facilitating long-term

benefits for the child. Despite the potential benefits of preventive parenting programs, many studies examining the effectiveness of such programs have reported difficulties in engaging parents (*Gross, Julion & Fogg, 2001*; *Ingoldsby, 2010*; *Morawska & Sanders, 2006*; *Orrell-Valente et al., 1999*; *Panter-Brick et al., 2014*). Poor parental engagement, including parental uptake and ongoing engagement (attendance), could lead to both the effectiveness of these programs being under-reported and parents not adequately developing the key skills required to prevent mental health problems (*Morawska & Sanders, 2006*).

Parental engagement in preventive parenting programs has been defined inconsistently across studies (*Gross, Julion & Fogg, 2001*; *Orrell-Valente et al., 1999*). However, these definitions can generally be broken down into three discrete components. The first component, *initial engagement*, includes two phases: (1) parental *intent to enrol*, measured either through initial expression of interest rates, occurring prior to or separate from signing consent forms, or through a direct question (e.g., 'Do you intend to enrol?'); and (2) actual *enrolment*, as described by the study, as the number of parents who enrolled in the program (e.g., number of parents who signed a consent form) (*Dumas, Nissley-Tsiopinis & Moreland, 2007*; *McCurdy & Daro, 2001*; *Spoth et al., 1996*). The second component, *ongoing engagement*, is measured by the proportion of parents attending at least one session or completing at least one module of a self-administered or online intervention, the total number of sessions attended by parents, or the number of parents who completed the program (*Dumas, Nissley-Tsiopinis & Moreland, 2007*; *McCurdy & Daro, 2001*; *Spoth et al., 1996*). The third component of engagement, *quality of engagement*, measures both what parents invest in and receive from the program (e.g., taking part in group discussions or completing homework tasks; *Chacko et al., 2016*; *Orrell-Valente et al., 1999*). This component (1) is determined by the type of activities parents are asked to take part in during sessions, specific to each program; and (2) is suggested to form part of the key mechanism for positive parenting change (*Kazantzis, Deane & Ronan, 2000*; *Piotrowska et al., 2017*), thus is more closely related to program outcomes than the other two components.

Engaging parents in prevention

In two recent reviews, *Ingoldsby (2010)* and *Chacko et al. (2016)* attempted to collate research on parental engagement. *Ingoldsby (2010)* reviewed *ongoing engagement* and retention of families attending both intervention and indicated prevention programs designed to improve child mental health (child age range not specified). The main findings from *Ingoldsby*'s (*2010*) review included: (1) brief strategies implemented at the beginning of the program addressing families' practical and psychological barriers effectively increased engagement in early sessions; and (2) strategies that were ongoing throughout the intervention, and focused on motivational interviewing, family systems and family stress, demonstrated longer-term increased engagement. More recently, Chacko and colleagues (*2016*) reviewed and discussed predictors of parental engagement, including the domains of attendance and attrition (*ongoing engagement*) and treatment adherence (*quality of engagement*). Chacko and colleagues (*2016*) concluded that at least 51% of parents drop out at some stage of the intervention, with this high level of attrition

found to be somewhat influenced by lower socio-economic status (SES). Both reviews adopted inclusion and exclusion criteria that may have resulted in the exclusion of studies focusing on universal and selective prevention programs (i.e., *Heinrichs et al., 2005*; *Spoth & Redmond, 2000*), as well as those using open access recruitment methods.

Engaging parents across children's lifespan

During the developmental transition into adolescence, the corresponding changes in the parent–child relationship include increasing autonomy and time spent apart from the parent, and an increased importance of peer relations (*Collins, 1990*). In this context, parents may perceive that their role in their child's mental health and well-being is no longer as important as when their child was younger. This could account for the low rates of engagement in preventive programs for parents of adolescents (*Burke, Brennan & Roney, 2010*). However, there is a substantial body of evidence to suggest that even when a child moves into adolescence, parents still play an important role in their child's risk for both internalising (*Yap et al., 2014*) and externalising disorders (*Sandler et al., 2011*). Chacko and colleagues' (*2016*) review only assessed parental engagement in programs for parents of children aged 2–12 years, finding no effect of child age. Hence, it remains unclear if parental engagement in programs differs depending on the age of the child, when considering the whole developmental period from birth through to late adolescence (0–18 years).

Engagement enhancement strategies

In addition to studies that have examined predictors of parents engaging in a preventive parenting program, there is emerging research on the effectiveness of engagement enhancement strategies for parental engagement. *Ingoldsby (2010)* found that additional strategies implemented at the time of enrolment, including brief intensive engagement interventions that are both practical (e.g., providing transportation) and psychological (e.g., addressing beliefs about the treatment process) in nature, could increase parental attendance during early stages of the intervention. In another review of strategies to recruit any type of participant into a RCT, *Caldwell et al. (2010)* found that any strategy that increased a participant's awareness of the health problem being studied increased recruitment, a finding that is in line with the Health Belief Model (*Rosenstock, 1974*). The Health Belief Model was proposed to explain and predict health-related behaviours, such as attending health care appointments. This model focuses on the attitudes and beliefs of individuals; for instance, if a parent has increased awareness of their child's susceptibility to developing a mental health problem, they may be more likely to engage in a preventive parenting program. In addition to the Health Belief Model, the Theory of Planned Behaviour and Reasoned Action (*Ajzen & Driver, 1991*) may also be used to inform engagement enhancement strategies (*McCurdy & Daro, 2001*). The Theory of Planned Behaviour and Reasoned Action links an individual's beliefs and attitudes about subjective norms (e.g., the perceived social pressure to perform or not perform a behaviour; *Ajzen & Driver, 1991*) and perceived behavioural control (e.g., a parent's perceived ease or difficulty of performing a certain behaviour; *Ajzen & Driver, 1991*). For example, *McCurdy & Daro (2001)* posit that subjective norms, as determined by communications with others,

can influence a parent's decision to engage in a parenting program. Therefore, it appears there are additional strategies researchers can utilise during the initial engagement stage of a study to increase parental engagement across subsequent stages. Engagement enhancement strategies are defined in the current review as any methodology that looks to use evidence- or theoretically-based strategies to increase parental engagement.

The current systematic review

The current review will extend on previous findings by reviewing both potential predictors of engagement as well as engagement enhancement strategies used. Specifically, the current review aims to delineate factors/strategies that can be applied across different types of parenting programs. Hence it focuses on the *initial engagement* and *ongoing engagement* components, but not *quality of parental engagement*, because the latter is related to program-specific components. Such a synthesis can inform researchers regarding the predictors of *initial* and *ongoing* parental engagement, and suggest some possible theoretical models that could be used in the development of engagement strategies to increase the uptake of evidence-based preventive parenting programs. To identify factors predicting parental engagement in programs where parents are the main target of intervention, the current review follows Yap and colleagues' (*2016*) definition of a 'preventive parenting program': a program aimed at preventing child mental health problems through education and subsequent skill development of parent and primary caregivers, that specifically involves parents in more than 50% of the program. Additionally, the current review will include all programs specifically focused on the prevention of child mental health problems, across both childhood and adolescence (0–18 years), to explain the association between child age and parent engagement. This review aims to shed light on whether there is a more optimal time to promote parenting programs, and inform future parenting program design and implementation, with the ultimate goal of maximising parental uptake of preventive programs.

Specifically, this review aims to: (1) investigate the predictors of parental engagement in preventive parenting programs, across the *initial engagement* (intent to enrol and enrolment) and *ongoing engagement* (attendance) components. Of particular interest, we aim to examine whether parental engagement differs depending on the age of the child at the time of parent participation; and (2) explore whether any strategies used by researchers to increase parental engagement have been successful.

MATERIALS AND METHODS

Search strategy

This review was conducted following the Cochrane Collaboration guidelines (*Higgins & Green, 2008*). The following electronic databases were searched: Cochrane Library, Informit online, Ovid MEDLINE, ProQuest, PsycINFO, PubMed and Scopus. The search was limited to studies written in English and articles published between 2004–2014. This publication date range was chosen to increase the likelihood that findings from this review will be more recent and relevant to current and future parenting programs. The initial search was conducted by the first author (SF) on the 12th of January 2015. To ensure the

latest data was included in the review, an update search was conducted (also by SF) on the 21st of July 2016 to include articles published between January 2015–July 2016. Search terms included multiple terms for engagement, parents, programs, prevention, child and mental health (for a full list, refer to Supplemental Information 2).

Unpublished reports, dissertations and grey literature were sourced through Google Scholar and dissertation databases. Manual searching of reference lists of included studies was conducted to locate further relevant articles and dissertations of interest.

Inclusion and exclusion criteria

Studies were included if they were controlled trials (randomised and non-randomised), cross-sectional, case-control, and longitudinal studies. Excluded studies included; therapy/treatment interventions (*note: all prevention interventions were eligible for inclusion*), reviews or meta-analyses, qualitative studies, discussion papers, and papers published in languages other than English.

Population

Participants included parents who were defined as parents or primary caregivers (aged 18 or older) of children aged 0–18 years. This wide child age range was used to maximise variance and the number of eligible studies, to explore whether child age is associated with parental engagement. Parents were taking part in an intervention those designed to prevent the development of mental health problems in children, where parents took part in at least 50% of the intervention. Interventions could be either group or individual programs delivered face-to-face, via phone, mail or internet. Therefore, studies were excluded if they; compared diagnostic groups but did not include a normal (non-clinical) control group, and/or were evaluating therapy or treatment for children with existing depression or anxiety disorders

Intervention

The focus of this review includes the testing of different recruitment methodologies and the discovery of potential predictors of parental engagement. Therefore, the intervention of focus includes recruitment methodologies. Studies were excluded if they lacked adequate detail in describing recruitment methods and/or used non-specific measures (e.g., measure of general psychopathology).

Comparison

For RCT's comparisons could include alternative recruitment methodologies or recruitment as usual, however, studies did not need to have a comparison group to be included in the *Stouffer's p* analysis.

Outcomes

Studies were required to contain analyses of the predictors of parent engagement, and/or an evaluation of the effects of an engagement strategy on parents' subsequent engagement in the parenting program (see Supplemental Information 2 for further detail about inclusion/exclusion criteria).

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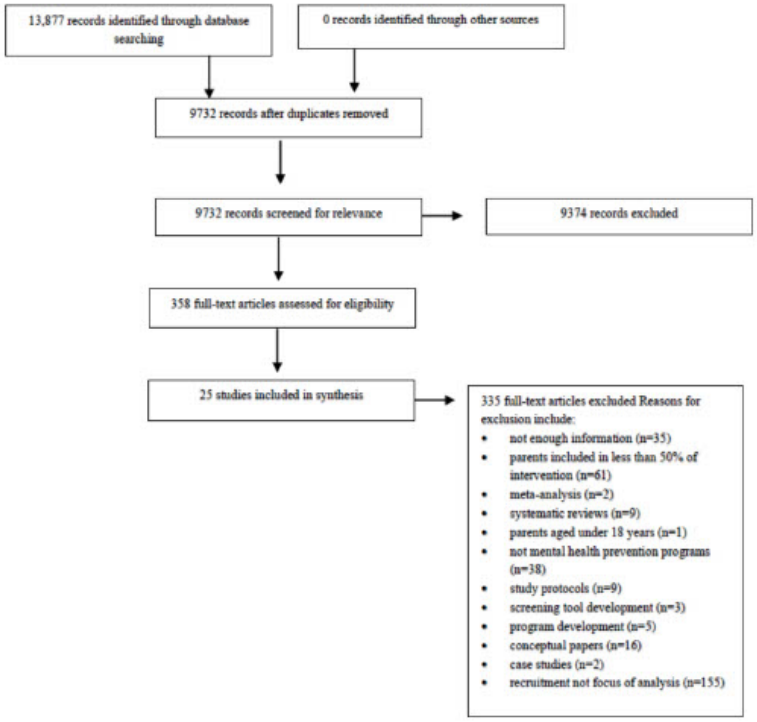

Figure 1 **PRISMA diagram.**

Full-size DOI: 10.7717/peerj.4676/fig-1

Study selection and data extraction

Titles and abstracts of identified studies were reviewed to determine if they met inclusion criteria. Full texts of articles that met inclusion criteria were assessed by the first author (SF). Thirty-five percent of these titles and abstracts were independently assessed by a second author (BS) to confirm inter-rater reliability of the inclusion criteria. Inter-rater reliability of inclusion criteria was 99.2%, with one additional article being included in the review. All reasons for exclusion are documented in the PRISMA diagram (Fig. 1). Disagreements were resolved through discussion and review of the extraction sheet by SF and BS, with involvement of other authors (NP and MY) when necessary.

Coding of predictors

Engagement factors were identified as factors that could influence a parent's engagement in preventive parenting programs. Categories were specified when two or more of the included studies examined the same engagement variable. The categories identified

included: *parent age, gender of parent, parent education status, parent employment status, parent race/ethnicity, parental mental health status, child age, child gender, child mental health symptoms, family structure* and *one- or two- parent households*. Definitions for these eleven categories were based on consensus in the relevant literature (see Table 1 for definitions and examples of measures used). In addition, several other factors could not be coded into categories, including parenting behaviour measures and individual and neighbourhood socioeconomic status. Of the six studies which assessed parenting behaviours as a predictor, the types of parenting behaviours were too diverse to combine into a single meaningful category (*Yap et al., 2014*; *Yap & Jorm, 2015*). The eight different parenting behaviour categories included; discipline ($n = 3$), parent self-efficacy ($n = 2$), parent warmth ($n = 1$), positive parenting style ($n = 2$), negative attribution/conflict ($n = 2$), knowledge of school performance ($n = 1$), restrictive attitude to alcohol ($n = 1$) and parenting problems ($n = 1$). Those parenting behaviour categories with $n > 1$ were incomparable due to the use of different indicators, and/or they were used to predict different stages of engagement. Additionally, as recommended by Braveman and colleagues (*2005*), measurement of specific socioeconomic factors were assessed separately rather than combined as an overall socioeconomic position (SEP). This resulted in the following SEP-related categories: *parent education status, parent employment status, family structure* and *one- or two- parent households*.

Data analysis and Stouffer's *p*

A meta-analysis to assess effect sizes was not possible due to differences in interventions, settings, predictor variables, and analytic methods. To compensate for this limitation, the Stouffer's method (*Stouffer et al., 1949*) of combining *p*-values was used to synthesize the findings of many of the included studies, since it can be applied in cases where studies analyse data in a variety of ways. Stouffer's z was calculated by dividing the sum of the $z(p_i)$ values by the square root of k (where k refers to the number of associations). Stouffer's z s were calculated to determine the overall *p*-value of the associations reviewed for each combination of predictor category and engagement factor. If the resulting Stouffer's z corresponded to a probability level less than 0.01, the null hypothesis of no effect was rejected. This methodology has been used in other systematic reviews, including by Yap and colleagues (*2014*; *2015*), to assess whether associations between variables are reliable. For information on how *p*-values were extracted and selected for analysis, see Supplemental Information 2.

Assessing risk of bias

Critical appraisal of quantitative studies was conducted using the Cochrane Risk of Bias Tool (*Higgins & Green, 2008*), which involved assessing for adequate sequence generation, allocation concealment, blinding of assessors to treatment conditions, the inclusion of intention to treat analyses and assessment of potential confounders. Risk of bias for all included studies was assessed by two authors (SF and BS) using a standardised, pilot-tested extraction sheet. Disagreements were resolved through discussion between SF and BS.

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Table 1 Engagement factors, definitions and example measures and items.

Theme	Definition	Example items	Example measures
Parent age	Parent's stated age in years	• Please state your age • Categories i.e., '18–29', '30–39' years	• Study specific
Gender of parent	Parent's stated gender/sex	• Please select one 'male', 'female', 'prefer not to answer'	• Study specific
Parent education status	Parent's reported highest completed education	• Categories '8th grade' to 'professional degree' • Please state highest achieved education	• Study specific
Parent employment status	Involvement in paid employment	• No. of hours in paid employment • Categories, i.e., 'unemployed', 'part-time', 'full-time'	• Study specific
Parent race/Ethnicity	Parent's statement of belonging to a social group or identifiable culture	• Categories with different ethnic group listed i.e., 'Australian', 'African American' • Immigration status	• Study specific
Parent mental health status	Parent's reported psychological and emotional well-being as operationalised by standardised measures	• 'I found it difficult to relax' • 'Feeling blue' or 'feeling no interest in things'	• Depression, Anxiety, Stress Scales • Brief Symptom Inventory
Child age	Age of target child in either years or months	• 'How old is your child?' • List of eligible ages	• Study Specific (Parent-report)
Child gender	The gender/sex that the child is identified as	• Please select one 'male', 'female', 'other'	• Study Specific (Parent-report)
Child mental health symptoms	Child's reported severity of symptoms of psychological and emotional distress and/or a dysregulation of mood, thought and/or behaviour, with these being categorized more broadly into internalizing or externalizing problems for children (*American Psychiatric Association, 2013*).	• 'Argues a lot' and 'too fearful or anxious' on scale of 0 = not true, 1 = sometimes or somewhat true, 2 = exactly/often true	• Eyberg Child Behavior Inventory • Child Behaviour Checklist • Social Behaviour Questionnaire
Family structure	The ratio of children to adults living in the family home	• 'How many adults live in your home?' and 'how many children live in your home?'	• Study Specific
One- or two-parent households	The number of parents living in the household	• Categories, i.e., 'single parent', 'married', 'divorced', 'living with a partner'	• Study Specific

RESULTS

From 13,877 studies identified in the initial searches of published literature, 358 were full-text screened and 335 articles were excluded (see Fig. 1 for reasons). The remaining 23 articles were included, comprising 21 separate studies. These studies were organised into two categories: (1) studies that measured and described predictors of engagement and (2) studies that attempted to increase parent engagement using targeted engagement methods (see summary in Table 2 below, and Tables in Supplemental Information 3, Supplemental Information 4 and Supplemental Information 5 for detailed study characteristics and all extracted data). Separate articles from the same study that reported results on different categories were included in the current review. These studies have been summarised below with a mixture of narrative review and Stouffer's *p* analysis. Due to many studies obtaining several unclear bias ratings, the quality of the included studies remains inconclusive. As illustrated in Table 3, the maximum number of low bias ratings for any individual study was three (*Bjørknes, Jakobsen & Nærde, 2011*; *Bjørknes & Manger, 2013*; *Hellenthal, 2009*). Refer to Table 3 for a summary of results from the risk of bias assessment (for more details, see Table in Supplemental Information 6).

Study characteristics

Design

Of the 21 studies included, most involved universal prevention programs, and were conducted in the USA (see Table 4). The most common mental health problem targeted was externalising disorders ($n = 13$, i.e., conduct disorder; *Baker, Arnold & Meagher, 2011*; *Bjørknes, Jakobsen & Nærde, 2011*; *Garvey et al., 2006*; *Heinrichs et al., 2005*; *Heinrichs, 2006*; *Helfenbaum-Kun & Ortiz, 2007*; *Hellenthal, 2009*; *Mauricio et al., 2014*; *Nordstrom, Dumas & Gitter, 2008*; *Plueck et al., 2010*; *Reedtz et al., 2011*; *Skärstrand et al., 2009*; *Winslow et al., 2009*). Nineteen studies were randomised controlled trials (RCT), while one study employed a correlational study design (*Nordstrom, Dumas & Gitter, 2008*) and another a quasi-experimental design (*Hellenthal, 2009*). Although the inclusion criteria allowed for a broader range of study designs, only experimental trials met the additional inclusion criteria (i.e., studies assessing parent engagement). The included studies can be categorised into two not-mutually-exclusive groups: (1) studies measuring predictors of engagement ($n = 17$; *Baker, Arnold & Meagher, 2011*; *Brody et al., 2006*; *Byrnes et al., 2012*; *Calam et al., 2008*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Fleming et al., 2015*; *Garvey et al., 2006*; *Heinrichs et al., 2005*; *Hellenthal, 2009*; *Mauricio et al., 2014*; *Mian, Eisenhower & Carter, 2015*; *Nordstrom, Dumas & Gitter, 2008*; *Plueck et al., 2010*; *Reedtz et al., 2011*; *Skärstrand et al., 2009*; *Winslow et al., 2009*), and (2) studies that evaluated engagement methodologies ($n = 9$; *Aalborg et al., 2012*; *Bjørknes, Jakobsen & Nærde, 2011*; *Byrnes et al., 2012*; *Calam et al., 2008*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Heinrichs, 2006*; *Helfenbaum-Kun & Ortiz, 2007*; *Mian, Eisenhower & Carter, 2015*). Some studies had dual aims (i.e., evaluation of an engagement methodology and measurement of predictors; *Calam et al., 2008*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Mian, Eisenhower & Carter, 2015*).

Table 2 Summary of study results, overall participant numbers and percentage of engaged parents by stage of engagement.

Studies, identified by first author	Participants	Parenting intervention name[a]	Intent to enrol	Enrolment	Ongoing engagement	Engagement enhancement strategies (EES)	Main findings[b]
Aalborg et al. (2012)	Parents of adolescents aged 11–12 years (n = 614)	Strengthening Families Program: For Parents and Youth 10–14 (SFP) & Family Matters (FM)	n/a	n/a	SFP M = 5.2 (choice), M = 4.8 (assigned) FM M = 3.3 (choice), M = 3.4 (assigned)[q]	Parents were able to choose which program to attend versus being assigned to a program	**EES** Families who chose FM completed the program in a shorter period of time and those who chose SFP attended more sessions
Baker, Arnold & Meagher (2011)	Parents of preschool aged children (n = 106)	Incredible Years	n/a	48.1%[h]	61%[r]	n/a	**Enrolment** PR $p > .01$ 1/2PH, PMHS, CMHS n/s **Attendance** 1/2PH $p < .01$ PR, PMHS, CMHS n/s
Bjørknes, Jakobsen & Nærde (2011)	Parents of children aged 3–9 years at risk of developing conduct problems (n = 96)	Parent Management Training—The Oregon Model	n/a	n/a	n/a	Strategies were recruitment via: (1) professionals from regular public services, (2) community information meetings, and (3) staff from the recruitment team	**EES** Information meetings were the most cost-effective strategy and the highest proportion of the sample was recruited via these meetings
Bjørknes & Manger (2013)	Parents of children aged 3–9 years at risk of developing conduct problems (n = 50, those offered intervention)	Parent Management Training—The Oregon Model	n/a	n/a	M = 10.75[q] 66%[s]	See *Bjørknes, Jakobsen & Nærde (2011)*	Analysis was limited to child behaviour outcomes of those who attended more than 50% of intervention

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Table 2 (*continued*)

Studies, identified by first author	Participants	Parenting intervention name[a]	Intent to enrol	Enrolment	Ongoing engagement	Engagement enhancement strategies (EES)	Main findings[b]
Brody et al. (2006)	Parents of children aged 11 years (n = 172, those offered intervention)	Strong African American Families	n/a	n/a	65%[i]	n/a	**Attendance** FS $p < .05$ PMHS n/s
Byrnes et al. (2012)[f]	Parents of adolescents aged 11–12 years (n = 214)	Family Matters	47.2%[c]	61.0%[j]	n/a	Parents were able to choose which program to attend versus being assigned to a program	**Intent** P age, C sex n/s **Enrolment** P age $p < .05$ C sex n/s
Calam et al. (2008)[g]	Any parents that signed up to the study associated with a public TV broadcast of program (n = 723)	Driving Mum and Dad Mad	n/a	n/a	M = 5 (recruitment drive 1) M = 4.29 (recruitment drive 2)[q]	Standard condition; received weekly email reminding them to watch TV series. Enhanced condition: received emails plus self-help workbook and extra web support	**Attendance** CMHS $p < .05$ **ER** More parents maintained attendance in the standard condition versus the enhanced condition. However, both groups attended the same average number of sessions

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Table 2 (*continued*)

Studies, identified by first author	Participants	Parenting intervention name[a]	Intent to enrol	Enrolment	Ongoing engagement	Engagement enhancement strategies (EES)	Main findings[b]
Carpentier et al. (2007)[c]	Parents of children in 7th grade and under age of 15 years ($n = 596$)		65%[g]	62%[h]	$M = 5.3$[i]	Bilingual letter using Health Belief Model and cultural sensitivity, and follow up phone call	**Enrolment** 1/2PH, FS, PR, P ed, CMHS (internal and external symptoms) n/s **Attendance** 1/2PH, FS, PR, P ed, P occ, CMHS (internal and external symptoms) n/s **EES** Participation rates higher than reported rates of minority-focused trials which did not emphasize cultural sensitivity
Eisner & Meidert (2011)[f]	Parents of children in 1st grade ($n = 257$)	Triple P	n/a	31.3%[k]	18.6%[s] 26.8%[t]	Practitioners were responsible for recruitment through schools	**Enrolment** FS $p < .01$ P oc $p < .001$ 1/2PH, CMHS n/s **Attendance** FS $p < .05$ 1/2PH, CMHS n/s **EES** Practitioner-led recruitment into parent training can achieve enrolment and participation rates that are comparable to researcher-led trials
Fleming et al. (2015)	Parents of children in 8th grade ($n = 213$)	Common Sense Parenting	n/a	70% (6-session version), 79% (8-session version)[l]	21% (CSP), 17% (CSP+)[u]	n/a	**Enrolment** PES $p < .05$ C age $p < .05$ 1/2PH, P age, P sex, PR, C sex, CMHS (strengths and difficulties, child emotional symptoms) n/s **Attendance** C sex $p < .01$ 1/2PH, P age, PR, P ed, C age, CMHS (conduct problems, emotional symptoms) n/s

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Table 2 (*continued*)

Studies, identified by first author	Participants	Parenting intervention name[a]	Intent to enrol	Enrolment	Ongoing engagement	Engagement enhancement strategies (EES)	Main findings[b]
Garvey et al. (2006)	Parents or legal guardians of children aged 2–4 years (n = 292)	The Chicago Parent Program	n/a	34.9%[p]	$M = 4.3$[q]	n/a	**Attendance** CMHS $p < .05$ 1/2PH, P age, PR, P ed, P occ, PMHS (stress, depression) n/s
Heinrichs et al. (2005)	Parents of children aged 2.6–6 years ($n = 282$)	Triple P	n/a	31%[p]	89%[s]	n/a	**Enrolment** 1/2PH $p < .05$ FS, P age, POS n/s
Heinrichs (2006)	Parents of children aged 2.6–6 years ($n = 197$)	Triple P	n/a	36%[p]	$M = 7.0$ h[q] 85%[s]	Two incentives for participants: (1) monetary incentives, and (2) group versus individual setting	**EES** Setting (group or individual) did not significantly affect engagement
Helfenbaum-Kun & Ortiz (2007)	Fathers of children aged 3–5 years ($n = 39$)	Incredible Years	n/a	85%[j]	30%[s]	(1) Parents recruited in Head Start parent meetings, (2) distribution of bilingual advertisements, and (3) father-only parent training groups	**EES** Initial interest was strong. However, attendance and dropout was high
Hellenthal[k] *(2009)*	Parents of children aged 2–12 years ($n = 72$)	*Barkley (1997)*'s Behavioural Parent Training	n/a	n/a	65.28%[s]	n/a	**Attendance** P age, P ed, PMHS, CMHS n/s
Mauricio et al. (2014)	Parents of children aged 11–14 years ($n = 353$)	Bridges to High School	n/a	n/a	n/r	n/a	**Attendance** PMHS $p < .05$ CMHS $p < .05$

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Table 2 (*continued*)

Studies, identified by first author	Participants	Parenting intervention name[a]	Intent to enrol	Enrolment	Ongoing engagement	Engagement enhancement strategies (EES)	Main findings[b]
Mian, Eisenhower & Carter (2015)[c]	Parents of children aged 11–71 months who were receiving nutritional assistance (n = 101)	Not named, once off anxiety prevention seminar	.6% (control) & 49% (ER)[f]	n/a	.4% (control group) & 13% (ER group)[h]	ER included: (1) community endorsement (letter from WIC program director), (2) follow up phone call, and (3) letter explaining how researchers had matched parents' time preferences	**Intent** P occ $p = .07$ & $p < .05$ P age, P sex, PR, P ed, PMHS, C age, C sex, CMHS n/s **EES** ER was associated with both intent and attendance
Miller et al. (2011)	Parents of adolescents aged 11–12 years (n =614)	Strengthening Families Program: For Parents and Youth 10–14 (SFP) & Family Matters (FM)	n/a	n/a	SFP M = 5.2 (choice), M = 4.8 (assigned) out of 7 sessions FM M = 3.3 (choice), M = 3.4 (assigned) out of 4 booklets[q]	Parents were able to choose which program to attend versus being assigned to a program	**EES** Family who chose Family Matters completed the program in a shorter period of time and those who chose SFP attended more sessions
Nordstrom, Dumas & Gitter (2008)[d]	Parents of children aged 3–6 years (n = 347)	Parenting our Children to Excellence	62.2%[g]	33%[j]	56.5%[i]	n/a	**Intent** 1/2PH, P age, PR, P ed, P occ, C age, C sex, CMHS (ADHD, ODD) n/s **Enrolment** P age $p < .004$ CMHS (ODD) $p < .001$ 1/2PH, PR, P ed, P occ, C age, C sex, CMHS (ADHD) n/s **Attendance** PES $p = .026$ 1/2PH, P age, PR, P occ, C age, C sex, CMHS (ADHD, ODD) n/s

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Table 2 (*continued*)

Studies, identified by first author	Participants	Parenting intervention name[a]	Intent to enrol	Enrolment	Ongoing engagement	Engagement enhancement strategies (EES)	Main findings[b]
Plueck et al. (2010)	Parents of children aged 3–6 years ($n = 2,123$)	Prevention Program for Externalising Problem Behaviour	n/a	63.8%[m]	$M = 7.5$[q] 81.1%[s]	n/a	**Enrolment** CMHS (externalising symptoms) $p < .044$ 1/2PH, P age, C age, C sex, CMHS (internalising symptoms) n/s **Attendance** 1/2PH, P age, C age, C sex, CMHS n/s
Reedtz et al. (2011)	Parents of children aged 2–8 years, who scored below 90th percentile on ECBI ($n =$ 189)	Incredible Years	n/a	89.5%[n]	n/a	n/a	**Enrolment** CMHS $p < .001$ P ed n/s
Skärstrand et al. (2009)	Parents of children in grades 6–9 ($n = 388$)	Strengthening Families Program: For Parents and Youth 10–14	n/a	47%[p]	$M = 5.19$[q]	n/a	**Enrolment** FS, P age, P sex, PR, P ed, C sex, CMHS n/s **Attendance** PR $p < .01$ FS, P age, P ed, P occ, C sex, CMHS n/s
Winslow et al. (2009)	Divorced mothers of children aged 9–12 years ($n = 325$)	Not named, program of recently divorced mothers	n/a	73.9%[l]	$M = 12.1$[q]	n/a	**Enrolment** CMHS $p > .05$ PR, PES, PMHS n/s **Attendance** PES $p < .05$ PR, PMHS, CMHS n/s

Notes.

Abbreviations: P age, Parent Age; P sex, Gender of Parent; P ed, Parent Education Status; P occ, Parent Employment/Occupation Status; PR, Parent Race/Ethnicity; PMHS, Parent Mental Health Status; C age, Child Age; C sex, Child Gender; CMHS, Child Mental Health Symptoms; FS, Family Structure; 1/2 PH, One or Two Parent Households; n/a, not applicable to study; n/r, not reported in published article; n/s, non-significant *p* value; $p < .05$, significant *p*-value.

[a]For more information about each parenting intervention, see Supplemental Information 4. [b]Main findings column lists the findings for each of the 11 categories of predictors across three stages of engagement (for other predictors, see Supplemental Information 5), and/or the findings from studies that trialled enhanced recruitment methodologies. [c]Studies that trialled enhanced recruitment methods and measured predictors of engagement. [d]All studies included an RCT study design except for *Nordström, Dumas & Giner (2008)* who employs a correlational study design and *Hellenthal (2009)* who employs a quasi-experimental design.

Intent to Enroll Rates [e]Agreed to participate ($n = 1$). [f]Returned RSVP ($n = 1$). [g]Asked question which pertained to intent i.e. do you intend to enroll? ($n = 2$).

Enrollment Rates [h]Attended first session ($n = 1$). [i]Attended any session ($n = 1$). [j]Returning consent form or completing baseline assessment (n=2). [k] Enrolled in parenting program ($n = 1$). [l] Agreed to participate ($n = 2$). [m]Accepted invitation to complete pre-test ($n = 1$). [n]Continued to participate post completion of pre-test ($n = 1$). [p]Did not clearly define enrollment ($n = 5$).

Attendance Rates [q]Average number of sessions attended ($n = 10$). [r]Total percentage of sessions attended by parents ($n = 1$). [s]Percentage of parents that attended the minimum number of required sessions (between 50–100% of sessions offered) ($n = 10$). [t] Percentage of parents that attended at least one session ($n = 1$).

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Table 3 Summary of risk of bias for quantitative studies.

Studies, identified by first author	Selection bias	Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias	Total *n* of low risk
Aalborg et al. (2012)	Unknown	**High**	Unknown	Unknown	Unknown	Unknown	0
Baker, Arnold & Meagher (2011)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Bjørknes, Jakobsen & Nærde (2011)	**Low**	**Low**	Unknown	**Low**	Unknown	Unknown	3
Bjørknes & Manger (2013)	**Low**	**Low**	Unknown	**Low**	Unknown	Unknown	3
Brody et al. (2006)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Byrnes et al. (2012)	Unknown	**High**	Unknown	Unknown	Unknown	Unknown	0
Calam et al. (2008)	Unknown	**Low**	**Low**	Unknown	Unknown	Unknown	2
Carpentier et al. (2007)	Unknown	Unknown	Unknown	**High**	Unknown	**High**	0
Eisner & Meidert (2011)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Fleming et al. (2015)	Unknown	Unknown	**Low**	Unknown	Unknown	Unknown	1
Garvey et al. (2006)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Heinrichs et al. (2005)	**High**	**High**	Unknown	Unknown	Unknown	Unknown	0
Heinrichs (2006)	Unknown	**High**	Unknown	Unknown	Unknown	Unknown	0
Helfenbaum-Kun & Ortiz (2007)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Hellenthal (2009)	**Low**	**Low**	**Low**	Unknown	Unknown	Unknown	3
Mauricio et al. (2014)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Mian, Eisenhower & Carter (2015)	Unknown	Unknown	Unknown	**Low**	Unknown	Unknown	1
Miller et al. (2011)	Unknown	**High**	Unknown	Unknown	Unknown	Unknown	0
Nordstrom, Dumas & Gitter (2008)	Unknown	Unknown	Unknown	**High**	Unknown	Unknown	0
Plueck et al. (2010)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Reedtz et al. (2011)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Skärstrand et al. (2009)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0
Winslow et al. (2009)	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	0

Notes.
Bold text indicates low bias rating.

Participants and recruitment methods

Participants in all studies were parents of children or adolescents; these parents were typically mothers or female caregivers. Only one study actively sought to engage fathers in a preventive parenting program (*Helfenbaum-Kun & Ortiz, 2007*). The average number of participants across all studies was $n = 262$, but ranged widely from 39 to 723 participants. These participants were recruited in several ways, with the most common method being the mail-out of a letter or advertisements by the recruiting organisation (i.e., day care centre, school, or medical facility; $n = 18$; *Aalborg et al., 2012*; *Baker, Arnold & Meagher, 2011*; *Brody et al., 2006*; *Byrnes et al., 2012*; *Calam et al., 2008*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Fleming et al., 2015*; *Garvey et al., 2006*; *Heinrichs et al., 2005*; *Heinrichs, 2006*; *Helfenbaum-Kun & Ortiz, 2007*; *Hellenthal, 2009*; *Mauricio et al., 2014*; *Nordstrom, Dumas & Gitter, 2008*; *Reedtz et al., 2011*; *Skärstrand et al., 2009*; *Winslow et al., 2009*). Three of these studies also included a telephone follow-up after the letter had been sent out (*Brody et al., 2006*; *Carpentier et al., 2007*; *Winslow et al., 2009*). Nine studies used letters in conjunction with researchers spending time at the facilities to answer questions about the program and/or conducting a presentation at parent-teacher interview

nights (*Baker, Arnold & Meagher, 2011*; *Eisner & Meidert, 2011*; *Fleming et al., 2015*; *Garvey et al., 2006*; *Heinrichs et al., 2005*; *Heinrichs, 2006*; *Helfenbaum-Kun & Ortiz, 2007*; *Nordstrom, Dumas & Gitter, 2008*; *Skärstrand et al., 2009*). One study (reported in two articles) recruited through personal invitation to the study, either through researcher or professional networks (*Bjørknes, Jakobsen & Nærde, 2011*; *Bjørknes & Manger, 2013*). Two studies used pre-screening measures to provide individualised feedback to parents and offered the program to those parents whose children were at increased risk for developing mental health problems (*Mian, Eisenhower & Carter, 2015*; *Plueck et al., 2010*). Only one study (*Carpentier et al., 2007*) explicitly used known psychological theories to guide their recruitment methods. That is, the Health Belief Model was utilised to construct a letter that was expected to be more motivating than a general recruitment letter or flyer.

Interventions

Inclusion criteria required that programs included in the current review be preventive; that is, studies either excluded participants with diagnosable difficulties identified through rigorous assessment (e.g., structured clinical interviews), or assumed that participants did not have current or previous clinically diagnosable disorders (e.g., recruited a community-based sample that was not rigorously screened). Studies were included if children were assessed as 'at risk' of developing a mental health disorder in the future, and coded as indicated ($n = 2$; *Hellenthal, 2009*; *Plueck et al., 2010*) or selective ($n = 8$; *Brody et al., 2006*; *Bjørknes, Jakobsen & Nærde, 2011*; *Bjørknes & Manger, 2013*; *Carpentier et al., 2007*; *Mauricio et al., 2014*; *Mian, Eisenhower & Carter, 2015*; *Reedtz et al., 2011*; *Skärstrand et al., 2009*; *Winslow et al., 2009*) prevention programs, based on each study's chosen description. Seventeen different programs were evaluated in the 21 included studies (see Table in Supplemental Information 3 for details), of which 14 were face-to-face group programs, with the number of sessions ranging from 1 (*Mian, Eisenhower & Carter, 2015*) to 18 (*Bjørknes, Jakobsen & Nærde, 2011*; *Bjørknes & Manger, 2013*). Four of these programs had the target child or adolescent involved in the program (*Aalborg et al., 2012*; *Brody et al., 2006*; *Byrnes et al., 2012*; *Carpentier et al., 2007*; *Fleming et al., 2015*; *Mauricio et al., 2014*; *Miller et al., 2011*) and one included education sessions for the target child's school teachers (*Plueck et al., 2010*). One group program also involved four weekly telephone check-ins with parents (*Heinrichs et al., 2005*; *Heinrichs, 2006*; *Eisner & Meidert, 2011*). These phone calls were voluntary and designed to increase the amount of therapeutic and intervention time for parents. One program involved parents working through four booklets at home with regular telephone calls to collect further data from participating parents (*Aalborg et al., 2012*; *Byrnes et al., 2012*; *Miller et al., 2011*). The remaining program was classified as a technology-assisted program and entailed parents who were enrolled in the first recruitment drive watching six 30-minute videos and parents recruited in the second recruitment drive watching five 60-minute videos (*Calam et al., 2008*).

Enrolment and ongoing engagement rates

Enrolment and ongoing engagement rates were difficult to synthesise across studies, due to: (1) differing definitions of enrolment, ongoing engagement and completion of programs, (2) an inability to obtain the number of eligible parents in some studies due to recruitment

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Table 4 Summary of study characteristics.

	Number of studies (*n*)	%
Participant characteristics		
Type of prevention program		
Universal	11	52.3
Selective	8	38.2
Indicated	2	9.5
Country		
USA	13	61.9
Europe	8	38.1
Mean age of children at recruitment		
Preschool (0–5 years)	8	38.1
Primary school (>5–11 years)	4	19.0
Adolescence (>11–18 years)	9	42.9
Parent gender		
>60% female	20	95.2
>60% male	1	4.8
Program characteristics		
Focus of intervention		
Prevention of substance use behaviours	3	14.3
Prevention of internalising disorders	1	4.8
Prevention of externalising disorders	13	61.9
Prevention of other mental health disorders	4	19.0
Delivery format[a]		
Group sessions (parent/family)	16	76.2
Individual sessions (parent/family)	2	9.5
Mix of group and home visits/phone calls	2	9.5
Work books	2	9.5
Technology-based program	1	4.8
Total number of intervention sessions[b]		
1 to 5	1	4.8
6 to 9	20	95.2
10 or more	4	19.0
Direct intervention with child		
Yes	6	28.5
No	15	71.5
Method characteristics		
Design		
Randomised controlled trials	19	90.5
Non-randomised experimental trials	2	9.5
Aim[a]		
Evaluated recruitment methodologies	9	42.8
Measuring predictors of engagement	17	80.9

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Table 4 (*continued*)

	Number of studies (*n*)	%
Recruitment methods		
Mail out or generic advertisements	6	28.6
Mail out plus phone call	3	14.3
Mail out plus researchers spending time at centres	9	42.8
Personal invitations	1	4.8
Pre-screeners	2	9.5
Stage of engagement measured[a]		
Intent to enrol	6	28.5
Enrolment	18	85.7
Attendance	15	95.2

Notes.
[a]Percentage does not equal 100 because studies could fall into multiple categories.
[b]Five RCTs included two or more different versions of the parenting program being researched. Therefore, the percentage does not equal 100 because the different versions of the programs could have different numbers of sessions.

methods such as advertisements in newspapers, and (3) inadequate reporting of details about enrolment and ongoing engagement rates in some studies. For the articles with adequate reporting of the total number of eligible parents and subsequent enrolments ($n = 14$: *Baker, Arnold & Meagher, 2011*; *Byrnes et al., 2012*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Fleming et al., 2015*; *Garvey et al., 2006*; *Heinrichs et al., 2005*; *Heinrichs, 2006*; *Helfenbaum-Kun & Ortiz, 2007*; *Nordstrom, Dumas & Gitter, 2008*; *Plueck et al., 2010*; *Reedtz et al., 2011*; *Skärstrand et al., 2009*; *Winslow et al., 2009*), the *actual enrolment* rates varied between 30% and 85%. The way studies measured ongoing engagement could be categorised into four groups: (1) average number of sessions attended by parents ($n = 10$: *Aalborg et al., 2012*; *Bjørknes & Manger, 2013*; *Calam et al., 2008*; *Carpentier et al., 2007*; *Garvey et al., 2006*; *Heinrichs, 2006*; *Miller et al., 2011*; *Plueck et al., 2010*; *Skärstrand et al., 2009*; *Winslow et al., 2009*); (2) percentage of parents that attended the minimum number of required sessions ($n = 10$: *Brody et al., 2006*; *Eisner & Meidert, 2011*; *Fleming et al., 2015*; *Heinrichs et al., 2005*; *Heinrichs, 2006*; *Helfenbaum-Kun & Ortiz, 2007*; *Hellenthal, 2009*; *Mian, Eisenhower & Carter, 2015*; *Nordstrom, Dumas & Gitter, 2008*; *Plueck et al., 2010*); (3) total percentage of sessions attended by parents ($n = 1$: *Baker, Arnold & Meagher, 2011*); and (4) percentage of parents that attended at least one session ($n = 1$: *Eisner & Meidert, 2011*).

Several studies ($n = 4$: *Baker, Arnold & Meagher, 2011*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Skärstrand et al., 2009*) documented how many parents attended the first session and subsequently tracked these parents' attendance across the program. For these studies, there was a trend for parents to engage in the first session and then not return, with the average number of sessions engaged in varying between three and seven. There appeared to be a trend for parents to engage in an average of four or five sessions when the program contained less than ten sessions ($n = 4$: *Aalborg et al., 2012*; *Calam et al., 2008*; *Carpentier et al., 2007*; *Heinrichs, 2006*), but the average number of sessions engaged in jumped to seven or eight sessions when the program contained ten sessions or more ($n = 6$:

Bjørknes, Jakobsen & Nærde, 2011; Bjørknes & Manger, 2013; Garvey et al., 2006; Plueck et al., 2010; Skärstrand et al., 2009; Winslow et al., 2009).

Synthesis of results: predictors of parental engagement across stages of engagement

Seventeen studies measured the factors that predict parent engagement (Baker, Arnold & Meagher, 2011; Brody et al., 2006; Byrnes et al., 2012; Calam et al., 2008; Carpentier et al., 2007; Eisner & Meidert, 2011; Fleming et al., 2015; Garvey et al., 2006; Heinrichs et al., 2005; Hellenthal, 2009; Mauricio et al., 2014; Mian, Eisenhower & Carter, 2015; Nordstrom, Dumas & Gitter, 2008; Plueck et al., 2010; Reedtz et al., 2011; Skärstrand et al., 2009; Winslow et al., 2009). Most studies focused on predictors that could be coded into categories in this review, but isolated studies also looked at how parent cognitions (i.e., parents' thoughts and beliefs about themselves and the program; Nordstrom, Dumas & Gitter, 2008) and parent-recorded obstacles to engagement (i.e., need for child care, transportation costs) measured at pre-intervention, can predict parent engagement across a preventive parenting program trial (Mian, Eisenhower & Carter, 2015; Nordstrom, Dumas & Gitter, 2008). Although some of these findings appear promising, there is little consistent evidence across studies to support any predictors of parent engagement, at the time of this review. This inconsistency is demonstrated in Table 5, where only one of the 11 categories assessed yielded a significant Stouffer's p, and only for the enrolment stage of engagement.

Intent to enrol

Only four studies measured potential predictors of parents' *intent to enrol* (Byrnes et al., 2012; Mian, Eisenhower & Carter, 2015; Nordstrom, Dumas & Gitter, 2008; Plueck et al., 2010). Stouffer's p analyses indicated a lack of evidence to show a reliable association between all investigated predictors and parents' *intent to enrol*. Additional factors associated with less *intent to enrol*, as found in these four studies, included: neighbourhood social burden as defined by the Department of Youth Welfare (Plueck et al., 2010), higher levels of neighbourhood unemployment (Byrnes et al., 2012) and teachers perceiving a higher need for assistance (Plueck et al., 2010). Conversely, one study found an association between the following predictors and a greater *intent to enrol*: a parent perceiving greater benefits for participation and fewer scheduling barriers (Nordstrom, Dumas & Gitter, 2008).

Enrolment

A total of 11 studies measured the predictors of parents enrolling in a preventive parenting program (Baker, Arnold & Meagher, 2011; Byrnes et al., 2012; Carpentier et al., 2007; Eisner & Meidert, 2011; Fleming et al., 2015; Heinrichs et al., 2005; Nordstrom, Dumas & Gitter, 2008; Plueck et al., 2010; Reedtz et al., 2011; Skärstrand et al., 2009; Winslow et al., 2009). Based on Stouffer's p calculations, only 1 of the 11 categories (child mental health symptoms) demonstrated a reliable association with *enrolment* (Stouffer's $z = -2.63$, $p < .01$). Studies found that higher levels of parent-reported child mental health symptoms were associated with greater parental *enrolment* (Nordstrom, Dumas & Gitter, 2008; Plueck et al., 2010; Reedtz et al., 2011; Skärstrand et al., 2009; Winslow et al., 2009). Additionally, isolated studies found the following predictors to be associated with increased *enrolment*:

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Table 5 Findings from Stouffer's *p* calculations.

Themes/predictors of engagement	Stages of engagement		
	Intent	Enrolment	Ongoing engagement
Parent age			
n of studies	3	6	7
n of associations	3	6	7
Stouffer's p	.163	.376	.098
Gender of parent			
n of studies	1	2	2
n of associations	1	2	2
Stouffer's p	.500	.500	.500
Parent race/ethnicity			
n of studies	2	6	8
n of associations	2	7	8
Stouffer's p	.500	.020	.156
Parent education status			
n of studies	2	6	9
n of associations	2	6	9
Stouffer's p	.500	.250	.115
Parent employment status			
n of studies	2	4	5
n of associations	3	4	5
Stouffer's p	.035	.061	.500
Parent mental health status			
n of studies	1	2	7
n of associations	1	2	8
Stouffer's p	.500	.592	.361
Child age			
n of studies	2	3	4
n of associations	2	3	4
Stouffer's p	.105	.354	.293
Child gender			
n of studies	4	5	7
n of associations	4	5	7
Stouffer's p	.409	.176	.124
Child mental health symptoms			
n of studies	3	8	14
n of associations	5	13	19
Stouffer's p	.541	**.004**	.028
Family structure			
n of studies	Nil	4	4
n of associations		4	4
Stouffer's p		.122	.050
One- or two- parent households			
n of studies	1	7	8
n of associations	1	7	8
Stouffer's p	.500	.328	.121

Notes.
Bold text indicates significance ($p < .01$).

parents having more social supports, both individually and in the community, higher parental self-efficacy and higher perceived benefits of the program (*Baker, Arnold & Meagher, 2011*; *Eisner & Meidert, 2011*; *Nordstrom, Dumas & Gitter, 2008*).

Ongoing engagement

Ongoing engagement was the most commonly studied stage of engagement, with 15 studies assessing their predictors (*Baker, Arnold & Meagher, 2011*; *Brody et al., 2006*; *Calam et al., 2008*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Fleming et al., 2015*; *Garvey et al., 2006*; *Heinrichs et al., 2005*; *Hellenthal, 2009*; *Mauricio et al., 2014*; *Mian, Eisenhower & Carter, 2015*; *Nordstrom, Dumas & Gitter, 2008*; *Plueck et al., 2010*; *Skärstrand et al., 2009*; *Winslow et al., 2009*). Despite the larger evidence base, Stouffer's p analyses revealed no reliable associations with investigated predictors. The most commonly studied predictor, child mental health symptoms, was found in a limited number of studies to be significantly associated with parental *ongoing engagement* (*Baker, Arnold & Meagher, 2011*; *Calam et al., 2008*; *Garvey et al., 2006*; *Hellenthal, 2009*; *Mauricio et al., 2014*), but Stouffer's p was not significant (Stouffer's $z = -1.91$, Stouffer's $p = 0.028$). Four of the 13 studies that measured child mental health symptoms (*Baker, Arnold & Meagher, 2011*; *Calam et al., 2008*; *Garvey et al., 2006*; *Hellenthal, 2009*) found higher levels of child mental health symptoms were associated with better ongoing engagement, while Mauricio and colleagues (*2014*) found higher levels of child externalising behaviours to be associated with poorer *ongoing engagement*.

Synthesis of results: effects of engagement enhancement methods

Nine studies attempted to increase engagement through 'engagement enhancement methods' (*Aalborg et al., 2012*; *Bjørknes, Jakobsen & Nærde, 2011*; *Byrnes et al., 2012*; *Calam et al., 2008*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Heinrichs, 2006*; *Helfenbaum-Kun & Ortiz, 2007*; *Mian, Eisenhower & Carter, 2015*). Five of the nine studies tested engagement enhancement methods using randomised controlled trials (*Aalborg et al., 2012*; *Byrnes et al., 2012*; *Calam et al., 2008*; *Heinrichs, 2006*; *Mian, Eisenhower & Carter, 2015*), while a further four used engagement enhancement methods to recruit all participants (*Bjørknes, Jakobsen & Nærde, 2011*; *Bjørknes & Manger, 2013*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Helfenbaum-Kun & Ortiz, 2007*).

The studies that randomised participants into different engagement methods had varied results. Studies randomised parents into either paid versus unpaid conditions (*Heinrichs, 2006*), web-enhanced versus standard video viewing conditions (*Calam et al., 2008*), or enhanced recruitment (using personalised letters and phone calls) versus recruitment as usual (*Mian, Eisenhower & Carter, 2015*). *Heinrichs (2006)* randomised 'parents' and 'child care centres' into paid and non-paid conditions. Heinrichs found that parents' intent to enrol was significantly increased when offered payment for attending sessions, however actual enrolment and attendance did not differ between paid and unpaid conditions. Additionally, although Heinrichs hypothesised that offering payment would increase engagement from migrant parents, the research demonstrated that the opposite was true: native-born parents were more likely to engage in the program when offered payment than

those who were first-generation migrants (*Heinrichs, 2006*). In Mian and colleagues' (*2015*) enhanced recruitment study for a once-off seminar, parents in the enhanced condition (including personalised letters and follow-up phone calls) were significantly more likely to intend to enrol, and this intent was found to be related to ongoing engagement. Furthermore, Calam and colleagues (*2008*) investigated whether an internet-enhanced version of a video-based program "Driving Mum and Dad Mad' would affect parents' ongoing engagement (recorded as number of videos watched). The internet-enhanced version included parents having access to a website with further information and activities related to each weekly video. Parents watched on average the same number of videos regardless of the condition they were assigned to.

Two RCT studies (reported in three articles) assessed the likelihood that ongoing engagement would increase if parents were given a choice of program (*Aalborg et al., 2012*; *Byrnes et al., 2012*; *Miller et al., 2011*). These studies used preventive parenting programs with significantly different presentation styles. The first, Family Matters (FM), required parents to complete four booklets at home with their adolescents, and families received weekly phone calls from the research team (*Aalborg et al., 2012*; *Byrnes et al., 2012*; *Miller et al., 2011*). The second, the Strengthening Families Program (SFP), required families to attend seven two-hour weekly group sessions at a medical facility (*Aalborg et al., 2012*; *Byrnes et al., 2012*; *Miller et al., 2011*). These studies found that compared to parents who were randomised to the corresponding no-choice condition, parents in the choice condition who chose FM completed the booklets over a significantly shorter period, and parents who chose SFP attended more sessions (*Aalborg et al., 2012*; *Miller et al., 2011*). In addition, parents who self-selected into the two different programs demonstrated some significantly different characteristics. Parents who chose the FM program were more likely to be educated, whereas parents who chose the SFP program described their adolescent's behaviour problems as more severe (*Miller et al., 2011*). Miller and colleagues (*2011*) hypothesised that this difference between parents' program choice could be because parents who rated their teenager's behaviour problems as more severe felt they needed a more personalised level of intervention (SFP).

Finally, four studies used engagement enhancement methodologies to recruit all participants (*Bjørknes, Jakobsen & Nærde, 2011*; *Bjørknes & Manger, 2013*; *Carpentier et al., 2007*; *Eisner & Meidert, 2011*; *Helfenbaum-Kun & Ortiz, 2007*). One study discussed the different number and type of participants recruited from (1) local information meetings which included talks by cultural leaders, (2) public service professionals, and (3) the recruitment team's personal and professional networks, and compared this to the number of hours required to recruit these participants (*Bjørknes, Jakobsen & Nærde, 2011*). The authors reported that local information meetings were the most successful recruitment approach, with 57% of their sample recruited through these meetings (*Bjørknes, Jakobsen & Nærde, 2011*). In addition, these meetings were also the most cost-effective and least time-intensive approach per participant (*Bjørknes, Jakobsen & Nærde, 2011*). Recruitment through public service professionals was seen to be the least effective recruitment approach, accounting for less than 15% of recruited participants (*Bjørknes, Jakobsen & Nærde, 2011*). Further analysis revealed that parents recruited from local information meetings and the

recruitment team's networks had significantly poorer Norwegian language skills (*Bjørknes, Jakobsen & Nærde, 2011*).

The remaining three studies that used enhanced strategies to recruit all participants included writing personal letters to parents in their own language, promoting programs via meetings at the schools or child care centres, and making phone calls to parents using experienced interpreters. These studies were found to have enrolment rates of 31.3% (*Eisner & Meidert, 2011*), 62% (*Carpentier et al., 2007*) and 85%, respectively (*Helfenbaum-Kun & Ortiz, 2007*). *Eisner & Meidert (2011)* reported similar levels of ongoing engagement in comparison to other preventive parenting programs that did not use enhanced recruitment strategies, whilst Carpentier and colleagues (*2007*) and *Helfenbaum-Kun & Ortiz (2007)* reported a large proportion of parents dropping out of the study, either before attending the first session or during the program.

DISCUSSION

This review aimed to synthesise the predictors of engagement and investigate the effectiveness of strategies employed to date to increase parental engagement. Due to the limited number of articles and the substantial variations in their methodologies, a meta-analysis was not conducted, therefore the findings discussed should be interpreted with caution. The following discussion will provide a summary of the evidence found, the limitations to this review and suggestions for future research.

Summary of evidence

Predictors of parental engagement

The current review found limited consistent evidence for factors associated with parental engagement in preventive parenting programs. Interestingly, individual characteristics such as gender and indicators of socio-economic position (SEP; such as family structure, one- or two-parent households and parent education) appeared to have limited to no support in predicting parental engagement across all stages of engagement. This is consistent with Chacko and colleagues' (*2016*) finding of limited support for socio-economic status (SES) in their larger review of all programs involving Behavioural Parent Training. Several potential reasons could account for this finding, including the different methods of measurement of SEP across studies, or a lack of variability in the parents engaging in these programs (i.e., only a small percentage of engaged parents come from low SEP backgrounds). Alternatively, it may be the factors associated with lower SEP, rather than SEP itself, that influence intent to enrol. For example, the level of neighbourhood disorganisation appeared to influence a parent's *intent to enrol* in one study (*Byrnes et al., 2012*). Neighbourhood disorganisation theory posits that low neighbourhood SEP and residential instability will result in less use of treatment and preventive health care services (*Shaw & McKay, 1942*; *Winstanley et al., 2008*). Therefore, it is important to consider the external or societal factors, such as instability and chaos in work, housing, income, family and limited social supports within a community, which may limit a parent's capacity to engage, in addition to parents' internal motivation to enrol and attend (*Evans & Kantrowitz, 2002*).

A secondary aim of this review was to explore the association between the age of the target child and parental engagement. Despite the intention to include studies with a wide age range (0 to 18 years), only 4 included studies measured child age as predictors and no reliable association was found. These studies were also limited in that most included young children from 11 months to 6 years (*Mian, Eisenhower & Carter, 2015*; *Nordstrom, Dumas & Gitter, 2008*; *Plueck et al., 2010*), with Fleming and colleagues (*2015*) being the only study to include parents of adolescents (children in 8th grade).This finding is consistent with Chacko and colleagues' (*2016*) review which examined programs for parents of children aged 2–12 years, and found no significant effect of child age. In addition, given the various definitions of engagement reported across the small number of included studies, it was not possible to provide even a qualitative comparison of patterns of parental engagement between pre-adolescent and adolescent studies. Further research is required to determine if the age of the target child influences a parent's engagement in preventive parenting programs. This will have important implications for the timing of parenting program delivery, and the need for enhanced engagement strategies if programs are delivered at a stage of child development that is associated with lower rates of parental engagement.

Another possible reason why individual predictors (such as child age or family structure) did not appear to have reliable evidence for all three stages of engagement is that it may be an accumulation of factors, rather than individual standalone factors, that influence parents' decision to engage. As posited by *Evans, Li & Whipple (2013)*'s cumulative risk theory, singular risk factors may not demonstrate causation; rather it is a more complex system of inter-related factors that affect parental engagement in preventive parenting programs.

Only one predictor, child mental health symptoms, was found to have reliable evidence in increasing *enrolment*. Parents with children who had increased child mental health symptoms were more likely to enrol. This association was not evident for *ongoing engagement*, suggesting that increased child mental health symptoms may lead a parent to enrol, but once the program has started they may drop out. For example, Mauricio and colleagues (*2014*, included in this review) found that parents who reported that their child had more externalising behaviours were more likely to enrol or self-select into the parenting program. However, this same group of parents were more likely to terminate their engagement mid-way through the program (*Mauricio et al., 2014*). This pattern of findings highlights the need to not only examine the different phases of parent engagement separately when trying to identify potential predictors, but also the need for targeted engagement strategies for each distinct phase.

Engagement enhancement methods

Despite the difficulties in comparing different engagement enhancement methods used by researchers, the current review found two studies that provide preliminary support for a range of methods modelled on the Health Belief Model and the Theory of Planned Behaviour and Reasoned Action, which could increase parents' *intent to enrol* and *enrolment*. The methods found to effectively increase parents' *intent to enrol* and

enrolment included individualised letters and follow-up phone calls. The Health Belief Model (*Rosenstock, 1974*) posits that 'cues to action' such as reminders, letters and phone calls serve as ways to activate 'readiness' in participants and increase the likelihood that they may act. In addition, via the personalised phone calls, researchers can assist parents in overcoming perceived barriers while correcting parents' misperceptions of susceptibility and severity, where they exist.

Further, the Theory of Planned Behaviour and Reasoned Action (*Ajzen, 1991*) proposes that people are more likely to agree to partake in healthy behaviours when other respected members of society endorse these programs. Bjorknes and colleagues (*2011*) applied this principle when recruiting through local community meetings, and found an increase in enrolment from participants who attended the meetings, compared to more traditional methods of recruitment, i.e., researchers' professional networks. In addition, participants recruited through local community meetings had significantly poorer Norwegian language skills (*Bjørknes, Jakobsen & Nærde, 2011*). This result could suggest that (1) parents with poorer Norwegian language skills may be more likely to take part because the trusted local leaders were present (and seen to be endorsing the program); and/or (2) lower language skills could serve as a proxy variable for other factors known to influence service access and utilisation, including acculturation, discrimination, past trauma and migration experience (*Gee, Walsemann & Takeuchi, 2010*). Ensuring these factors are measured in future studies among immigrant populations is an important area of work.

In contrast, engagement enhancement methods, such as individualised letters and phone calls (during recruitment), local meetings, and researchers being available at recruitment sites, appear to be less effective at increasing parents' *ongoing engagement* in sessions (i.e., *Bjørknes, Jakobsen & Nærde, 2011*; *Mian, Eisenhower & Carter, 2015*). This finding is consistent with *Ingoldsby*'s (*2010*) review of indicated prevention and early intervention programs, which found engagement interventions that explicitly addressed barriers were effective in increasing initial engagement, but less effective for long-term retention. However, the current review found that parents were more likely to engage in a preventive parenting program if they felt the program was structured to provide them with more perceived control over when and where they engaged in the program. This was demonstrated by the two RCTs which allowed parents to choose the type of program format, which in turn, increased their overall ongoing engagement for both programs (*Aalborg et al., 2012*; *Miller et al., 2011*). This finding is consistent with the Theory of Planned Behaviour's 'perceived behavioural control' dimension. Perceived behavioural control refers to a parent's perceived ease or difficulty of performing the behaviour, which in this case is engaging in the program chosen (*Ajzen & Driver, 1991*). If the parent perceives the program to be easy to engage in/complete and the parent's attitude toward the program is favourable, they are more likely to perform the behaviour of engaging in the program in an ongoing manner. Therefore, there is a need for programs that are tailored specifically to different subgroups of parents, providing a range of options to suit parents' perceived needs and interests.

Recommendations for future research

Clearer definitions and reporting

Based on the Health Belief Model (*Rosenstock, 1974*), the reduction of perceived barriers, such as providing child care for young children, should increase parents' engagement in preventive parenting programs. However, many studies included in the current review failed to provide clear and consistent definitions of parental engagement, and there was inadequate reporting of strategies used within programs to increase engagement. Consequently, the effect of provisions of services, such as food, child care and transportation, could not be disentangled. In addition, 32 articles were excluded from this review due to a lack of reporting on how researchers recruited parents (for example, 'parents were recruited through schools in the area'). Future research should consider clearer definitions of engagement and improved reporting of within-program strategies used to increase ongoing engagement. This will allow for the effectiveness of the provision of these amenities to be further evaluated.

Development of engagement strategies based on theories of behaviour

Some of the engagement enhancement strategies reviewed here have shown promise for increasing parents' intent and enrolment in preventive parenting programs. These strategies could be further developed by reviewing the Health Belief model and the Theory of Planned Behaviour and Reasoned Action. Simple strategies, such as personalised recruitment phone calls or letters, could be easily accommodated into the recruitment methodology of most studies. For example, Carpentier and colleagues (*2007*) used the Health Belief Model to create a letter that increased parents' perceived susceptibility, severity and understanding of the potential benefits of the program, and achieved 62% enrolment (of eligible families) in their program. Researchers should also consider the benefits of engaging community leaders to both assist in adapting the programs to be more appropriate and relevant, and to host local meetings to promote the program. These meetings have several benefits including increasing parents' knowledge of the availability of programs, whilst simultaneously demonstrating legitimacy of these programs through the endorsement of local community leaders (*Ajzen & Driver, 1991*).

Adaptation of programs based on parent need

With the increase in the development of preventive parenting programs, there has been a corresponding increase in the different levels of intensity and formats of program delivery. For example, the current review included studies that delivered parenting programs via individual and group sessions, as well as via booklets, online methods and videos. Enhanced ongoing engagement has been demonstrated where parents could self-select which program they engaged in (*Aalborg et al., 2012*; *Byrnes et al., 2012*; *Miller et al., 2011*). Importantly, these researchers demonstrated that different types of parents selected different programs, suggesting one size does not fit all. Parents who took part in a face-to-face group program typically rated their children's externalising behaviours as more severe and perhaps felt they required more in-depth and individualised support (*Miller et al., 2011*). These findings suggest that allowing parents to choose from different intervention intensity levels to match their needs, may help to increase engagement. One possible solution is to

provide preventive parenting programs as part of a 'stepped care approach'. This approach could include programs with different levels of intensity as well as different delivery modalities (e.g., self-directed, group, and individual; *Sanders et al., 2000*). Practitioners and researchers could direct parents to the appropriate level of assistance, based on both parent preferences and an assessment of the child's level of risk (e.g., universal, selective, or indicated prevention programs; *Haggerty & Mrazek, 1994*). This stepped care approach has been modelled through the multilevel system of Triple-P interventions (*Sanders, 2008*; *Sanders et al., 2000*) and has demonstrated effectiveness in certain populations (*Nowak & Heinrichs, 2008*).

Strengths and limitations of this review

To our knowledge, this is the first systematic review of studies with the primary outcome of measuring and predicting parent engagement in programs that are specifically focused on the prevention of child mental health problems. Unlike other reviews that focused on reviewing literature for one specific type of parenting programs (e.g., Behavioural Parent Training; *Chacko et al., 2016*), this review did not place any restrictions on the type of preventive parenting program or type of mental disorder the program aimed to prevent. Additionally, we placed no restrictions on the age of the child at the time the program was delivered. Employing wider inclusion criteria allowed us to draw together the sparse literature and develop recommendations both for increasing parental engagement, and for the reporting of such research. However, even with this wide inclusion criteria, only 21 studies were identified. This limited our ability to draw firm conclusions and as such, all findings stemming from this review should be viewed as preliminary in nature.

Furthermore, some limitations of our findings should be noted. Firstly, there were not enough studies included in this review that consistently defined variables (both predictors of engagement, and stages of parental engagement), and that employed similar methods of analysis, to permit a meta-analysis to estimate effect sizes. As such, the Stouffer's *p* analysis was adopted to estimate the reliability of associations between investigated predictors and parental engagement. Nonetheless, the Stouffer's *p* method is unable to weight studies according to sample sizes (*Darlington & Hayes, 2000*). Furthermore, there has been a shift within the academic community away from reporting *p*-values as an indicator of significant results (*Thomas & Pencina, 2016*). This is due to the prevalent misuse of *p*-values to arbitrarily divide studies into significant and non-significant, which was not the intention of the founders of statistical inference (*Sterne & Smith, 2001*). Effect size measures along with confidence intervals have also been demonstrated to be more clinically relevant than a stand-alone *p*-value (*Thomas & Pencina, 2016*). In light of this, the quantitative results of this review should be interpreted with caution, and be considered instead as hypothesis-generating findings to guide future research.

As observed in other reviews (*Chacko et al., 2016*; *Ingoldsby, 2010*; *Yap et al., 2016*), study quality could not be accurately assessed due to poor reporting, particularly the selective reporting of ongoing engagement measures. No studies included in the current review could be considered to have low risk of bias across all six domains assessed, hence the results should be interpreted cautiously. All studies included in the current review were either RCT's or

experimental trials, resulting in an inability to assess if parents' engagement differed for open access versus RCTs of preventive parenting programs. Many of the studies included in this review did not have a rigorous measure of the child's current or previous mental health diagnoses. Given that mental health issues are common and potentially under-diagnosed in community-based samples (*McManus et al., 2009*; *McManus et al., 2016*), it is possible that included studies did not have truly preventive samples. Nonetheless, by including these community-based samples, this review may provide a more ecologically valid review of the potential predictors of parental engagement in prevention programs. Future studies employing rigorous diagnostic assessments and excluding data from participants with past or current diagnoses are required to verify whether predictors of parental engagement may differ across various populations. Finally, included studies consisted of articles written in English and published during or after 2004, therefore the current review findings may not generalise to studies published outside these dates or to literature published in other languages.

CONCLUSION

This article aimed to synthesise current literature, to enable future researchers to better understand the factors that influence parental engagement in preventive parenting programs. One key finding is that despite much speculation and assumptions in the field about the predictors of parental engagement, the results of the empirical literature are mixed. The equivocal evidence base is largely due to inadequate reporting and standardisation of engagement definitions, and of the methodologies used to increase parental engagement. This includes limited measurement and analysis of how the age of the target child may affect parents' engagement in preventive parenting programs. Such limitations need to be addressed in future research if the pervasive challenge of poor parental engagement in preventive parenting programs is to be overcome. Nonetheless, there is preliminary evidence that engagement enhancement methods which are consistent with theories such as the Health Beliefs Model and the Theory of Planned Behaviour and Reasoned Action, may increase parents' intent to enrol and actual enrolment (e.g., personalised letters and phone calls). Furthermore, increasing parents' perceived control (e.g., providing a choice of programs) may increase ongoing engagement in the program. Further research is required to verify the effectiveness of incorporating such methods in engaging parents in programs designed to reduce child mental health problems.

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Author Contributions

- Samantha J. Finan conceived and designed the experiments, performed the experiments, analyzed the data, contributed reagents/materials/analysis tools, prepared figures and/or tables, authored or reviewed drafts of the paper, approved the final draft.
- Brooke Swierzbiolek analyzed the data, contributed reagents/materials/analysis tools, prepared figures and/or tables, authored or reviewed drafts of the paper, approved the final draft.
- Naomi Priest, Narelle Warren and Marie Yap conceived and designed the experiments, authored or reviewed drafts of the paper, approved the final draft.

Data Availability

The following information was supplied regarding data availability:

The research in this article did not generate any data or codes that are not included in the supplementary materials. This article is a systematic review of existing articles.

Supplemental Information

Supplemental information for this article can be found online at http://dx.doi.org/10.7717/peerj.4676#supplemental-information.

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Chapter 3: Narrative review

3.1 Preamble

The quantitative research presented in Paper 1 made it clear that there are multiple factors hypothesised to influence parental engagement in preventive parenting programs. However, owing to the limited evidence for reliable predictors of engagement from quantitative research, there is a need to review and compare the quantitative and qualitative evidence of enablers and barriers to engagement. Quantitative and qualitative methods can be considered complementary, as triangulating the results of these methods can lead to (1) understanding the given topic more comprehensively; (2) developing a more complete and full representation of our social world; and (3) understanding the diversity within the given topic (Greene, Kreider, & Mayer, 2005). Thus, 3.2 of this chapter reviews the qualitative research that has been conducted with parent and non-parent stakeholders.

Two systematic literature reviews aiming to examine qualitative studies of parents and other key stakeholders' opinions of parental engagement in parenting programs have been published in the last five years (Koerting et al., 2013; Mytton et al., 2014). Therefore, in this thesis, the examination of factors affecting initial engagement comprised a summary and comparison of these two reviews. Additional qualitative and quantitative articles not reviewed in Paper 1, that researched stakeholder opinions of parental initial engagement in preventive parenting programs, have been included throughout, as appropriate. These papers were sourced through a search strategy including; (1) a review of full text articles which did not meet criteria for Paper 1, (2) a search wider of Ovid MEDLINE, ProQuest, PsycINFO, Scopus and Google Scholar, without a date range was also conducted. This search included combinations of the terms; parent, engagement, recruitment, participation, 'parenting programs', prevention and qualitative. As in Paper 1 studies are included for children aged 0 to 18 years. This wider inclusion criteria were used for two reasons as Paper 1 demonstrated

both (1) a lack of research pertaining specifically to adolescents and (2) child age was not found to be associated with parental engagement. Thus, it appears that research with parents of children can be extrapolated, with some caution, as well as, reviewing programs specifically for adolescents. An additional 31 studies were identified and reviewed. Section 3.3 then compares the results of Paper 1 and Chapter 3.2.

The research presented in Paper 1 demonstrated that in a synthesis of the *within-study associations* between individual predictors and parental engagement, all but one predictor failed to predict parental engagement reliably *across studies*. Therefore, further understanding of the potential factors of parental initial engagement and the way they influence parental initial engagement is required. One way to increase our understanding of the ways that the factors identified in previous studies could influence parental engagement is to use pre-existing health behaviour models (e.g., Health Belief Model and TPB) as a guide. These models aim to explain why a person would undertake any 'health behaviour', including seeking help/treatment and taking part in preventive health behaviours. Preventive health behaviours can be defined as any activity that is undertaken by a person who believes themselves (or the individual for whom they are undertaking the activity) to be healthy and for the purpose of preventing subsequent disease (Kasl & Cobb, 1966). In the case of this thesis, the preventive health behaviour of interest refers to parents initially engaging in a preventive parenting program to reduce their adolescent's risk of developing a mental health problem. Paper 1 established that there is emerging evidence that using pre-existing health behaviour models could increase parents' initial engagement. Therefore, these models and other potential models are reviewed in this chapter (section 3.4), to assess their potential utility in increasing parental initial engagement.

3.2 Parent and non-parental stakeholders' reported enablers and barriers

As noted earlier, there have been two qualitative systematic literature reviews conducted in the last five years on parental and non-parental stakeholder-reported barriers and enablers to parental engagement. While both of them focused on parenting programs, these reviews had slightly different inclusion criteria. Koerting and colleagues (2013) reviewed the qualitative literature pertaining to both parents and stakeholders involved with programs designed to assist parents with children with a diagnosis of externalising behaviour disorders; Mytton and colleagues (2014) widened their review to include parents and researchers who were engaging in any type of parenting program (including both intervention and prevention programs). Koerting and colleagues (2013) included five studies reporting parent perspectives, three studies reporting facilitator perspectives and five studies that included both types of participants. Their inclusion criteria were (1) primary research using interview or focus groups; (2) focus on barriers/enablers to access and continued engagement; (3) children with externalising problems; and (4) parents who were engaged in parenting services or child mental health services with a parenting component (Koerting et al., 2013). Mytton and colleagues (2014) covered 14 studies reporting parental perspectives, eight studies reporting facilitator perspectives and one study that included both of these types of participants. All studies in their review met the following criteria: (1) the parents were eligible to participate in parenting programs and facilitators were delivering or evaluating parent programs; (2) programs were run by trained facilitators and supported parent–child interactions; (3) qualitative methodologies were used; and (4) outcomes could include (but were not limited to) reported influences of acceptability, access, barriers and drivers that influenced parental intention to enrol. Although the reviews differed in their analytic approach (thematic analysis versus framework analysis, respectively) and definitions of engagement (service access and ongoing engagement versus engagement generally,

respectively), both reviews reported very similar barriers and enablers to parental engagement. In addition, both studies reported that parents and stakeholders described the same overarching themes, although the emphasis on subthemes differed significantly in some instances. These barriers and enablers are discussed below and could be broadly broken into situational factors, psychological or emotional factors, parenting program factors, parenting program facilitator factors, parenting program advertisement factors and social and cultural factors.

3.2.1 Situational factors

The situational enablers and barriers most commonly reported by parents were the timing and scheduling of parenting programs. Both Mytton et al. (2014) and Koerting et al. (2013) reported that parents discussed aspects such as the timing and frequencies for sessions and the location of these sessions as major factors influencing parental engagement. Parents reported there were multiple time constraints and other commitments that were a higher priority for parents (e.g., work, caring for additional children) that made engaging difficult. This finding has been replicated in a more recent qualitative study with parents who did not participate in a school-run intervention and whose children scored highly a conduct disorder questionnaire (Plath, Crofts & Stuart, 2016). These parents reported not even noticing they had missed out on the parenting component of the intervention as they were too busy with other out-of-school commitments (Plath et al., 2016). Additional factors that increased scheduling difficulties were families living in remote areas, pregnant or single parents and families with more than one child (Koerting et al., 2013). To this end, both parental and non-parental stakeholders described the importance of childcare being provided as part of the delivery of parenting programs. Interestingly, Koerting et al.'s (2013) review listed these issues as barriers to engagement, while Mytton et al.'s (2014) review noted that the correct scheduling of a program could in fact be an enabler of parental engagement. This suggests

that the timing and scheduling of a parenting program is an important factor for parents. In addition, when a program achieves optimal scheduling, this serves as an enabler of engagement, while non-optimal scheduling can lead to non-engagement from parents. Thus, how a factor is dealt with once it has been identified may well play a role in whether the factor serves as an enabler or a barrier.

Notably across both reviews, most of the parent studies but less than half of the non-parental stakeholders' studies reported at least one situational factor (Koerting et al., 2013; Mytton et al., 2014). This difference between parental and non-parental stakeholders suggested that overall, most parents felt that situational factors were very important in their decision making. This finding was consistent with those of other qualitative and quantitative studies focusing on engagement in preventive parenting programs. For example, a survey of parents who had been offered a preventive parenting program have found that the most common reason for non-engagement was scheduling difficulties, such as difficulties around attending a weekly meeting for several weeks and the day and time chosen for these meetings (Spoth et al., 1996). Garcia-Huidobro and colleagues (2016) also found through qualitative interviews with parents and facilitators that program barriers included the fixed program schedules often required for organisational scheduling purposes. Further, other survey-based and RCT studies have indicated that evenings or workday mornings were parents' preferred program time, although this could vary, depending on each parent's specific schedule (Levant, 1987; Hindman, Brooks, & van der Zwan, 2012; Mendez, Carenter, LaForett & Cohen, 2009; Spoth & Redmond, 1993). Heath and colleagues (2018) also observed through surveys completed by program completers and non-completers that increased attendance rates appeared to be linked to parents who had more flexibility within their diaries and could prioritise the program above other competing interests.

3.2.2 Psychological or emotional factors

Half of the parental studies in both reviews reported psychological factors such as shame, fear and stigma as important barriers to parental engagement (Koerting et al., 2013; Mytton et al., 2014). Parents reported fear of being judged if they engaged in the parenting program. This was related to shyness and a lack of confidence to attend a group with other parents. In addition, these emotions could be linked to the stigma that was perceived to be associated with program attendance. These findings were consistent with those from more recent qualitative studies, which found parents were uncomfortable about sharing their problems with others and were concerned about being stigmatised by other parents in the group parenting program (Festen, Schipper, O de Vries, Reichart, Abma, & Nauta 2014; Flores, Supan, Kreutzer, Samson, Coffey, & Javier, 2015). Stigma can be defined as the perception of being flawed because of a personal or physical characteristic that is regarded as socially unacceptable (Blaine, 2000; Vogel, Wade, & Haake, 2006). This stigma was noted for both the parent and the adolescent, with parents concerned that their adolescent could be labelled with a mental health problem. Interestingly, there was less emphasis on psychological or emotional factors from non-parental stakeholder studies in Mytton et al.'s (2014) review, with only one reporting stigma as a factor, compared to half of the non-parental stakeholder studies in Koerting et al.'s (2013) review. This could be due to differences in the two reviews' inclusion criteria. Koerting and colleagues (2013) only included program facilitators, whereas Mytton and colleagues (2014) included facilitators as well as researchers who were evaluating the programs. Thus, it is possible that program facilitators who are working directly with parents (included in Koerting and colleagues' review) may be more attuned to the potential of stigma affecting parents' engagement, compared to those who are a step removed via their role as program evaluators (included in Mytton and colleagues' review).

While stigma is complex and multi-faceted, in particular, three types of stigma appear to apply more readily to individual parents' experiences that could affect their engagement in preventive parenting programs: self, public and family stigma. Corrigan (2004) defined the first two types of stigma. First, and perhaps the most relevant is self-stigma refers to an individual's internalisation of the perceived stigma from others and results in a reduction in self-esteem or self-worth because they label themselves as unacceptable (Corrigan, 2004). This may occur if a parent belief they are a 'bad' parents for needing to attend a parenting program. Second, public stigma is the perception held by society that an individual's characteristics makes them socially unacceptable and often leads to negative reactions towards them (Corrigan, 2004). This type of stigma is often associated with seeking mental health services, whereby a person who seeks psychological treatment is seen as undesirable (Vogel et al., 2006). Finally, family stigma, as described by Corrigan, Watson and Miller (2006), is the discrimination that is extended to people who are somehow linked or associated with a stigmatised person.

However, there has been limited unpacking of the stigma, shame and fear that parents have reported (Koerting et al., 2013) when considering engaging in preventive parenting programs. Further, only two recent studies (Lanier, Frey, Smith & Lambert, 2017; Plath et al., 2016) were identified that unpacked a specific type of stigma with parents engaging in a prevention program. These studies although not focused on adolescence and involve specific groups of parents, they do provide a starting place to understand public stigma in preventive parenting programs (Lanier, et al., 2017; Plath et al., 2016). Thus, these studies are important to review but need to be interpreted with caution. Firstly, Plath and colleagues (2016) reported parents who participated in a universal prevention program, which was being conducted as part of the school curriculum for children in grade 2 and under, were not concerned about public stigma. This was reported by parents to be due to all children

partaking in the intervention. Secondly, Lanier and colleagues (2018) conducted a psychometric examination of a stigma survey with fathers engaged in Head Start programs (a means-tested program which assists low-income families in a variety of ways). Fathers reported low levels of public stigma. Lanier and colleagues (2017) believe this is due to fathers (1) not having an adequate understanding of stigma as a concept and (2) Head Start generally having lower levels of public stigma attached to engagement. The second assumption is supported by other studies finding Head Start programs attracting less public stigma compared to other means-tested programs (Brown, Jenson & Mastrofski, 1997). More research is needed to replicate these findings with parents who have not engaged in these and other prevention parenting programs related specifically to preventing adolescent mental health problems.

There has been some research conducted with parents of children experiencing mental health problems. Eaton, Ohan, Stritzke and Corrigan (2016) demonstrated that it was possible to unpack the types of stigma that parents experienced. They found that parents of children with mental disorders experienced self-stigma. However, the results of experiencing this stigma were different from experiencing other types of self-stigma as it led to a diminished sense of being a good parent. Owing to this clear association with at least self-stigma for parents whose children had diagnosed mental health problems, it was important to further examine the stigma reported by parents engaging in preventive parenting programs, to define and explain its effect on parental engagement.

Finally, it has been posited that prevention programs are more difficult to implement among members of the public who have poor mental health literacy (Schomerus, Matschinger, & Angermeyer, 2006; Jorm, 2012). Mental health literacy includes knowledge about multiple facets of prevention and mental health (e.g., ability to recognise disorders and knowledge of risk factors and available treatments) and the attitudes that promote the

recognition and appropriate help seeking (Reavley & Jorm, 2011). In addition, Rusch and Thornicroft (2014) in their commentary on stigma and prevention programs, suggested that mental health literacy could affect engagement. This was indirectly demonstrated in Nordstrom and colleagues' (2008), which found a correlation between parents who reported perceived benefits of engaging in a preventive parenting program and increased parental intention to enrol. However, at the time of writing this thesis, it remains unclear whether it is poor mental health literacy in addition to, or instead of, stigma that deters parents from engaging in preventive parenting programs.

3.2.3 Parenting Program factors

Program factors are another set of factors that are both enablers and barriers. Mytton and colleagues (2014) reported that meeting other parents and exchanging ideas, programs being individualised to the parenting group and feeling comfortable with peer support were all listed by parents as enablers of engagement. Individualisation of parenting programs could include tailoring content and activities to the needs and interests of the parent participants (Mytton et al., 2014). Koerting and colleagues (2013) reported similar enablers, as well as barriers such as dislike of group activities and the perception that the program was unhelpful. In both reviews, the accessibility and suitability of the venue were raised by parents as important factors. Program-related factors were frequently endorsed by parents as influential when asked to respond to survey items about barriers and enablers to engagement in parenting programs (Dumas et al., 2007; Garvey, Julion, Fogg, Kratovil, & Gross, 2006; Lakind & Akin, 2018; Spoth & Redmond, 1993). Likewise, recent qualitative studies of both researchers (Smokowski et al., 2018) and parents and other non-parental stakeholders (Houle et al., 2018) found that flexible and interactive program structures could increase parental initial and ongoing engagement. A narrative review by Lakind and Akin (2018) which aimed to demonstrate how an ecological public health model could be applied to parental

engagement across the stages of engagement, reported that highly structured program formats can limit engagement. More specifically, highly structured parenting programs may not provide the flexibility required to respond to community-level stressors, such as, transportation issues, as well as, each individual families' needs.

Other studies on engagement-related program factors have reported that program incentives and cost of the program were significant factors for parents (Avis, Bulmann, & Leighton, 2007; Garcia-Huidobro et al., 2016; Gonzalez et al., 2018; Heinrichs, 2006; Houle, et al., 2018; Mytton et al., 2014; Spoth & Redmond, 1995). Indeed, Mytton and colleagues (2014) reported that incentives, such as offering meals during sessions, appeared to increase parental engagement. Beyond this, parents paying, or being paid for, engaging in parenting programs has gained some interest (Avis et al., 2007; Garcia-Huidobro et al., 2016; Gonzalez et al., 2018; Heinrichs, 2006; Hindman et al., 2012). Hindman et al.'s (2012) research used surveys and specific engagement vignettes and found that program cost did not significantly alter parents' intention to enrol. Further, as discussed in Paper 1, in a RCT where parents were randomly allocated to a paid or unpaid condition (i.e. payment for program completion), Heinrichs (2006) demonstrated that while parents' intention to enrol was significantly increased when offered payment, actual enrolment and attendance did not differ between paid and unpaid conditions.

3.2.4 Parenting program facilitator factors

Parenting program facilitator factors refer to factors associated with the professionals running the parenting program, and these were described in both reviews. Distrust of the facilitator and concerns about confidentiality were listed as barriers for parents in Mytton and colleagues' (2014) review, while Koerting and colleagues (2013) found that parents focused on the facilitator's relationship-building skills and ability to be non-judgemental. Interestingly, in Mytton and colleagues' review, parental and non-parental stakeholders saw

training of the parenting program facilitator as an important enabler. Koerting and colleagues (2013) found that almost all non-parental stakeholders reported that not only were the skills of the facilitator important, but both parents and non-parental stakeholders reported parents also wanting/valuing having facilitators who are from the same cultural background as themselves. Conversely, parental stakeholders in Koerting and colleagues' (2013) review reported that professional training and background were irrelevant and facilitators having personal experience (e.g., raising a child with externalising behaviours) was more important. Neither Koerting and colleagues (2013) nor the included studies discussed the reasons for facilitators having personal experience being important for parents. There are many possible reasons for these differences between the two systematic literature reviews, including: (1) Koerting and colleagues (2013) examining both initial and ongoing engagement, while Mytton and colleagues (2014) assessed engagement more generally, and (2) Koerting and colleagues (2013) have captured more studies that recruited parents form different cultural backgrounds. Firstly, it is possible that a facilitator's personal experience, socio-economic and ethnic background, facilitates rapport building earlier in the relationship. Indeed, Orrell-Valente and colleagues (1999) study which examined the rate and quality of parent participation in a conduct problem prevention program, found a modest percentage of variance associated with engagement that was explained by the program facilitator's socioeconomic and ethnic similarity and relevant life experiences, providing preliminary support for this possibility.

Further, distrust of professionals was raised as a potential barrier, particularly for those parents from different cultural or ethnic backgrounds to the facilitator (Koerting et al., 2013). This finding is consistent with both Garcia-Huidobro and colleagues' (2016) qualitative study, where immigrant Latino families reported socio-cultural status and trust in the facilitator increased engagement; and Mauricio and colleagues' experimental studies with

Mexican-American parents (2014; 2018), which found cultural homogeneity increased group cohesion and engagement.

Koerting and colleagues (2013) noted that facilitator factors were more readily linked to continued engagement than to initial engagement. This concurs with findings from empirical studies that parental ongoing engagement was positively associated with both facilitator–parent racial and socioeconomic similarity and the relevant life experiences of the facilitator (Orrell-Valente et al., 1999). However, McCurdy and Daro (2001) suggested in their conceptual model that at least the facilitator's cultural competence ("provider possesses an awareness of, sensitivity to, and responsiveness to the parent's cultural background and history", p. 116) and service delivery style may, in fact, influence parental initial engagement. Further research is needed to assess whether program- and facilitator-related factors are related to initial engagement as well.

3.2.5 Parenting programs advertisement factors

Koerting and colleagues (2013) discovered several key themes (about both effective advertisements and direct recruitment) that did not feature in Mytton and colleagues' (2014) article. Non-parental stakeholders saturated themes about the types of advertisements, but only two parent studies in total included themes about the way the programs were advertised. Parents highlighted the importance of easy-to-read flyers being distributed in locations routinely visited by parents, as well as advertisements on local radio.

Non-parental stakeholders went into more detail about the importance of effective advertisement content and using appropriate content to target hard-to-reach groups (Koerting et al., 2013). This included the careful use of language to be inclusive. Therefore, stakeholders suggested avoiding words that suggested that the program was only for parents who 'could not cope'. Other qualitative studies (not included in either review) have supported these findings. For example, Rahmqvist, Wells and Sarkadi (2014) interviewed parents who

had completed the Triple P program. They reported they had been turned off by advertisements that included words such as ‘support’ and ‘problem’. In addition, it seems that the words used to describe the type of program are important for parents. In a study aiming to discover the best marketing techniques for parenting programs, Levant (1987) found that the language used in advertising was important. For example, the words ‘workshops’ or ‘seminars’ implied two different types of programs and thus influenced parents’ intention to enrol, depending of their preferred engagement style.

Half of the non-parental stakeholder studies highlighted the importance of having multiple ‘soft-entry’ points, such as holding single-session ‘course tasters’ to engage and build rapport with parents (Koerting et al., 2013). These sessions were thought to provide an opportunity for parents to enquire about services without feeling blamed or stigmatised. Although no studies have tested whether providing a single-session program as a ‘course taster’ improves engagement, some RCTs of preventive parenting programs have recruited for their studies through consistent researcher and facilitator attendance at preschools and primary schools. These studies have generally involved the parenting program facilitator or dedicated recruiters attending schools at the same time over several weeks. During this time, they could build rapport and answer any questions that parents had about engaging in the parenting program (Eisner & Meidert, 2011; Heinrichs, 2006; Helfenbaum-Kun & Ortiz, 2007). These studies reported recruitment rates ranging from 31 to 85%, suggesting some success using this recruitment technique, as other studies that have use more traditional advertisements based recruitment techniques report recruitment rates of between 3% to 35% (Gonzalez et al., 2018; Smokowski et al., 2018); however, further research is required in this area.

Although not reported in either review (Koerting et al., 2013; Mytton et al., 2014), several studies have noted the importance of non-parental stakeholders who refer parents to

parenting programs, for understanding parental initial engagement (Axford et al., 2012; Houle et al., 2018; Smokowski et al., 2018). Based on interviews with engaged parents, parenting program facilitators and administration staff, Houle and colleagues (2018) found that liaison by reliable professionals and inter-institution consultation was necessary to increase parental engagement in behaviour problem prevention programs. Further, Smokowski and colleagues (2018) reported that the referral source could be a barrier to parental engagement. For example, parents who were referred from juvenile courts were particularly hard to engage, potentially due to parents perceived disempowerment as the program required mandatory attendance (Smokowski et al., 2018).

Another factor surrounding advertising parenting programs includes the recruitment strategies used apart from flyer-based advertisements. Both parental and non-parental stakeholders reported that personalised recruitment, in which time was taken to build rapport, as well as having effective and direct recruitment channels, were important to engaging parents (Koerting et al., 2013). Interestingly, parental and non-parental stakeholders reported that the most effective recruitment strategy was through 'word of mouth' from other parents who had completed the program. Further, in Houle and colleagues' (2018) qualitative study, stakeholders reported that a positive image of organisations, along with accessible promotional material, could increase engagement. Perhaps parenting programs that allow for snowballing recruitment techniques (whereby parents who have completed the program send information about the programs to friends and family) have increased success with parental engagement, although this is yet to be tested. However, while this type of parental engagement technique may be useful for open-access programs, it may not be as effective for RCTs, as not all parents enrolling in RCTs will receive the intervention.

After word-of-mouth methods, direct channels such as telephone calls, emails, text messages and referrals through other service providers were also identified as effective

recruitment methods (Koerting et al., 2013). Levant (1987) also determined through surveying parents in one metropolitan area, that the mass mailing of advertisements to individual parents was less effective than sending these advertisements to key non-parental stakeholders (schools, medical centres, psychologists, churches and libraries) and asking for referrals. Thirty years after Levant's study, the most common form of recruitment for preventive parenting programs remains mass mailing to individual parents, often facilitated by schools. Sanders and Kirby (2012) considered that mass mailing might still be the most common recruitment technique because many mental health professionals are somewhat cynical about the potentially biased or manipulative use of marketing strategies to motivate participants to engage with services. However, preliminary evidence from Gonzalez and colleagues' (2018) review suggests that if mental health professionals did use marketing strategies such as personalised letters and videos they may be able to increase, at least, parental intention to enrol in prevention programs.

3.2.6 Social and cultural factors

Mytton and colleagues (2014) noted that social and lifestyle factors, such as mixed parenting styles and frequent house moves, were reported as barriers to parental engagement in about half of the studies, as well as socioeconomic, ethnic and language issues. Koerting and colleagues (2013) did not report social and cultural factors as barriers to parental engagement. There has been limited research on social and lifestyle factors and their effect on initial engagement (Alfredsson & Brobreg, 2016; Dawson-McClure, Calzada & Brotman, 2017; Spoth et al., 1993). However, research that has been conducted to date has linked situational factors to social and cultural factors (Spoth et al., 1993). For example, a parent's socioeconomic status might be related to how much they are working, which consequently may influence timing and scheduling factors. Further, socioeconomic status could be an indicator of family stress and distress. For example, Alfredsson and Broberg (2018) found

that parents enrolled in a program for parents of 10- to 17- year olds were more likely to be on long-term sick leave or unemployed, suggesting an increased level of family stress. Other socio-demographic factors were demonstrated in Paper 1 to be unreliable predictors of parental engagement. Further research is required to assess the way these factors are related to parental engagement.

3.2.7 Limitations of research to date: Participants

The two systematic reviews (Koerting et al., 2013; Mytton et al., 2014) discussed in this chapter provided an overview of the literature that has been conducted with regard to parents and non-parental stakeholders. However, despite a growth in the literature, two participant gaps have emerged. First, only two individual studies reported including any non-engaged parents (Birkin et al., 2008; Pullman, Van Hooser, Hoffman, & Heflinger, 2010) and neither of these studies discussed preventive parenting programs. They reported on non-engaged parents who had a child with serious emotional problems (Pullman et al., 2010) and autism spectrum disorder (Birkin et al., 2008). The lack of information pertaining to the views of non-engaged parents in preventive parenting programs limited the generalisability of the findings of those studies, as parents who do not initially engage could report different barriers from those who initially engaged or attended part of the program.

Second, the types of non-parental stakeholders that have been included in qualitative research to date have been limited to the professionals who were facilitating the programs. The importance of gaining knowledge from program facilitators is clear; however, other important stakeholders include those professionals who act as referral pathways. Indeed, Koerting and colleagues (2013), Houle and colleagues (2018) and Levant (1987) all noted the importance of clear referral pathways. These referral pathways often include other professional staff, such as teachers, doctors and counsellors, who can act as gatekeepers for families and thus are an important source of information about parental engagement (Aarons

et al., 2009; Axford et al., 2012; Bickman & Rog, 2009). Koerting and colleagues (2013) did include four articles that reported on additional non-parental stakeholder perspectives (Barret, 2008; Law, Plunkett, Taylor, & Gunning, 2009; Pullman et al., 2010; Berlyn, Wise, & Soriano, 2008). However, examining the original studies revealed that the non-parental stakeholders reviewed in these studies often worked as facilitators or alongside facilitators, rather than referring parents to the preventive parenting program. Therefore, more research is required with additional important stakeholders, such as non-engaged parents and referring professionals.

3.2.8 Limitations of research to date: Type of parenting programs

The reviews by Koerting and colleagues (2013) and Mytton and colleagues (2014) provided a starting place to determine the stakeholder-reported factors influencing parental initial engagement. However, there was limited focus on engagement in *preventive* parenting programs. Preventive programs aim to provide parents with the skills and knowledge required to reduce their adolescents' risk of developing a mental health problem (Sanders et al., 2008). This reduction in risk can lead to a reduction in further subversive life events for the adolescent (WHO, 2016a; Lawrence et al., 2015) and a reduction in cost of, and burden for, the mental health system (WHO, 2016b). Thus, understanding the specific factors that affect parental engagement in preventive parenting programs is important. It is possible that the factors affecting parental engagement are similar in both intervention and prevention programs; however, differences in these program types suggest that there may be different factors influencing engagement. For example, Spoth et al. (1993) found that as prevention programs were for parents with children who were currently not displaying symptoms of mental health problems, the parents did not perceive a need to engage in a preventive parenting program, as their adolescent was doing fine. Therefore, parents may not prioritise engagement in preventive parenting programs over other conflicting demands (Axford et al.,

2012; Garvey, et al., 2006). This factor, as well as other potential differences, needs to be explored further with multiple stakeholders.

3.3 Comparison of findings in Paper 1 with other evidence to date

There were important differences between the measured predictors' associations with parental engagement (in Paper 1) and the additional studies reviewed in 3.2. These differences suggest that the predictors measured in Paper 1's included studies may not sufficiently capture the nuances within and between engagement factors. For example, parents' employment status was not reliably associated with parental engagement, but it could have an effect on situational factors such as the time of day that parents would prefer to attend a program, thus affecting their engagement. Another example is the ratio of adults to children in a household: while this was not reliably associated with parental engagement, it would likely affect a parent's need for childcare. Moreover, while the ethnicity of parents was not reliably associated with engagement, however, some studies reported the importance of matching the facilitator to the parents' ethnicity, as well as the potential for language to be a barrier for parents with English as a second language. Thus, researchers may need to develop alternative ways of measuring the potential barriers and enablers outside of using demographically collected data. For example, beyond just collecting information about the parent's ethnicity, the study could assess whether the ethnicity of the facilitator influences parental engagement.

Further, many of the other factors (psychological, program, facilitator and advertisements) reported by parental and non-parental stakeholders were almost never assessed or examined as a potential factor of engagement in the experimental research. Most of the studies included in Paper 1 did not assess parents' preferences with regard to program and parenting program facilitator factors. The only exceptions were the studies by Nordstrom and colleagues (2008) and Mian, Eisenhower and Carter (2015), which measured parent

preferences prior to engagement. These studies supported the qualitative literature findings that parents who reported fewer obstacles to engagement were more likely to initially engage in the program (Nordstrom et al., 2008). These obstacles included the families' pre-existing commitments and the need for childcare. Further, program factors were found to influence parental intention to enrol. Mian and colleagues (2015) found that parents who indicated they were interested in group programs which were described as aiming to increase 'healthy living and wellness' were less likely to intend to enrol.

3.4 Theoretical models of parental engagement

The multitude of factors identified through a review of the literature to date, need to be organised in a meaningful way. One potential solution is a conceptual framework that can bring all these elements together and provide insight into the way they interact to influence parental engagement (Linder & Sexton, 2011). In the broader parenting programs and preventive intervention literature, three conceptual frameworks have been developed by previous researchers (McCurdy & Daro, 2001; Piotrowska et al., 2016; Randolph et al., 2009). These conceptual frameworks have been based on both empirical literature and the models and theories commonly used in health psychology to describe patterns of behaviour. While these conceptual frameworks have targeted certain areas of parental engagement in a variety of family and child treatment and parenting programs, they have not been specific to initial parental engagement in preventive parenting programs for adolescent mental health. Thus, while these conceptual frameworks could provide guidance on the types of theories and models that could inform initial parental engagement in preventive parenting programs, further work is needed to apply the pre-existing theories and conceptual frameworks to this specific area of research.

Previous frameworks have drawn on commonly used individual health behaviour theories, such as the Health Belief Model (HBM), the TPB and the Trans-Theoretical Stages

of Change Model, or TTM (McCurdy & Daro, 2001; Piotrowska et al., 2016; Randolph et al., 2009). These models and theories propose a way for researchers to rigorously and explicitly conceptualise both the target behaviours (in this case, engaging in a preventive parenting program) and the strategies required to modify them, through focusing on the individual (Glanz, Rimer, & Viswanath, 2015; Nutbeam, Harris, & Wise, 2010). Less commonly cited are socio-ecological theories, which provide a way of understanding the multifaceted and interactive effects of the individual, social and environmental factors that can determine target behaviours (Nutbeam et al., 2010). An example of a socio-ecological theory includes Randolph and colleagues' (2009) inclusion of Family Systems Theory in their conceptual framework. Other theories that could be beneficial are the Socio-Ecological Model (SEM) and Neighbourhood Disorganisation Theory. In the next sections, the individual and socio-ecological theories are defined, critiqued and discussed in the context of parental initial engagement in preventive parenting programs, to assess their suitability for inclusion in the evidence-informed conceptual framework for this research (described in Chapter 6).

3.4.1 Individual health behaviour theories

Individual health behaviour theories, such as TPB, Theory of Reasoned Action (TRA), HBM, TTM, Motivation and Self-Determination Theory, focus on the individuals for whom researchers and professionals want to see increased preventive health behaviours (such as engaging in a parenting program).

3.4.1.1 Theory of Planned Behaviour and Theory of Reasoned Action

The TPB is one of the most commonly used health behaviour theories in the field of parental engagement. The TPB is an extension of the TRA (Fishbein & Ajzen, 1980). Based on the TRA, a parents' attitude towards the behaviour (in this case, engagement in preventive parenting programs) and understanding of subjective norms is purported to influence parental behavioural intention to enrol in preventive parenting program (Fishbein & Ajzen, 1975).

Subjective norms are defined as "the perceived social pressure to perform or not to perform the behaviour" (Ajzen, 1991, p. 188).

As shown in Figure 3.1, the TPB extends the original theory by including a persons' perceptions of their behavioural control as a third important factor to engaging in preventive health behaviours (Ajzen, 2002). Perceived behavioural control is defined as a person's perception of the ease or difficulty of performing the behaviour in question (Ajzen, 2002). Thus, behavioural intention (in this case, intention to enrol in preventive parenting program) is produced from a combination of attitude towards the behaviour, the subjective norm, and parents' perceived behavioural control (Ajzen, 2002). Intention to enrol is the considered the first stage of initial engagement, a requirement for parents to progress to actual enrolment in the preventive parenting program (McCurdy & Daro, 2001). Spoth and colleagues (1997) demonstrated the importance of intention when they discovered that parents' intentions to enrol in a parenting program significantly increased the chance that they would subsequently enrol and participate in the program.

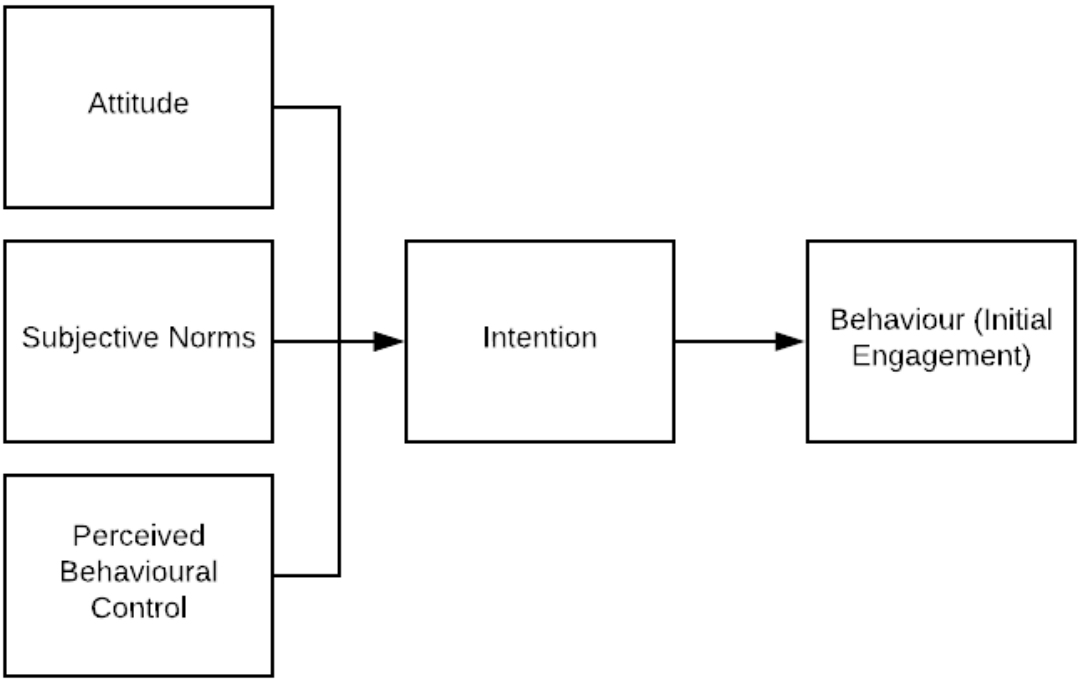

Figure 3.1. Theory of Planned Behaviour and Reasoned Action (adapted from Nutbeam et al., 2010).

Other studies have demonstrated the effect of the individual component of parents' attitudes on parental initial engagement. For example, parents' negative attitudes towards group parenting programs have been reported by parents as a reason for non-engagement (Koerting et al., 2013; Mytton et al., 2014) and demonstrated to decrease engagement (Nordstrom et al., 2008). Specifically, concerns about privacy, or beliefs that parenting programs are not relevant or effective, have seemed to decrease parental engagement (Dumas et al., 2007; Spoth et al., 1993). Conversely, when parents have had positive beliefs about attending group preventive parenting programs (e.g., seeing these programs as a way to meet parents in a similar situation), parental intention to enrol and enrolment have both increased (Gross et al., 2001; Harachi et al., 1997).

The other individual components in the TPB, including both perceived behavioural control and subjective norms, have been less researched. The TPB posits that increased

perceived behavioural control increases parents' intention to enrol in a preventive parenting program. When discussing parenting programs, this behavioural control could include two behaviours: first, the parents' perceived ability to control enrolling in and attending a parenting program; second, the parents' perceived ability to change their own parenting behaviours, to benefit their children. In a RCT, Aalborg and colleagues (2012) showed that the first aspect significantly increased engagement in the parenting programs being offered; when parents were offered the choice of two different programs, compared to a control group of parents randomly allocated to the different programs. This choice of program provided parents with control of when and where they engaged, the parents' overall engagement increased for both programs. When they surveyed parents who had been offered a preventive parenting program, Spoth, Redmond and Hockaday (1993) found that parents' perceptions of the effect of their own parenting behaviours in reducing adolescent mental health problems was at least a 'somewhat important' issue for approximately 21% of the non-engaged parents; that is, they perceived they could not prevent mental health problems in their adolescents.

Parents' subjective norms, as determined by the normative perceptions of family, friends and wider community, are believed to influence parents' decisions to enrol in a preventive parenting program (Fishbein & Ajzen, 1975). As this aspect is difficult to measure, it has not been assessed quantitatively. However, it is possible that if the community views the running of preventive parenting programs as an asset to the community, parents are more likely to intend to enrol. Conversely, if parents' peers disapprove, or if the parents live in a community or within cultural norms that promote family privacy, they are less likely to consider enrolment as an option. This has been demonstrated in both community leaders' endorsement of programs increasing engagement (Bjørknes, Jakobsen, & Nærde, 2011) and parental reports that they did not engage in a program because of family members not wanting them to (Spoth et al., 1993).

In addition, the model emphasises the importance of parents' knowledge regarding essential skills for performing the behaviour (in this case engaging in preventive parenting programs), as well as past experience with the behaviour (Ajzen & Madden, 1986). Ajzen (1996) stated that parents' attitudes that are based on second-hand information are less predictive of intention than are attitudes based on direct experience. When applied to intention to enrol in preventive parenting programs, parents who have participated in parenting programs in the past could be driven by their past experience to enrol. For example, if a parent had a prior positive experience, and found the program useful and effective, they are more likely to intend to enrol in a subsequent program, than are parents who have had negative experiences in the past. This could extend to parents' past experiences with the types of parenting program facilitators and the locations of the program; for example, parents could be less inclined to attend a program at a school if they had had a negative school experience (Van Wyk & Lemmer, 2008).

Critics have argued that there are many flaws in the simplicity of the TPB, including its exclusive focus on rational reasoning, which excludes unconscious and emotional influences on behaviour (Conner, Gaston, Sheeran, & Germain, 2013; Sheeran, Gollwitzer, & Bargh, 2013). Additionally, the simple and static nature of TPB does not help with understanding the effect of behaviour on cognitions and future behaviour, or why individuals engage in behaviours (in this case engaging in a preventive parenting program) that they do not enjoy or that have little value to them (Sniehotta, Presseau, & Araujo-Soeares, 2014). Others have suggested that adding the role of beliefs and moral and religious norms would help to improve the predictive ability of the models (Godkin & Koh, 1996). Nutbeam and colleagues (2010) highlighted the difficulty in translating some aspects of this model into interventions that would increase health behaviours. Despite these critiques, this theory was used in both conceptual frameworks of parenting engagement (McCurdy & Daro, 2001;

Randolph et al., 2009). This is mostly likely owing to the consistent finding that parental intentions to enrol are strongly related to their subsequent engagement (Dumas et al., 2007; Spoth et al., 1997).

3.4.1.2 Health Belief Model

Another commonly referenced individual behaviour theory is the HBM, which was originally formulated to explain preventive health behaviours (Rosenstock, 1974). Nutbeam and colleagues (2010) provided a useful review of several major health behaviour theories and suggested that the HBM showed that the likelihood of a person engaging in a health behaviour was based on the following four different types of belief (see Figure 3.2): they (1) perceived themselves or their family to be susceptible to a problem (perceived susceptibility); (2) believed the problem could result in serious consequences (perceived seriousness); (3) believed that a course of action could reduce susceptibility; and (4) believed the benefits of acting would outweigh the costs (perceived benefits and barriers). Thus, the HBM posits that increased initial engagement in a preventive parenting programs would occur when parents perceived a high risk of their child developing a mental health problem, that the development of a mental health problem was serious, and the benefits of attending would outweigh any potential costs/barriers (US Department of Health and Human Services, & National Institutes of Health, 2005).

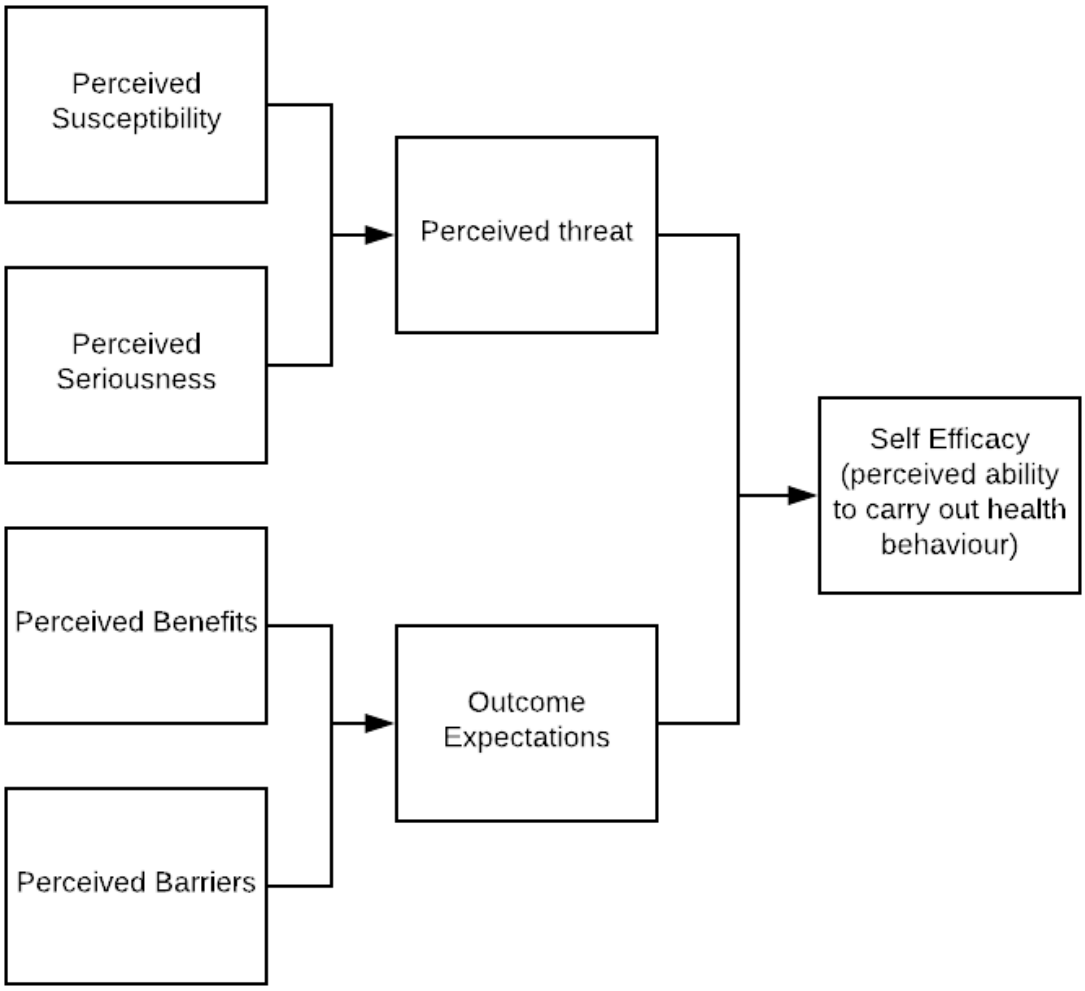

Figure 3.2. Health Belief Model (adapted from Nutbeam et al., 2010).

This model shows that if a parent perceives the risk of their child developing mental health problems is high and this would be a serious problem, they are more likely to intend to enrol. This has been demonstrated through studies that measured parents' levels of perceived susceptibility. For instance, parents have often noted low levels of need for the program and minimal perceived adolescent susceptibility as reasons for not engaging in family-based preventive interventions (Spoth, Redmond, & Hockaday, 1996). However, when research has used objective measures of susceptibility (parent–child relationship difficulties and/or parenting difficulties or current child symptoms), the results have been more mixed. Spoth, Goldberg and Redmond (1999) found that neither parent nor adolescent risk factors predicted

engagement, while others have found that higher levels of both need and risk resulted in higher levels of engagement (Fontana, Fleischman, McCarton, Meltzer, & Ruff, 1989; Nordstrom et al., 2008; Plueck et al., 2010; Reedtz et al., 2011). This suggests that further research is required to understand the relationship between these factors of the HBM and parental engagement.

In addition, the decision-making process involves weighing up the perceived benefits and barriers to engaging. Benefits could include support from other families, learning about new skills and decreasing their children's risk of developing a mental health problem. Barriers could include childcare, time required to attend, availability of transport, parental concern about group dynamics, and stigma (Koerting et al., 2013; Mytton et al., 2014). Thus, during the cost/benefit analysis, parents consider both the potential outcomes and the time and investment required for them to engage in the preventive parenting program.

Later refinements of the HBM have acknowledged the importance of additional factors, such as personal characteristics and social circumstances, as well as the influence of cues to action (Nutbeam et al., 2010). Cues to action are events that act as a trigger for engaging in health behaviours, such as a parent–child interaction that causes parents concern (Hahn, Simpson, & Kid, 1996) or advertisement material that increases parents' understanding of risk (Carpentier et al., 2007). Although difficult to measure and assess, Hahn and colleagues (1996) found that cues to action (particularly parent–child interactions) emerged as a major theme in parent focus groups about parental involvement in drug-use prevention. In addition, recruitment processes that included individualised letters and telephone calls served to increase parental intention to enrol through addressing misperceptions of their child's susceptibility of developing a mental health problem and the severity of mental health problems and reducing potential barriers; they have been shown to result in initial engagement (enrolment) rates of 31% to 85% (Carpentier et al., 2007; Eisner

& Meidert, 2011; Helfenbaum-Kun & Ortiz, 2007). Further, showing parents a short recruitment video, which was based on both the HBM and principles of social influence (the primary principles which impact social behaviour e.g. reciprocation, social validation, legitimate authority, liking, and scarcity; Cialdini, 2009) demonstrated significantly higher rates of initial engagement when compared to a brochure-only condition (24% versus 13-14%; Winslow et al., 2018). However, this initial engagement rate is still low in comparison to other studies reported above (Carpentier et al., 2007; Eisner & Meidert, 2011; Helfenbaum-Kun & Ortiz, 2007). While increasing the cues to action could have some utility in increasing parental engagement, further research is needed to understand these vastly different enrolment rates.

An additional factor that influences a person's likelihood to engage in a health behaviour, the concept of self-efficacy, was added to the HBM; that is, "the belief in one's own ability to successfully perform a behaviour" (Nutbeam et al., 2010, p. 10). As with TPB's perceived behavioural control, self-efficacy can affect parental engagement through (1) parents' belief that they can engage in the preventive parenting programs; and (2) parents' belief that they can effectively learn and use the strategies being delivered in that program with their adolescent. Parental self-efficacy has been reported by researchers (Garvey et al., 2006; Nordstrom et al., 2008, Randolph et al., 2009) as influencing parental engagement by playing a role in participants' 'readiness to change'. Additionally, controlled clinical trials, which included motivational interviewing strategies to increase self-efficacy, have demonstrated increased engagement (see the meta-analysis in Burke, Arkowitz, & Menchola, 2003). Despite these seemingly positive trials, Nordstrom and colleagues (2008) found that parental self-efficacy, defined as "degree to which mothers felt competent and able to solve parenting problems" (p. 10), did not have a significant effect on parental intention to enrol in a preventive parenting program designed to increase children's emotional coping.

Interestingly, higher parental self-efficacy did have a significant effect on parental enrolment, while lower parental self-efficacy significantly increased attendance (ongoing engagement) in the preventive parenting program (Nordstrom et al., 2008). Nordstrom and colleagues (2008) hypothesised that parents may need a certain level of self-efficacy to feel able to enrol in a parenting program; but once enrolled, those who feel they need more assistance may be more likely to stay. However, Nordstrom and colleagues (2008) did not comment on potential reasons for why parental intention to enrol was not significantly associated with parental self-efficacy. It is possible that parents with high parental self-efficacy do not feel they need to engage in a preventive parenting program; and parents with low self-efficacy could believe either that they could not engage or they would not be able to change the outcome for their children through engagement. More research that examines the complex relationship of parental self-efficacy on engagement is necessary.

Nutbeam and colleagues (2010) noted that the main benefit of this model was the straightforward and simple way it illustrates the importance of beliefs about health and the relative costs and benefits of engaging in a behaviour. However, the HBM has been found to be most useful when applied to traditional preventive health behaviours such as screenings and immunisations, for which it was originally developed (Nutbeam et al., 2010). Unfortunately, the HBM has been less useful when addressing long-term, complex and socially determined behaviours such as alcohol and other drug use. This could be because of the limited exploration of social, economic and environmental influences on behaviour within the HBM. As parenting and engagement in mostly group preventive parenting programs is an inherently complex and social task, the HBM alone does not fully explain parental initial engagement.

3.4.1.3 Trans-Theoretical Model of health behaviour change

The TTM (also known as the Stages of Change Model) explains both the different stages of change and the important processes of change that are relevant to each stage (Prochaska, DiClemente, & Norcross, 1992; Prochaska, Redding, & Evers, 2002). This model functions under the premise that health behaviour change is a process rather than an event (Nutbeam et al., 2010). TTM identifies the following five basic stages of change: (1) pre-contemplation, (2) contemplation, (3) determination/preparation, (4) action and (5) maintenance (see Table 3.1). The sixth stage includes potential relapse (which can occur after any stage of the model) and termination of the behaviour. In addition, the TTM demonstrates how people appear to move through the stages in a predictable way, though some may become stuck at certain stages (Nutbeam et al., 2010).

Table 3.1

Trans-Theoretical Model: Stages and Processes of Change (adapted from Nutbeam et al., 2010)

Stage of change	**Definition of stage**	**Process of change**
Pre-contemplation	When individuals are not considering changing their behaviour	Consciousness raising
Contemplation	When a person begins to consider behaviour change	Recognition of the benefits of change
Determination/ Preparation	When a person makes a commitment to change	Identification of barriers
Action	When behaviour change is initiated	Program of change
Maintenance	Sustaining the change	Follow up and continuing support
Relapse/ Termination	Relapse: when a person reverts to previous behaviour Termination: when a person no longer participates in the behaviour	N/A

The TTM could be useful for modelling all stages of parental engagement in preventive parenting programs, from non-engaged parents (pre-contemplation/ contemplation), through to engaging and maintaining their involvement in the program (action/maintenance). However, to date it appears that the TTM has been applied to parental engagement solely when focusing on 'readiness to change' (McCurdy & Daro, 2001; Koerting et al., 2013). Readiness to change has also been described as the preparation stage (McCurdy & Daro, 2001). Parents with higher levels of readiness have recognised a need to learn new parenting strategies and therefore, are more likely to intend to enrol in a parenting program (McCurdy & Daro, 2001). Further, a recent study completed by Proctor and colleagues (2018) found that parents with more readiness to change (measured through a self-reported survey) were more likely to engage in a one-off parenting program. This preliminary finding suggests the TTM may provide useful insights into targeting recruitment strategies for parents at each stage of the TTM. Further research and discussion in the literature about parents who might reside in other stages of change and how the processes of change could affect engagement (see Table 3.1) is required.

The TTM provides a timely reminder of the range of recruitment methods required for parents in the different stages of change. However, this model has been criticised for failing to consider the complexity of behavioural change processes and the influence that the external environment may have (Nutbeam et al., 2010). In addition, a review of interventions using TTM found variable rates of effectiveness (Bridle et al., 2005), but as that review was not specific to parenting programs, more research is needed to discover TTM's utility in preventive parenting program engagement.

3.4.1.4 Motivation and Self-determination Theory

As demonstrated within other health behaviour theories, parents' readiness or motivation to change is an important component in parental intention to enrol. Researchers

have agreed that parents' motivation may affect both accessing and engaging with preventive parenting programs (Koerting et al., 2013; Mah & Jonhson, 2008). A theory that is used less often in studies of parental engagement in preventive parenting programs, but is linked to motivation, is Self-determination Theory. This theory states that people have a fundamental propensity towards growth, self-determination and the resolution of psychological discrepancy (see Figure 3.3; Deci & Ryan, 1980, 1985). It defines intrinsic and extrinsic sources of motivation and provides a description of the roles of these in social development (Deci & Ryan, 1980, 1985).

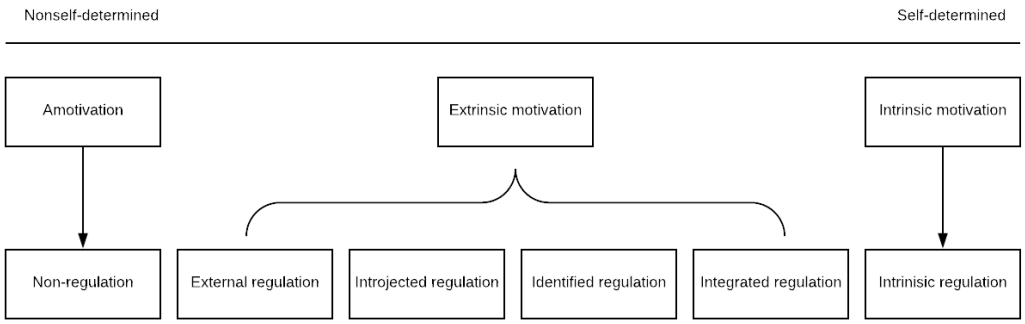

Figure 3.3. Self-determination Theory (adapted from Ryan & Deci, 2000).

Extrinsic motivation relies on external sources and as shown in the figure, has four components: (1) external regulation, (2) introjected regulation, (3) identified regulation and (4) integrated regulation (Ryan & Deci, 2000). The most common type of extrinsic motivation used by preventive parenting programs is external regulation, which relies on external rewards or punishments for taking part in the behaviour. RCTs researching preventive parenting programs have commonly offered rewards for assessment completion, such as monetary gain, while some community-based open-access programs have offered free dinners for attendance. Heinrichs (2006) demonstrated limited effectiveness of monetary rewards for program completion.

Alternatively, parents can be intrinsically motivated, being more likely to intend to enrol on preventive parenting programs based on their interest in the program and a desire to gain a feeling of satisfaction from their enrolment and attendance. This was demonstrated in various studies, where some caregivers engaged in the parenting program being offered because they perceived a personal need to attend a preventive program, even when they had not expressed concerns about their children's behaviour or development (Perrino et al., 2001; Rostad, Self-Brown, Boyd, Osborne, & Patterson, 2017). In addition, 95% of mothers interviewed at the initial engagement stage of an early intervention program revealed they hoped that the intervention would help them grow and develop as women (Mucka et al., 2017). When this natural intrinsic motivation was coupled with motivational interviewing during the program, 62% of mothers attended all sessions, suggesting that once engaged, intrinsically-motivated mothers may have higher levels of ongoing engagement (Mucka et al., 2017).

Self-determination Theory has some drawbacks. Because of the definitions of intrinsic and extrinsic motivations, it is common for researchers to define a participant as being either intrinsically or extrinsically motivated (Calder & Staw, 1975). However, the same participant could be influenced by both types of motivators at the same time, making measurement slightly more complex. Further, more rigorous study is required for commonly used recruitment strategies. For example, many studies reporting using recruitment methods such as food incentives, in an effort to increase parental extrinsic motivation, but have not rigorously evaluated the effectiveness of these incentives. Thus, Self-Determination theory and its potential effect on parenting programs requires more evaluation in the preventive parenting program literature.

3.4.2 Socio-ecological health behaviour theories

Socio-ecological health behaviour theories, while less commonly mentioned in the current preventive parenting program literature, begin to fill the gap that is inherent in most individual health behaviour theories, providing a way of understanding the way external and environmental influences can influence parental engagement in preventive parenting programs. These theories include Family Systems Theory, Neighbourhood Disorganisation Theory and social capital, and SEM. In the next sections, these theories and models are defined, critiqued and discussed in the context of parent engagement in preventive parenting programs, to develop an understanding of their applicability to parental initial engagement.

3.4.2.1 Family Systems Theory

According to Family Systems Theory, individuals cannot be understood in isolation (Bowen, 1978). Rather, individuals are interconnected and interdependent, existing in family units and therefore, can only be understood in their embedded context. The behaviours and problems of one family member intrinsically influence, and are influenced by, other family members (Kerr & Bowen, 1988). Family factors have not been the focus of many past studies of parental engagement in preventive programs. However, Perrino and colleagues (2001) noted that when family system factors have been studied, the results have been somewhat mixed. For example, Spoth, Goldberg and Redmond (1999) found that the quality of parent–child interactions did not predict parental engagement, while Herzog, Cherniss and Menzel (1986) found that family support could predict parental engagement. Interestingly, Herzog and colleagues (1986) found that parents with conflicted support were less likely to engage than mothers who had either positive or no support. These findings suggested that (1) some aspects of the family system are more influential predictors of initial engagement than others; and (2) that family systems have a complex effect on engagement. Previous work conducted with families engaging in therapy has found that addressing the family factors, such as

conflicted support, was critical in increasing engagement (Coatsworth, Santisteban, McBride, & Szapocznik, 2001; Santisteban et al., 1996). Perrino and colleagues (2001) applied the same theory to their study of preventive program engagement and found that family system variables were the strongest predictors of parental engagement. Specifically, family disorganisation, inadequate support from family members, low cohesion and family disapproval of the parent's engagement were found to decrease parental engagement in the preventive parenting program (Perrino et al., 2001).

3.4.2.2 Neighbourhood Disorganisation Theory and social capital

Neighbourhood Disorganisation Theory refers to certain neighbourhood characteristics that can make it difficult for residents to control their environments (Shaw & McKay, 1942). It describes the way neighbourhoods with lower socio-economic status and residential instability make less use of treatment and preventive health care services (Shaw & McKay, 1942; Winstanley et al., 2008). The level of disorganisation of the neighbourhood in which a parent lives has been shown to be significantly negatively associated with parent engagement in preventive services (Byrnes, Miller, Aalborg, & Keagy, 2012).

In addition, McCurdy and Daro (2001) hypothesise that a parent's social capital (degree of interpersonal ties, neighbourhood norms, stability and opportunity) could be seen as a neighbourhood factor that would influence their likelihood to engage in a preventive parenting program. Consistent with this hypothesis, a national study by Runyan and colleagues (1998) found that higher levels of social capital were more strongly associated with child well-being than any other single indicator (including demographic and maternal functioning factors). However, McCurdy and Daro (2001) hypothesised that the effect of social capital on an individual's willingness to seek out services was less straight forward. It has been commonly assumed in the literature that a resource-rich neighbourhood would increase intention to enrol in any parenting program because of a prevailing ethos of being

allowed to seek out and/or expect to use formal supports. This assumption has been supported by studies demonstrating that neighbourhood barriers such as poor public transport and social isolation limit parental initial engagement in programs aimed at supporting parents with young families (Cortis, Katz & Patulny, 2009; Dawson-McClure, Calzada & Brtman, 2017; Hackworth et al., 2018), while greater social capital enhances parental initial engagement in universal parent training programs (Eisner & Meidert, 2011). However, McCurdy and Daro (2001) also speculated that people living in neighbourhoods with greater social capital could be less inclined to accept preventive parenting services if they believed they could access support from elsewhere. Thus, further research is required to assess if increased social capital could also act as a barrier to parental initial engagement.

3.4.2.3 Socio-Ecological Model

Bronfenbrenner's original ecological model viewed behaviour as being affected by environmental influences at the micro-, meso-, exo- and macrosystem levels (Brofenbrenner, 1979, 1977). This model has been modified subsequently by several researchers (Belsky, 1980; Margolis, McLeroy, Runyan, & Kaplan, 1983; Salihu, Wilson, King, Marty, & Whiteman, 2015; Winett, 1985) for use in various types of health promotion. These versions of Brofenbrenner's (1979, 1977) model (see Figure 3.4) more commonly use the terms intrapersonal characteristics, interpersonal processes, institutional factors, community features and public policy to describe the integrated and dynamic network of influences on behaviour (Salihu et al., 2015; McLeroy, Bibeau, Steckler, & Glanz, 1998). As this set of terms have been more commonly used in research examining barriers related specifically to initial engagement in clinical trials (Daley et al., 2011; Moreno-John et al., 2004; Salihu et al., 2015; Wells & Zebrack, 2008), this terminology was adopted for this thesis.

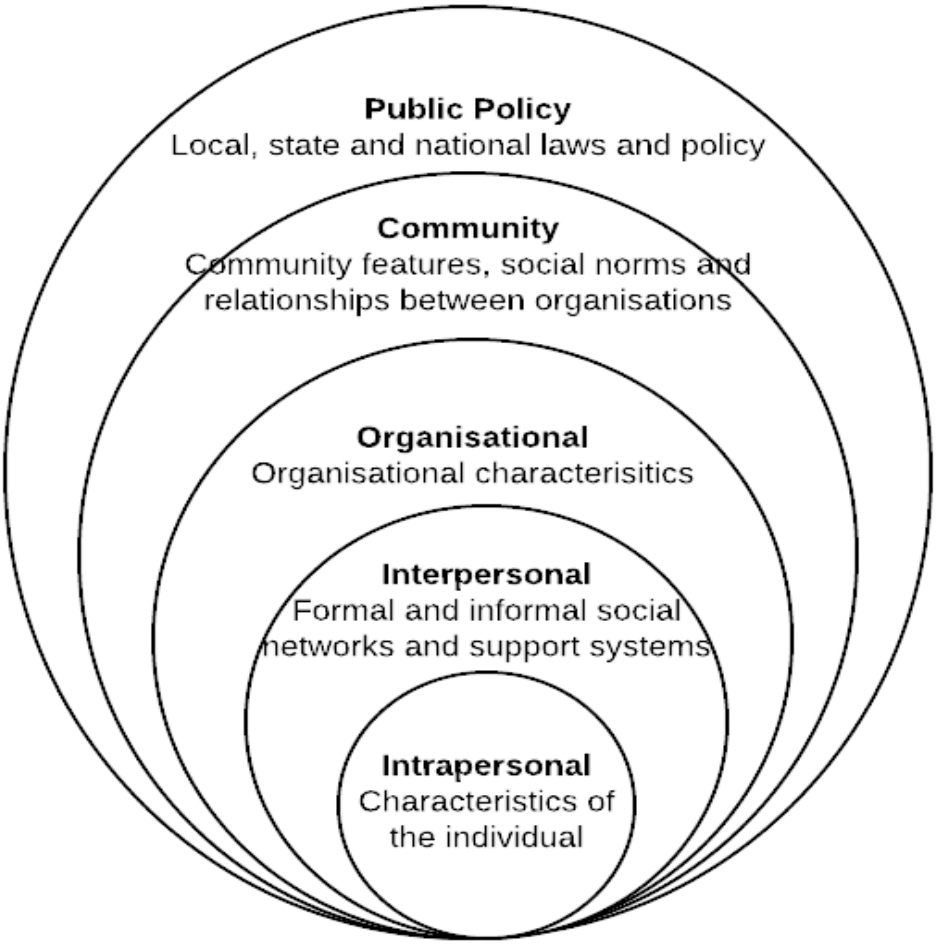

Figure 3.4. Socio-Ecological Model (adapted from Salihu et al., 2015).

The SEM intrapersonal level includes the parents' knowledge, awareness, attitudes, beliefs and perceptions. Many of the elements contained in this level can be directly linked with the individual health behaviour theories (Salihu et al., 2015). For example, the TPB and SEM both report that parents' attitudes regarding the preventive parenting program and adolescent mental health were important in parents' decision to engage (Ajzen, 1996; McLeroy et al., 1988). The SEM is different from the individual health behaviours as it assumes that intrapersonal factors are influenced by the individual's physical and social environments. The interpersonal level refers to peers, significant others and professionals who could influence a parent's engagement in a parenting program. Spoth and colleagues

(1996) found that some parents chose not to engage in a preventive parenting program because of their significant other not wanting them to engage. Further, interpersonal factors may include the knowledge, understanding and referring capabilities of referring non-parental stakeholders who may act as gatekeepers (Axford et al., 2012).

Institutional-level factors include the organising bodies' rules, regulations and general attitude towards parents and research (Salihu et al., 2015). This could include the types of parenting programs an organisation chooses to purchase and deliver. Community factors can include the attitudes and social norms about engaging in a preventive parenting program, as well as structural factors such as access to transportation and neighbourhood safety (Salihu et al., 2015). Neighbourhood level of disorganisation can be linked to the community level of the SEM (Shaw & McKay, 1942). Finally, the public-policy level describes local, state and federal laws regarding socio-behavioural programs and research (Salihu et al., 2015). This can include the amount of funding provided for research and implementation of preventive parenting programs within any region or state. In addition, the SEM accounts for socio-cultural factors, as well as environmental factors.

The SEM has been applied, through qualitative evaluation, to identify and overcome barriers and enablers to participant engagement (Salihu et al., 2015), parental engagement in children's mental health services (Rodríguez, Southam-Gerow, O'Connor, & Allin, 2014) and parental engagement in prevention of children's language difficulties and school readiness (Hackworth et al., 2018). However, it has yet to be applied in the context of preventive parenting programs for reducing the risk of adolescents developing mental health problems. This is interesting, as the systematic reviews of qualitative studies discussed earlier in this chapter (Koerting et al., 2013; Mytton et al., 2014) clearly described factors that enabled or blocked parental initial engagement across several levels of the SEM. Further, the SEM provides an interpersonal and community lens through which to understand health

behaviours. This is particularly useful, given that the SEM does not then discount the individuals' internal decision-making processes; rather, it provides a structure to assess external factors of decision making. This provides a useful addition to the individual health behaviour theories, many of which have been critiqued for their lack of socio-ecological focus.

However, the SEM does appear to be gaining traction in the area of parenting programs, as a recently published article by Houle and colleagues (2018) applied a concept mapping analysis to interviews conducted with engaged parents (of children aged 0-5 years), practitioners and administrators involved in preventive parenting programs. Their analysis concluded that engagement was multifactorial and recruitment should be considered within an ecological approach. Houle and colleagues (2018) report several levels of factors including; the individual parent, the practitioner, service (parenting program), organisation and policies. These levels appear to line up with the SEM approach described by McLeroy and colleagues in 1988, further reinforcing the importance of this model in parental engagement.

3.4.3 Conceptual frameworks developed to date

As demonstrated throughout this chapter, not one of the currently used health behaviour models and theories adequately describes all of the known or hypothesised factors of parental engagement. Thus, researchers have developed integrated conceptual frameworks to provide rationale and guidance for subsequent empirical investigations and to identify targets for policy interventions (Linder & Sexton, 2011). These frameworks have drawn on many of the pre-existing health behaviour models, combining them with the preliminary research that has been conducted to provide a conceptual map of factors that could enable or inhibit parental engagement. For example, a framework that integrates the HBM with the TPB would propose that parents are more likely to intend to enrol if their perceived

susceptibility and perceived seriousness of the problem is increased (HBM) and if they perceive they can control or reduce this risk through engaging in a preventive parenting program (TPB).

Three conceptual frameworks have been identified as relevant when considering parental engagement in preventive parenting programs (McCurdy & Daro, 2001; Piotrowska et al., 2017; Randolph et al., 2009). The aims of these frameworks have been (1) to better explain parental engagement in parenting programs, in the hope of increasing recruitment and (2) to provide guidance for researchers with regard to the factors that may be worthy of further investigation. These three frameworks are examined in the next sections.

3.4.3.1 McCurdy and Daro (2001): An integrated theory

The first and most comprehensive model of parental engagement was developed by McCurdy and Daro (2001). This conceptual model provided researchers with an understanding of parental engagement in family support programs (both family and child focused). This model provided examples of factors that can influence engagement across three stages of engagement: intention to enrol, enrolment and retention (akin to ongoing engagement). McCurdy and Daro (2001) reported that at each stage of engagement there were different 'levels' of influence, such as individual characteristics, facilitator attributes, program characteristics and neighbourhood characteristics. This breakdown of different levels of characteristics aligned with both individual and socio-ecological theories.

The 'intention to enrol' stage of parental engagement was described by McCurdy and Daro (2001) as the first stage of engagement. It was influenced by many health behaviour theories and factors and it most readily coincides with the definition of initial engagement adopted for this current thesis. The health behaviour theories explicitly mentioned by McCurdy and Daro (2001) included TPB, HBM and TTM. However, the factors that were suggested as influencing parental engagement suggested an implicit understanding of SEM as

well. These theories were explained and divided into the four factor types. For example; individual factors influencing initial parental engagement were said to include (1) attitude towards service (TPB), cost–benefit perceptions (HBM), readiness to change (TTM), subjective norms (TPB) and past experiences. Additional factors included parenting program facilitator factors (including cultural competence and service delivery style) and program factors (including sponsorships, timing of enrolment, and duration between program acceptance and first service contact). Finally, neighbourhood factors included both neighbourhood-based theories: social capital and social disorganisation.

This framework was suggested by McCurdy and Daro (2001) as a first step in understanding the mechanisms that could prompt parents to engage in family support programs. The authors did not anticipate that the framework would be all-encompassing but that it would provide a starting point for researchers and practitioners to guide future decisions.

3.4.3.2 Randolph et al. (2009): Framework for engaging parents in prevention

Randolph and colleagues' (2009) framework aimed to provide researchers with an integrated model for engaging parents in any type of preventive program (including programs designed to prevent child maltreatment or the development of child mental health problems). The conceptual framework incorporated a three-tiered approach (universal, indicated and selective) to developing strategies to engage people in preventive programs. This framework took into account both voluntary and involuntary clients. Randolph and colleagues (2009) acknowledged that the strategies required for a voluntary prevention program, such as a program designed to prevent child mental health problems, would be different from a program for involuntary clients, such as child maltreatment prevention.

The development of this conceptual framework began by reviewing three health behaviour models: the HBM, the TRA and Family Systems Theory. Using components of

each of these theories, the framework includes parents' perceived susceptibility of their child developing a mental health problem and the potential severity of the mental health problem, barriers, benefits and self-efficacy. The model posits that if the right combination of these components were applied to recruitment methodologies, then parental intention to enrol would be increased. Randolph and colleagues (2009) noted that intention to enrol in a parenting program is required for parents to engage and they provided strategies for each of these factors, which could be used as cues to action for parents. For example, to advertise a universal parenting program in a school newsletter, a researcher might increase perceived susceptibility by describing the risk factors for the development of problems in children.

3.4.3.3 Piotrowska and colleagues (2017): Connect, Attend, Participate and Enact

Piotrowska and colleagues' 2017 CAPE model (Connect, Attend, Participate and Enact) suggested that there are four stages of parental engagement. This model is suggested to be useful for engaging parents with children who have disruptive behaviour problems. The focus of the CAPE model was parental participation and enactment of skills, as well as the way that parental engagement in these factors could lead to behaviour change in parents and thus, a positive outcome for children and young people. Piotrowska and colleagues (2017) noted that the Connect factor (which includes how to connect with parents and their decision to enrol in the parenting program) of the CAPE model could be predicted by a set of factors including family characteristics, child characteristics, family processes and contextual factors (e.g., beliefs and attitudes about attending and parenting roles), as well as parenting program facilitator and organisational factors. However, they did not provide further detail about the ways these factors might influence each other, nor affect parental connection with the program.

They argued that there were two types of parent participation that parents could have with parenting programs, influenced by the connection factor: *direct* (attending sessions and

gaining information) and *indirect* (not attending sessions but receiving relevant information from a peer or spouse that is attending). Thus, parents could have a connection with the program without planning to engage with it directly.

3.4.4 Limitations of existing conceptual frameworks

While the three abovementioned conceptual frameworks provide a firm platform for beginning to understand parental initial engagement, they have several limitations. First, while Piotrowska and colleagues' (2017) framework provided new insights into the potential of direct and indirect connection with parenting programs, it focused on the Attendance and Enactment stages of the framework. Thus, it did not provide in-depth detail nor theoretical understanding of initial parental engagement in preventive parenting programs.

Each of the described frameworks used different health behaviour theories and models to develop an understanding of parental engagement (McCurdy & Daro, 2001; Piotrowska et al., 2016; Randolph et al., 2009). However, there was only limited discussion in each of these papers regarding the reasons for each health behaviour theory and model being chosen (or not) for inclusion. Thus, several of the theories discussed in Section 3.2 of this thesis could influence parental engagement but they have not been listed in the currently used conceptual frameworks. For example, while Randolph and colleagues (2009) only discussed the HBM, TRA and Family System Factors, other models such as the SEM could influence parents' engagement with preventive parenting programs.

In addition, McCurdy & Daro (2001) and Randolph and colleagues (2009) were not specific to preventive parenting programs with regard to adolescent mental health. Therefore, it is unknown whether all of the factors listed related to parents' engagement in preventive programs for adolescent mental health and if there were any factors missing. For example, parents in previous studies have that reported that stigma, fear and shame played a role in

engagement (Koerting et al., 2013). However, stigma is not highlighted in any of the conceptual frameworks as a factor directly affecting initial engagement.

Finally, there has been an increase in research interest in parental initial engagement in the past five years, as is evident from the two systematic literature reviews (Koerting et al., 2013; Mytton et al., 2014) that have been completed since both McCurdy and Daro (2001) and Randolph and colleague's (2009) conceptual frameworks were published. Therefore, there may now be new research insights that could be gained from the development of an updated conceptual framework that is more specific to parental initial engagement in preventive parenting programs for adolescent mental health problems.

3.5 Current study

3.5.1 Rationale

Adolescent mental health problems are a leading cause of disability and disadvantage worldwide (Lawrence et al., 2015; WHO, 2016a). Parents have an important role in the prevention of adolescent mental health problems (WHO & the Calouste Gulbenkian Foundation, 2014).

One strategy that has been developed and has demonstrated effectiveness in assisting parents with learning the skills and knowledge required to prevent mental health problems in their adolescents has been the use of preventive parenting programs (Sanders et al., 2008; Sandler et al., 2011; Yap et al., 2016). Despite the potential long-term benefits of preventive parenting programs, there have been consistently low levels of parental engagement in them and ongoing recruitment concerns (Gross et al, 2001; Ingoldsby, 2010; Orrell-Valente et al., 1999; Panter-Brick et al., 2014).

There has been recognition within the preventive parenting literature that while understanding parental engagement is important for developing evidence-based and effective parenting programs, much of this research to date has focused on ongoing engagement

(Chacko et al., 2016; Ingoldsby, 2010; Mytton et al., 2014). With Chacko and colleagues' (2016) finding that over 50% of target populations of parents do not engage with or even attend the first session of preventive parenting programs, more research is needed to increase our understanding of initial engagement.

Research that has been conducted in the area of initial parental engagement in preventive parenting programs is limited and scattered. Quantitative research, including RCTs of preventive parenting programs, has alluded to several different types of factors (e.g., parent and child age, gender and mental health symptoms) that could influence parental engagement, but commonly researched factors have not yielded reliable results across studies (see Paper 1). Further, qualitative research with engaged parenting program participants and facilitators has found a range of factors (see Paper 1 and Section 3.2) that could influence parental engagement, several of which are different to those commonly measured in quantitative studies (Koerting et al., 2013; Mytton et al., 2014). However, qualitative studies to date have not captured all stakeholder opinions, particularly those of non-engaged parents and non-parental stakeholders who might refer parents to parenting programs. Additional qualitative research with multiple stakeholders would enable a greater understanding of the complexity and nuances of parental initial engagement.

Moreover, researchers have developed conceptual frameworks to (1) synthesise the current literature and (2) provide researchers with guidance about the potential next steps. These conceptual frameworks could provide researchers with potentially modifiable factors that could be targeted to increase parental engagement. They are commonly informed by individual health behaviour models. However, there appears to be several additional individual health behaviour models and socio-ecological health behaviour theories that might further enhance researchers' understanding of parental initial engagement (see Chapter 3.4).

None of the three frameworks that have been identified (McCurdy & Daro, 2001; Piotrowska et al., 2017; Randolph et al., 2009) has focused specifically on parental initial engagement in preventive parenting programs to reduce adolescents' risk of developing mental health problems. In addition, further research has been conducted since their publication, which may affect the factors reported within those frameworks. Therefore, a new conceptual framework is needed that focuses on parental initial engagement in preventive parenting programs for adolescent mental health.

3.5.2 Aims

To address some of the gaps highlighted in research to date, the second part of this thesis aims to:

1. Examine the barriers and enablers to non-engaged parents initially engaging in a preventive parenting program, through qualitative semi-structured interviews with parent and non-parent stakeholders (Paper 2). Further this study aims to:
    a. Explore the similarities and differences in non-engaged parents and non-parental stakeholders' views of barriers and enablers to parental engagement
    b. Explore the similarities and differences in non-engaged parents and previously researched engaged parents' views about the barriers and enablers to parental engagement
    c. Ascertain any potentially modifiable factors that could be used to increase parental initial engagement in future studies.
2. To develop an evidence-informed conceptual framework of parental initial engagement, to guide further research and recruitment method development, based on (a) the published recruitment literature, (b) stakeholder interviews, and

(b) previously developed health behaviour models and frameworks of parental engagement (Chapter 6).

Chapter 4: Research methodology and methods

This chapter presents the overarching methodological framework for this thesis including a description of the overarching epistemology, and brief account of the qualitative methodology and ethical procedures used. Then an overview of the data integration and triangulation procedures used to develop the evidence-informed conceptual framework is presented. Chapter 5 provides a more comprehensive account of the methodology for Paper 2, a qualitative study.

4.1 Epistemology: Critical realist approach

Epistemology refers to how we know what we know. Specifically, it is "a theory of knowledge, which determines what counts as valid or accepted knowledge, and also therefore how . . . we go about obtaining or producing that knowledge" (Braun & Clarke, 2013, p. 330). In the current project, my approach emphasised language and its influence on the ultimate reality, thus grounding it in the epistemological position of critical realism. Critical realism argues that while it is not possible to reduce the world to observable objects and facts (the positivism approach), it is superficial to focus on only a person's social construction of reality (the social constructionism approach) (Braun & Clarke, 2013). Therefore, critical realism assumes that there is an ultimate reality but claims that the way this reality is experienced by participants is interpreted and shaped by language, culture and politics (Braun & Clarke, 2013). The current research employed an epistemological framework of critical realism, as it was interested in understanding the multiple versions of important stakeholders' understandings of a shared reality, shaped by their culture, language and experience. The first central aspect to critical realism is a strong conviction regarding there being one 'reality' and that there is a possibility of identifying it (Alvesson & Skolderg, 2017). Something is considered real if it has a causal effect: for example, if it affects behaviour and makes a difference. This can include material objects, ideas and discourses. Thus, ideas about

ethnicity, gender and parenting can have causal effects, as they are real in the sense that they work as mechanisms of causal effects of parental intention to enrol in preventive parenting programs. Second, critical realists argue that all events are caused by multiple interactions (Bhaskar, 1975), including individuals' interactions with each other as well as with social structures (Archer, 1995). Therefore, it is important to include multiple stakeholders from multiple social structures and once these views have been collected, it is important not to discount multiple possible reasons for non-engagement. Third, a critical realist approach assumes that understandings are historically and culturally specific (Alvesson & Skolderg, 2017). In this current research, historical and cultural specificity was ensured by asking parents about their decision making in relation to other family members, and professionals about the 'typical parent' with whom they worked. In addition, this detail was captured during the coding stages of the analysis, to ensure ongoing specificity in the resulting themes. When combined, these two aspects gave me the ability to question whether it would be possible to discover single answers to questions such as why parents find it difficult to engage in parenting programs, in a manner that applied to *all* people. These aspects of critical realism assisted in guiding the current research, including the emphasis that was placed on gaining multiple stakeholders' perspectives.

Finally, using a critical realist approach allowed this research to develop a fuller awareness of the complex network of factors that affect parental intention to enrol in preventive parenting programs, through creating an understanding of both the theoretical and observable elements (Alvesson & Skolderg, 2017). For this thesis, the theoretical elements included the previously developed theories and stakeholder interviews (see Chapters 3, 5 and 6), while the observable elements included the outcomes of previous quantitative research, as summaries of the systematic literature review in Chapters 2 and 3. Through the investigation and identification of relationships and non-relationships between what is experienced and

what 'actually' happens, the underlying mechanisms that can produce the event of parents enrolling in a preventive parenting program can be understood or elucidated (Danermark et al., 2002).

4.2 Stakeholder views of parents' intention to enrol

The purpose of this study was to examine the barriers and enablers to non-engaged parents initially engaging in a preventive parenting program, through qualitative semi-structured interviews with parent and non-parent stakeholders

4.2.1 Study design

The study employed an iterative thematic qualitative approach (Braun & Clarke, 2013), underpinned by a critical realist approach (as explained in Section 4.1.1). To answer the current research questions, I attempted to access participants' perceptions about parental engagement and, specifically for parents, their decision-making processes. Hence, semi-structured interviews were conducted with a range of stakeholders in preventive parenting programs, including parents, parenting program facilitators and referring teachers, school well-being coordinators and school psychologists.

4.2.2 Researcher's influence on the study design

Rossman and Raliis (2011) indicated that the researcher's experiences, beliefs and values could influence the research design and analysis of data. Therefore, it is important for the interviewer to reflect actively on their interpretations of individuals and of the data itself. In this study, this was achieved through an observational process of writing notes after each interview and checking in with supervisors, where necessary, to deconstruct the interviewer's ideas and interpretations of the situation. In particular, my position as an 'expert' (e.g. a provisional psychologist and doctoral student), a highly educated, Caucasian, woman from a dual-parent, middle-class socio-economic family, can affect my interview style, analysis of key themes, and how participants from each stakeholder group interact and engage with me,

in my role as 'researcher'. More specifically, I have identified two ways in which my experiences, beliefs and values may have had on the research, namely: (1) difficulties in building rapport with some parents, as I am not a parent; and (2) my responses to triggering issues that arose during the interviews (e.g., suicidality).

4.2.2.1 Building rapport and being an outsider researcher

Many researchers position themselves as 'insiders' by conducting research with participants who are similar to themselves through identity, language and experience (Dwyer & Buckle, 2009; Kouritzin, Piquemal, & Norman, 2009). There are many documented advantages of 'insider' research, such as faster and more complete acceptance of the researcher by participants, which may allow for greater depth of information to be collected (Dwyer & Buckle, 2009). However, there are also disadvantages, such as the tendency for researchers to believe they know the culture of the community, and perceptions and concerns of the participants with regard to confidentiality, which may affect what information is reported (Asselin, 2003). Of importance for parents in this research were concerns about confidentiality and the potential for judgements to be made about their parenting because of their non-engagement in parenting programs. While I could not build rapport with parents through shared stories common to parenting children, I could provide a confidential and judgement-free space for parents to divulge the complexities surrounding engagement in parenting programs.

4.2.2.2 Triggering issues during interviews

During the interviews with both parents and professionals, topics arose that required me, as the researcher, to maintain rapport while being sensitive to the issue at hand. One example of this involved a parent's disclosure of child mental health concerns and previous suicidality in their child. Although this research was positioned within the area of preventing child mental health problems, several parents disclosed previous experiences of mental health

and suicidal ideation concerns for their children. They reported not attending programs to prevent mental health problems in their children before these concerns arose, and now felt guilty, as perhaps their engagement could have assisted in preventing these concerns from arising for their children. Guilt around non-engagement in parenting programs was more pronounced for parents whose children subsequently had mental health problems. As the researcher, although I knew it was important to gain an understanding about the level of distress that this disclosure caused for parents, I often offered to pause or end the interview if any level of distress was detected. These disclosures could have affected the level of detail I was willing to request from parents, as I did not want to further distress or upset parents. In addition, ensuring both parents and children were being followed up by appropriate mental health support after the end of the interview was important for the ongoing well-being of the participants.

4.2.3 Participants

Three groups of participants were included in this study: parents, parenting program facilitators and referring teachers/school well-being coordinators/school psychologists (referred to collectively as 'high school staff', HSS). All participants were required to be aged 18 or more years and to be proficient in English. Parents were required to have at least one child in high school. These parents must, at some point, have been offered a preventive parenting program for adolescent mental health but had declined to engage.

Parenting program facilitators were required to have experience in working with the parents of adolescents in parenting programs. The parenting program facilitators in this study were regularly involved in conversations with parents who were making decisions about attending parenting programs. The final group of participants, HSS, were often the first point of contact for many parents looking for information on preventive parenting programs and

therefore, could have another unique perspective on the barriers to parents attending the programs.

4.2.3.1 Participant recruitment

Several means of recruitment were used. Non-engaged parents were recruited through replying to an advertisement placed on sites such as Monash Memo (online newsletter for Monash University) and Raising Children's Network (raisingchildren.net.au is a website that provides parenting support and a space for research advertisements). In addition, advertisements were placed on publically accessible websites that have a high volume of use including Facebook and Gumtree (buy, swap, sell website with a community advertisement page). Once an initial pool of non-engaged parents were recruited, a snowball sampling technique was implemented, whereby parents who had completed the interview sent further information about the research to friends and family who met the study's inclusion criteria. Many non-engaged parents reported having friends and families who had also chosen not to engage in a preventive parenting program. These friends and family members then contacted the researcher to arrange an interview.

Similar recruitment procedures were employed for both the parenting program facilitators and HSS. The research study was advertised through the researchers' professional contacts, such as Peninsula Health (a public healthcare provider). In addition, emails were sent to local councils (the publicly elected and run organisations which are specific to a local geographical area and handle community, recreational and town planning needs) that had been identified through an internet search as running parenting programs. A total of 17 parents, 11 parenting programs professionals and 15 HSS took part in short, 20- to 30-minute interviews. A summary of the relevant demographic characteristics of the sample are presented in Table 4.1. Parents were aged between 30 and 59 years, with three males and 14 females, while parenting program professionals were aged between 40 and 69 years, with one

male and 10 females. Finally, HSS were aged between 20 and 69 years, with two males and 13 females.

Table 4.1

Summary of Participant Characteristics

	Parents (N = 17) n, %	**Facilitators (N = 11) n, %**	**HSS (N = 15) n, %**	**Total (N = 43) n, %**
Age range				
20–29	0, 0%	0, 0%	1, 6.6%	1, 2.3%
30–39	4, 23.5%	1, 9.1%	4, 26.6%	9, 20.9%
40–49	6, 35.3%	4, 36.3%	5, 35.7%	15, 34.8%
50–59	6, 35.3%	4, 36.3%	4, 26.6%	14, 32.5%
60–69	1, 5.9%	2, 18.2%	1, 6.6%	4, 9.3%
Sex				
Male	3, 17.6%	1, 9.1%	2, 13.3%	6, 13.9%
Female	14, 82.4%	10, 90.9%	13, 86.6%	37, 86.0%
Education level				
Some high school	2, 11.7%	0, 0%	0, 0%	2, 4.6%
High School Certificate	1, 5.9%	0, 0%	0, 0%	1, 2.3%
TAFE* Education or Diploma	4, 23.5%	0, 0%	0, 0%	4, 9.3%
Undergraduate University degree	5, 29.4%	3, 27.2%	4, 26.6%	12, 27.9%
Post-graduate University degree	4, 23.5%	8, 72.7%	11, 73.3%	23, 53.4%
Other	1, 5.9%	0, 0%	0, 0%	1, 2.3%
Number of children				
1	3, 17.6%	n/a	n/a	n/a
2	9, 52.9%	n/a	n/a	n/a
3	3, 17.6%	n/a	n/a	n/a
4	2, 11.7%	n/a	n/a	n/a
Relationship to child				
Mother	14, 82.4%	n/a	n/a	n/a
Father	3, 17.6%	n/a	n/a	n/a
Legal Guardian	1, 5.9%	n/a	n/a	n/a

Note:
*TAFE or 'Technical and Further Education' is an institution that provides a wide range of predominantly vocational tertiary education courses (e.g., graduate/certificates and diplomas).

4.2.3.2 Data Saturation

Data saturation typically refers to the point in a qualitative research project where additional interviews or focus groups fail to generate new information (Braun & Clarke, 2013). As there has been much debate in the literature about how many participants are required to reach data saturation, this thesis used the following guidelines. Guest, Bunce and Johnson (2006) suggest that for research using purposeful sampling and thematic analysis (like this thesis), approximately 12 participants per group are required to achieve data saturation. Further, Morse (2000) identified that more generalised aims, more sensitive topics and less data being collected from each participant requires more participants. Therefore, while this thesis focused on a specific type of parenting program (preventing mental health problems) and a specific child developmental period (adolescence), due to the potential sensitivity for parents of the topic of mental health and non-engagement, this thesis aimed to recruit additional non-engaged parents to ensure enough data was collected to reach data saturation within this group.

To ensure that the estimated number of participants required achieved a sufficient level of data saturation, this thesis assumed that data saturation was achieved when; (1) when additional or new information being produced from interviews has decreased (Fusch & Ness, 2015; Guest et al., 2006); (2) when further coding is not feasible (Fusch & Ness, 2015; Guest et al., 2006) and (3) there is enough information for others to replicate the study (Fusch & Ness, 2015; O'Reilly & Parker, 2012; Walker, 2012). Thus, data saturation was achieved in this thesis, as no additional information or themes were being produced from further coding. Further, due to the time constraints of a Doctorate research project, there was limited time for coding and sufficient information has been provided should future researchers wish to replicate this study.

4.2.4 Interview development and administration

The interview questions were informed by the findings from the Paper 1 and Chapter 3. The questions were developed to elicit a wide range of potential barriers and to be as non-prescriptive as possible. An example of the interview for each stakeholder group guide is provided in Appendix B. Further discussion of the development of the interview questions is contained in Paper 2. All interviews were audio recorded, after consent was obtained. These interviews were then transcribed verbatim, checked for accuracy by the interview facilitator and imported into Nvivo (Nvivo Qualitative Data Analysis Software, 2010) for analysis. Where possible, the interviews were transcribed and initial coding was conducted before the next interview was conducted. This process assisted in the ongoing iteration of themes and interview questions, to ensure all possible topics were covered. Any identifying information, such as names and school names, were removed prior to analysis. In addition, during and immediately following the interviews, notes and observations were recorded. These observations were added to a linked memo for each transcript in Nvivo.

4.2.5 Data analysis

Thematic analysis techniques were employed to analyse the data (Braun & Clarke, 2006). Thematic analysis is a qualitative research methodology in which the researcher begins to form meaningful patterns linking the qualitative data set (Braun & Clarke, 2006). This process can be described as both inductive and deductive, as the researcher uses a combination of previous research, interview questions and participant statements to begin to code and analyse the data. Braun and Clarke's (2006) six-stage method of data analysis was followed. Through transcription and careful re-reading of the transcripts, data familiarisation occurred (Stage 1). Unstructured data coding was then conducted, in which important features of the data that might be relevant to answering the research questions? were identified (Stage 2). These codes were subsequently reduced into broader categories, or

themes (Stage 3), which Braun and Clarke (2006, p. 82) defined as "capture(ing) something important about the data in relation to the research question, and represent(ing) some level of patterned response or meaning within the data set" (see Figure 4.1 for an example of this process). Rigour was introduced during these steps through two researchers (myself and another PhD candidate) coding the first 20% of the transcripts (n = 8) and meeting to identify any discrepancies and discuss them until consensus regarding the initial coding structure was reached. I coded the remaining transcripts independently. Where possible, the participants' own words were used as code and theme labels (Stage 4). The themes generated were discussed with the supervisory team and a constant comparison process took place to ensure that all properties and dimensions of the themes were analysed (Stage 5). The themes formed the basis of this thesis (Stage 6).

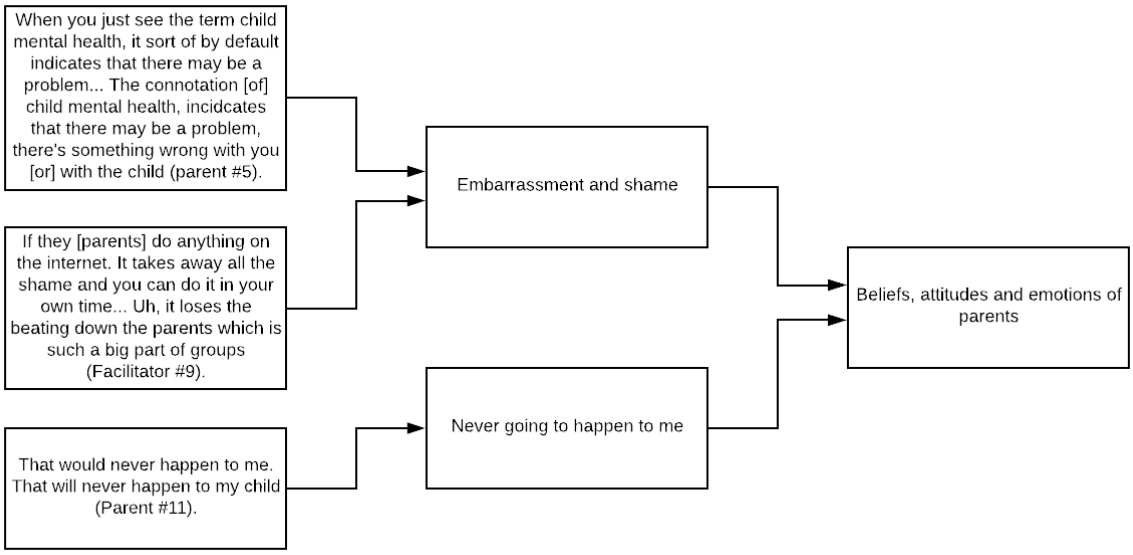

Figure 4.1. Analysis example, from transcriptions to themes.

4.3 Ethical procedures

Ethical approval for this study was obtained from the Monash University Human Research Ethics Committee (CF15/3374–2015001437). Ethics documentation (participant

information forms, consent forms and letters to school principals) for this study are provided in Appendix B.

4.4 Data integration and triangulation

Triangulation is an attempt to explain or map out the richness and complexity of human behaviour by studying it from more than one standpoint (Cohen, Manion, & Morrison, 2007). Critical realism facilitates triangulation through valuing qualitative and quantitative data equally (Alvesson & Skolderg, 2017). The triangulation and integration of data from the literature reviews (Paper 1 and 3.2), the qualitative study (Paper 2), the health behaviour models (Chapter 3.4) and the wider parental engagement literature occurs in the Discussion (see Chapter 6). This data integration was conducted in an effort to not only identify the important enablers and barriers to parents attending preventive parenting programs but also to uncover whether there was any existing health behaviour models, or whether a model could be created, to explain the complexities of parents' decision making regarding parenting programs.

4.5 Chapter conclusion

This chapter has provided the rationale for, and a description of, the methods that were used to inform the guiding research questions of this thesis. These methods included qualitative interviews. The overarching methodological framework has been characterised by the integration of both previous research (described in Paper 1 and Chapter 3) and the qualitative study (described in Paper 2) which is underpinned by a critical realism epistemology. This approach facilitated the integration of the perspectives of various key stakeholders to inform the development of an integrative model pertaining to the barriers and facilitators of parental initial engagement in preventive parenting programs.

Chapter 5: Parents' intention to enrol in preventive parenting programs for adolescent mental health: Stakeholders views

5.1 Preamble

Axford and colleagues (2012), along with other researchers (Aarons et al., 2009; Bickman & Rog, 2009) have underscored the significance of including multiple stakeholders in parental engagement in parenting programs. They found that stakeholders such as non-engaged parents were able to provide an important and unique perspective regarding the barriers to parental initial engagement. Parenting program facilitators and referring professional staff such as HSS (e.g., teachers, well-being coordinators and psychologists) could act as gatekeepers for parents; therefore, their opinions of parental engagement need to be understood as well (Axford et al., 2012). As there has been limited research conducted with non-engaged parents and other key stakeholders who refer parents to preventive parenting programs, it was important in this study to examine their unique knowledge and understanding of preventive parenting programs and the barriers and enablers to parental initial engagement. The results of a qualitative study of parental and non-parental stakeholders are presented here in the form of a paper titled "Parents' intention to enrol in preventive parenting programs for adolescent mental health: Stakeholders' views", which has been submitted to the *Journal of Clinical Child and Adolescent Psychology* for publication. (This paper refers again to some content that have been traversed in earlier sections of this thesis). Please note that "Author A" as referred to in the submitted paper (due to the Journal's blinded review process) is the author of this thesis (Samantha Finan).

The aim of this paper was to examine the barriers and enablers to parental initial engagement in preventive parenting programs and the ways these factors differed for different stakeholder groups, to inform recommendations of appropriate and relevant

modifications to recruitment methods and preventive parenting programs to increase parents' initial engagement. This paper focused on initial engagement in preventive parenting programs that aimed to reduce the risk of adolescents developing mental health disorders. The methodology for this study is presented, followed by the findings of a thematic analysis of transcripts from 43 semi-structured interviews. The paper closes with a discussion of the findings, which is developed further in the integrated discussion in Chapter 6. The interview guide for each stakeholder group is provided in Appendix B.

5.2 Paper 2: Parents' intention to enrol in preventive parenting programs for adolescent mental health: Stakeholder views

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Abstract

The purpose of this study was to discover the enablers and barriers that are associated with parental intention to enrol in preventive parenting programs that focus on adolescent mental health. An iterative thematic qualitative approach was used. We conducted semi-structured interviews with 43 participants across three stakeholder groups: (1) non-engaged parents (parents of adolescents who had been offered a preventive parenting program and had declined to engage; n = 17); (2) parenting program facilitators (facilitators of preventive parenting programs focusing on adolescent mental health in Australia; n = 11); and (3) referring HSS members (high school staff members who have referred parents to preventive parenting programs, including student well-being officers, teachers and school psychologists; n = 15). The participants were aged between 20 and 69 years. Most of them were female (86%; n = 37), and had completed at least some form of tertiary education (90%; n = 39). Transcriptions were analysed using inductive and deductive methods. The stakeholder groups reported different understandings of many of the themes. Further, themes reported by parents but not by facilitators included; parents' belief that mental health problems are not a problem for their child, the private nature of mental health, and adolescent engagement in the program. Additionally, parents' expressed embarrassment and shame and the attitudes of significant others about program engagement were not mentioned by HSS. The implications of these findings are discussed, including the need for community-wide strategies and campaigns to decrease perceived stigma and the provision of different parenting program modalities.

Keywords: Recruitment, engagement, qualitative, barriers, prevention

Introduction

Mental health problems, including dysregulation of mood, thought or behaviour (American Psychiatric Association, 2013), are one of the leading causes of disability and disadvantage for adolescents worldwide (WHO, 2016). In an effort to curb the development of mental health problems in adolescents, significant efforts have been made to develop a range of evidence-based preventive interventions. One such intervention is preventive parenting programs, which aim to increase positive parenting behaviours, knowledge and confidence while reducing the prevalence of mental health problems in adolescents (Sanders et al., 2008). Recent reviews of randomised controlled trials examining the effectiveness of preventive parenting programs have demonstrated that these programs can reduce the incidence of both internalising disorders such as anxiety and depression (Yap, Morgan, Cairns, Jorm, Hetrick & Merry, 2016), and behaviour problems or externalising disorders, such as conduct disorder (Sandler et al., 2011, 2015). However, researchers have consistently reported difficulties in engaging parents in these preventive parenting programs (Gross et al., 2001; Orrell-Valente et al., 1999; Panter-Brick et al., 2014), which has limited the effectiveness of these programs at the population level. Therefore, there is a need to understand what modifications can be made to recruitment methods and parenting programs to increase parents' engagement.

Two suggested 'stages of engagement' have been proposed, and although to date researchers have not reached a consensus on the definition of parental engagement, there are similarities in the way these stages are conceptualised. *Initial engagement* is often seen as parents' intent to enrol, or actual enrolment, in a program (Dumas et al., 2007; McCurdy & Daro, 2001; Spoth, Redmond, & Hockaday, 1996). A behavioural intention (in this case, intention to enrol in a parenting program) has been defined as the "subjective probability that he or she will engage in a given behaviour" (IOM Committee on Communication for

Behavior Change in the 21st Century, 2002, p. 31). In contrast, *ongoing engagement*, which is commonly suggested as the second stage, refers to parents' attendance, the retention of parents throughout the program, and program completion (Dumas et al., 2007; Ingoldsby, 2010). *Ongoing engagement* has been recognised as an important factor in the field of preventive parenting programs, because parents who receive the full intervention dose are likely to gain the most benefit for themselves and their children (Morawska & Sanders, 2006). Researchers evaluating preventive parenting programs have examined parents' engagement in these programs in various ways. These studies have most commonly explored the perspectives of parents who have attended a parenting program or the opinions of program facilitators about ways to increase parents' engagement (Barrett, 2008; Kane et al., 2007; Mytton et al., 2014). These studies have concluded that parents value the opportunity to learn new skills if these programs are, provided at a convenient time and place (see Koerting et al., 2013 and Mytton et al., 2014 reviews).

In contrast to the growing research on ongoing engagement in parenting program research protocols, the issues of initial engagement and parents' intention to enrol have been neglected (Finan et al., 2018). Low levels of parental enrolment could lead to either an under-reporting or an over-reporting of the effectiveness of these programs to prevent mental health problems in adolescents (e.g., parents with a homogenous set of characteristics making them more likely to improve may also be more likely to self-select into the program being offered, Spoth & Molgaard, 1993; Spoth & Redmond, 1995). Additionally, parents who do not enrol in a program do not benefit from developing the critical skills required to prevent child mental health problems (Morawska & Sanders, 2006). The reasons for parents not initially engaging with parenting programs (i.e., becoming 'non-engaged parents') have been linked to widely-known individual health behaviour theories, including the TPB (Ajzen & Driver, 1991), the Health Belief Model (Rosenstock, 1974), and the Stages of Change Model

(Prochaska, DiClemente, & Norcross, 1992). For example, McCurdy and Daro (2001) and Randolph and colleagues (2009) used both the TPB and the Health Belief Model to suggest that parents' attitudes, subjective norms, readiness to change parenting behaviours and perceptions about their child's risk of developing a mental health problem affect a parent's readiness and intention to enrol in a parenting program.

The limited research conducted with parents to date has suggested that several program-specific obstacles hinder many parents' intentions to enrol, including transportation, the timing of the intervention (both the scheduling of the program and the contextual timing; i.e., when a child is well versus unwell) and the program location (Birkin et al., 2008; Spoth et al., 1996). Parental and social perceptions also have an influential role in parental decision making. In particular, stigma can be associated with accessing a parenting program, especially programs focused on mental health. Stigma has been define as the perception of being flawed owing to a personal or physical characteristic that is regarded as socially unacceptable (Blaine, 2000; Vogel et al., 2006). This includes both self-stigma, when a parent internalises societal stigma (Eaton et al., 2016) and perceived stigma, which comprises a parents' perception of the public reaction towards a person (Vogel et al., 2006). This can include those persons who seeks intervention, particularly interventions which are linked to stigmatised conditions, such as mental health (Vogel et al., 2006). Additional barriers, such as the potential loss of family privacy, have been hypothesised to increase parental concerns about being stigmatised (Barlow et al., 2005; Bell, 2007; Dyson et al., 2009; Heinrichs et al., 2005; Spoth et al., 1996).

Although intention to enrol in a parenting program is a parent-specific behavioural intention, there is value in understanding not only the perspectives of parents who do or do not enrol in preventive parenting programs but also of those professionals who are involved in program design/delivery and referral. These non-parental stakeholders could offer valuable

insights into the potentially modifiable enablers and barriers that are linked with the parenting program. For example, using post-trial surveys of stakeholders, Axford and colleagues (2012) demonstrated that stakeholders, including potential referrers to parenting programs (e.g., staff from organisations, such as children's centres, being used as referral pathways) were acting as gatekeepers for parents. Specifically, stakeholders were making decisions about what the parents needed and to which programs to refer them, based on their conversations with the parents. Further, based on their experience of engaging, or trying to engage, with a multitude of parents in their professional capacity, non-parental stakeholders could offer insights into the pertinent factors that influence parental engagement in programs, which could be more far-reaching than a single qualitative study of parents.

In summary, although considerable research has examined the reasons for some parents not enrolling or engaging in preventive parenting programs, to date, knowledge gaps in this area persist. Most of the existing studies (see reviews by Kane, Wood, & Barlow, 2007; Koerting et al., 2013; Mytton et al., 2014) have captured the views of parenting program facilitators and *engaged* parents (i.e., parents who have enrolled in programs), with a focus on what the parents perceived as helpful about these programs. However, different stakeholders (including non-engaged parents, professionals who refer parents to programs, and program facilitators) have unique perspectives and experiences that can reveal valuable insights into the important barriers and enablers to parental intention to enrol.

This current study aimed to extend the existing literature through qualitative interviews with various stakeholder groups. Qualitative methods are useful when little is known about a particular area of a discipline (Southam-Gerow & Dorsey, 2014; Palinkas, 2014), as well as when there is more than one stakeholder group whose perspectives may be unknown or poorly understood (Rodríguez et al., 2014). Specifically, the current study aimed to examine (1) the barriers and enablers of parental initial engagement from the perspectives

of three stakeholder groups: non-engaged parents, facilitators of preventive parenting programs, and HSS who refer parents to programs; and (2) the value of multiple stakeholders' perspectives for increasing our understanding of the barriers and enablers of parental intention to enrol in preventive parenting programs. HSS were included as one of the stakeholder groups because they are often the first point of contact for many parents looking for information on preventive parenting programs, and could have unique views on the barriers to parents attending. The findings from this study could be used to inform recommendations for appropriate and relevant modifications to recruitment methods and preventive parenting programs, to increase parents' initial engagement.

Method

The current study used an iterative thematic qualitative approach (Braun & Clarke, 2013), operating through a critical realism ontology lens, which assumes that there is an ultimate reality, "but claims that the way the reality is experienced and interpreted is shaped by culture, language and political interests" (Braun & Clarke, 2013, p. 329). This approach posits that the notion of parenting, as well as perceptions of parenting programs, is influenced by the culture, people, communities and society surrounding the participants. Semi-structured individual interviews were undertaken across three stakeholder groups: (1) non-engaged parents of an adolescent (parents who had declined to take part in a preventive parenting program); (2) preventive parenting program facilitators; and (3) referring HSS (i.e., any high school staff member who had referred a parent to a preventive parenting program). This study received ethics approval from Monash University Human Research Ethics Committee (CF15/3374–2015001437).

Recruitment procedures

Recruitment was conducted separately for all stakeholder groups, and purposeful sampling was employed to ensure that a variety of recruitment procedures was used to invite

participants from diverse backgrounds to take part in the study. Parents were recruited through advertisements in online newsletters and on relevant Facebook pages, community advertisement boards and invitations placed in school newsletters (where schools were known to be offering preventive parenting programs). The advertisements explicitly explained that the researchers were interested in speaking to parents who had declined to attend a preventive parenting program to support adolescent mental health. Interested parents were asked to contact the researchers via email for more information about the study and to participate. To recruit facilitators, the researchers contacted organisations known to be offering preventive parenting programs and provided information that could be placed in internal newsletters and emails. In addition, specific professional organisations were contacted and advertisements placed in newsletters and on websites. Examples of programs run by recruited facilitators included Triple P, Tuning in to Teens and other organisation-specific programs. Referring HSS were recruited through researchers contacting schools and asking for advertisements to be emailed to all relevant school staff. Depending on the school's organisational structure, this included student well-being teachers, school counsellors or psychologists, home-group teachers and subject teachers. For all three stakeholder groups, snowballing procedures were implemented, with participants encouraged to pass information on to others where appropriate. Participants received a $20 gift card for their participation.

Participants

Forty-three people participated in the current study, including 17 parents, 11 parenting program facilitators and 15 referring HSS. All participants in the current study were required to (1) be over the age of 18 years, (2) speak English and (3) live in Australia. Parents met inclusion criteria if (1) they had at least one adolescent (aged over 12 years) and (2) they had been offered a preventive parenting program for adolescent mental health and they had

declined to engage. Parenting program facilitators were facilitators of preventive parenting programs for adolescent mental health in Australia. The third participant group included any HSS member who had referred parents to preventive parenting programs. Most participants were women (n = 37) and were aged between 20 to 69 years (see Table 1).

Table 1

Summary of Participant Characteristics

	Parents (N = 17) n, %	**Facilitators (N = 11) n, %**	**HSS (N = 15) n, %**	**Total (N = 43) n, %**
Age range				
20–29	0, 0%	0, 0%	1, 6.6%	1, 2.3%
30–39	4, 23.5%	1, 9.1%	4, 26.6%	9, 20.9%
40–49	6, 35.3%	4, 36.3%	5, 35.7%	15, 34.8%
50–59	6, 35.3%	4, 36.3%	4, 26.6%	14, 32.5%
60–69	1, 5.9%	2, 18.2%	1, 6.6%	4, 9.3%
Sex				
Male	3, 17.6%	1, 9.1%	2, 13.3%	6, 13.9%
Female	14, 82.4%	10, 90.9%	13, 86.6%	37, 86.0%
Education level				
Some high school	2, 11.7%	0, 0%	0, 0%	2, 4.6%
High School Certificate	1, 5.9%	0, 0%	0, 0%	1, 2.3%
TAFE* Education or Diploma	4, 23.5%	0, 0%	0, 0%	4, 9.3%
Undergraduate University degree	5, 29.4%	3, 27.2%	4, 26.6%	12, 27.9%
Post-graduate University degree	4, 23.5%	8, 72.7%	11, 73.3%	23, 53.4%
Other	1, 5.9%	0, 0%	0, 0%	1, 2.3%
Number of children				
1	3, 17.6%	n/a	n/a	n/a
2	9, 52.9%	n/a	n/a	n/a
3	3, 17.6%	n/a	n/a	n/a
4	2, 11.7%	n/a	n/a	n/a
Relationship to child				
Mother	14, 82.4%	n/a	n/a	n/a
Father	3, 17.6%	n/a	n/a	n/a
Legal Guardian	1, 5.9%	n/a	n/a	n/a

Note:
*TAFE or 'Technical and Further Education' is an institution that provides a wide range of predominantly vocational tertiary education courses (e.g., graduate/certificates and diplomas).

Study procedures

Following the return of a signed consent form, either a face-to-face (n = 11) or telephone (n = 32) interview was scheduled. At the beginning of each interview, all participants completed demographic information forms. Semi-structured interviews were conducted between September 2015 and December 2016 and ranged from 10 to 60 minutes' duration (average 20 minutes). Interviews were audio recorded, with each participant's consent, and were transcribed verbatim and then de-identified.

All interviews were conducted by Author A (an advanced doctoral student in Clinical Psychology) and commenced with an explanation of the research aims and objectives. Parents were asked to think about a specific time when they had not attended a parenting program and this example was used to guide the interview. In contrast, facilitators and HSS were asked about programs they had either facilitated or referred parents to, as well as to consider some of the reasons that accounted for parents' non-engagement. The semi-structured interview consisted of 10 questions focusing on the following three aspects of parental engagement (variations for non-parental stakeholder interviews are shown in square brackets): (1) the barriers and facilitators of parental engagement (e.g., "Did you ever think you would enrol in the program, and then change your mind? What changed your mind?" ["What do you believe are the reasons for parents and families deciding not to participate in a parenting program?"]); (2) potential solutions to these barriers (e.g., "Are there any changes that could be made to the program to increase your likelihood of attending?" ["What changes could be made to parenting programs that would make parents more likely to attend or complete?"]); and (3) parental decision-making strategies (e.g., "How did you and your family make the choice not to participate?" ["Do you think there are any additional reasons why parents may find it difficult to engage with parenting programs that are aimed at preventing child mental health problems?"]). Additionally, probing questions (e.g., "Can you

tell me more?”) were used to obtain a rich picture of participants’ experiences of engagement in preventive parenting programs.

Data analysis

All interview recordings were transcribed by research assistants and checked for accuracy by Author A. Transcriptions were then de-identified by removing any references to names, ages, places or schools before being uploaded into NVivo 11.4.0 (QSR International Pty Ltd, 2015) for coding. Data analysis followed Braun and Clarke’s (2006) six-stage thematic analysis approach, drawing upon both inductive and deductive strategies, and was conducted by Authors A and D, under the supervision of Author B. First, data familiarisation occurred through careful re-reading of the transcripts. Next, inductive and unstructured data coding was undertaken, in which important features of the data that might be relevant to the research question were identified. Rigour was introduced during these steps through Authors A and D coding 20% of the transcripts (n = 8) and meeting to identify discrepancies and discuss until consensus regarding the initial coding structure was reached. Author A coded the remaining transcripts independently. These codes were subsequently reduced to broader categories or themes (Stage 3), which Braun and Clarke (2006, p. 82) defined as “capture(ing) something important about the data in relation to the research question, and represent(ing) some level of patterned response or meaning within the data set”. Participants’ own words were used as code and theme labels where possible. At this point in the analysis (Stages 4 and 5), following the advice of Braun and Clarke (2006), higher level themes were developed, with similar codes redefined to capture the predominant patterns in the data. The themes generated were then discussed with the research team and their definitions were refined; constant comparison took place throughout the analysis to ensure that all properties and dimensions of themes were analysed.

Data saturation was achieved as no additional information or themes were produced from further coding (Fusch & Ness, 2015; Guest et al., 2006). Guest, Bunce and Johnson (2006) suggest that for research using purposeful sampling and thematic analysis, approximately 12 participants per group are required to achieve data saturation. A total of 43 people participated in the current study, including 17 parents, 11 parenting program facilitators and 15 referring HSS. These group sample sizes are similar to other qualitative studies, including Davis and colleagues (2012), which interviewed family day care workers about understanding and experience of promoting children's emotional wellbeing. The group sample sizes were thus regarded as sufficient to achieve data saturation.

Findings

The findings of this study reflected three broad, inter-related themes that were reported to affect parental intention to enrol in preventive parenting programs: (1) beliefs, attitudes and emotions of parents; (2) attitudes and behaviours of significant others; and (3) preventive parenting program-related factors. Interestingly, not all key themes were reported by all stakeholder groups. In fact, themes that many non-engaged parents reported throughout their interviews as important, including; mental health problems not being a problem for their child (never going to happen to me), the private nature of mental health (private and family business) and adolescent engagement in programs, were not mentioned by facilitators. Additionally, the embarrassment and shame expressed by parents and the attitudes of significant others, such as family members and peers, were not mentioned by HSS. On the contrary, parents discussed all the key themes raised by facilitators and HSS. Table 2 shows which stakeholder groups reported on these themes and associated subthemes.

Table 2

Summary of Main Themes and Subthemes Reported by Each Stakeholder Group

Theme	Parents	Facilitators	HSS
Beliefs, attitudes and emotions of parents			
Never going to happen to me	X		X
Embarrassment and shame	X	X	
Private and family business	X		X
Whose responsibility is it?	X	X	X
Attitudes and behaviours of significant others			
Attitudes of family, partners and peers	X	X	
Adolescent engagement in program	X		X
Preventive parenting program-related factors			
Framing of advertisements	X	X	X
Scheduling	X	X	X
Program type and modality	X	X	X
Incentives	X	X	X
Location and transportation	X	X	X

Beliefs, attitudes and emotions of parents

Never going to happen to me. Parent participants commonly mentioned their beliefs and attitudes as a major factor in influencing their initial engagement in preventive parenting programs. The most frequently cited belief that they expressed during the early stages of their interviews was that mental health problems were never going to be a problem for their adolescent. They noted that as their adolescents were not currently exhibiting mental health or behavioural problems, they did not require a preventive parenting program and thus never

intended to enrol. For example, parent #11 reported that many parents might not want to engage in a parenting program because;

That would never happen to me. That will never happen to my child. . . Um, I don't need to know about that because it's never going to be an issue for me.

In contrast, the facilitators and HSS tended to construct a narrative around more general program relevance as the main factor underpinning parental enrolment intentions. Facilitator #4 recounted that they often received an initial telephone call from parents but it never translated into attendance:

. . . then [the parent] never turn[s] up because they were never interested or they don't believe [the program is] relevant to them.

HSS reported that relevance was especially important in the case of multiple-session programs, because the possibility that not all the sessions would be directly relevant to all parents could discourage them from enrolling at all:

. . . because not all parts of it are relevant to them, they had to see that there was . . . some gain that they get personally. (HSS #7)

Embarrassment and shame. As the interviews progressed, parents began to report feeling strong emotions, such as embarrassment and shame, in relation to potential enrolment in a preventive parenting course. As Parent #3 explained:

I don't need to go to a parenting program. It sort of implies that I'm doing something wrong or I'm a bad parent.

They linked this response, at least in part, to concerns about stigma and the widely shared social beliefs about mental illness that see individuals with mental health problems as less valuable and more troubled than those without mental health issues. In addition, they mentioned the common perception that an adolescent's mental health reflected the quality of their parenting; therefore, if an adolescent had a mental health problem, they must be bad

parents. Parent #5 explained this fear, describing her concern that she and her child could be perceived as 'having something wrong' with them if she sought help:

> *When you just see the term 'child mental health', it sort of by default indicates that there may be a problem . . . . The connotation [of] child mental health indicates that there may be a problem, [is] that there's something wrong with you [or] with the child.*

Parents mentioned being the most concerned about the potential for school-based gossip and bullying that their adolescents might receive from other students if their parents were seen on the school grounds:

> *It has to be handled sensitively . . . if you rock up at these sessions, children feel like they're being pointed at . . . that's what [child's name] has said to me when I go up to the school. Everyone's like, "Oh, [child's name]'s mum is at the school" and everyone is like, "What's going on?" and everything's like [parent put her hand in front of her mouth and made whispering noises]. (Parent #10)*

Facilitators recognised some of the difficulties that parents faced in help seeking, particularly in relation to socially unacceptable adolescent behaviours (e.g., angry outbursts and drug use). As with the parent participants, the facilitators drew links between society's stigmatising beliefs regarding mental health within the community and the effect this had on parental participation in programs that provide information about mental health:

> *I think that there is still a massive stigma about mental health . . . parents are very guarded about that sort of stuff. (Facilitator #4)*

Thus, the facilitators echoed the sentiments of parents who were concerned about their adolescent and the parent themselves being stigmatised. This stigma was perceived by facilitators as reflecting parents' deeply held beliefs about mental health, as well as parents

feeling shame or embarrassment if they were to ask for assistance with issues such as mental health and behavioural problems.

The facilitators reported developing ways to reduce parents' shame and embarrassment to increase engagement in the programs. These strategies generally focused on the ongoing engagement of parents; that is, overtly working during the first session on reducing the embarrassment and shame that parents feel.

A small number of facilitators had attempted to increase parental initial engagement, by either making changes to program advertising to reduce any stigma and increase parental engagement, or introducing different program modalities. Facilitator # 8 explained changes to advertising as follows:

> *We're phrasing all of our posters in a very positive kind of way where parents can feel they're proactively, um, doing some things to enhance skills they may already have. Rather than if you've got some sort of deficit.*

Facilitator #9 reported moving towards recommending online parenting programs, which provided confidentiality and reduced the shame that parents felt:

> *If [parents] do anything on the internet, it takes away all the shame and you can do it in your own time . . . . Uh, it loses the beating down the parents, which is such a big part of groups.*

The theme of parental embarrassment and shame was not represented within the HSS participants' responses.

Private family business. Most parents considered mental health problems to be private family business. For example, Parent #14 reported'

> *The school has provided lots of information and sessions [on topics such as mental health and social media] . . . but again because we have managed it in-house . . . I have not needed to utilize them because it has not been an issue in our home*

In turn, this blocked their engagement in discussions with others outside the family unit, including the group settings commonly offered by preventive parenting programs.

The facilitators did not mention the idea that information shared in sessions could be seen by parents as private. However, HSS reported parents' concerns about discussing sensitive or 'private' topics, both in groups and individually with well-being staff. For example, HSS #11 said:

> *Obviously, they just want to fix [adolescent's presenting problem] but they don't want people to know that there are even issues.*

The statements from the HSS alluded to some of the difficulties involved in engaging parents in conversation topics that are traditionally considered 'private' and therefore were understood as issues that the family would deal with internally. The HSS suggested that additional modalities, such as online programs, could reduce this barrier. This suggested that the advertisement and information that parents received at the time of referral should be tailored to individual parents, to increase their perceived need to enrol in the entire program. The HSS were in a unique position to generate strategies to enhance the relevance and perceived need of the program because they often engaged with families before and during crises, such as first-time mental health concerns, episodes of bullying and academic issues. The HSS suggested that timing could be optimised to enhance engagement. One HSS member noted that when families were in the middle of a crisis, they were often more open and willing to take part in parenting and other programs. However, if the program could not be facilitated at the time of the crisis, the parents were less likely to enrol:

> *If someone is having a bit of a crisis with their young person, they might want something right then but then as it subsides, then they're like, "Well I don't want to go now, it's not relevant".* (HSS #10)

This strategy could be less effective for a preventive parenting program aimed at increasing parenting skills before a crisis develops for families.

Whose responsibility is it? Parents reported being unsure about who had responsibility for preventing child and adolescent mental health problems. Parents mostly agreed with Parent #1, who explicitly stated:

> *. . . I think it's still largely a parent's responsibility.*

However, there was also discussion about the way this role changed as a child moved from primary school to high school and the associated decrease in parental engagement in school activities as children grew older. By the time their children were in high school, there could be a 'black hole' about who was responsible and where parents could obtain further education about parenting during adolescences and prevention of mental health for adolescents. Parent #5 explained:

> *So . . . now whose responsibility it is to provide that education—this is where there's a bit of a black hole. Yes, the school, yes, they have a bit of a responsibility but . . . it's not really their mantle; it's really the parents to provide the education for the children . . . in respect to supporting them as they grow up through the difficult years.*

Facilitators mentioned the changes in responsibility as children moved into adolescence as well, particularly the difference in parental engagement in primary school and high school. Facilitators mentioned the importance of engaging and educating parents earlier, to take advantage of their higher level of engagement during the child's primary school years.

Finally, HSS acknowledged that the parent's own mental health could make it difficult for them to recognise that preventing mental health problems in adolescents was partly their responsibility. HSS #12 explained:

> *. . . they [non-engaged parents] found difficult or challenging to manage, you know, . . . made them feel uncomfortable, . . . ghosts from their own past [mental health battle].*

Attitudes and behaviours of significant others

Attitudes of family, partners and peers. The effect of significant others, such as their adolescents and other parents, was evident in the discussion with the parent participants. Most parents reported an informal process whereby they consulted with their partner or peers prior to deciding about program engagement. The format of this consultation varied, with many only speaking to their partner if they intended to enrol, either because they needed to arrange for the other parent to attend as well, or to arrange childcare. Parent #13 and her partner "had a few talks before about it" before subsequently deciding that the program they were offered was not pertinent to their family. In contrast, Parent #4 did not speak to their partner when deciding to engage, "mainly because [partner's name] never goes to anything like that". This suggested that partners and peers could play an important role within a family structure. Consequently, to increase parental intention to enrol, preventive program advertisements may need to appeal to all family members.

While parents reported collaborative decision making with their partner about their intention to enrol, facilitators perceived that partners or other family members could act as gatekeepers and discourage parents from engaging in a program:

> *Some parents' partners don't think [the parenting program is] necessary and act as a gatekeeper.* (Facilitator #2)

Other facilitators acknowledged the complexity for those parents who had a controlling partner or who experienced family violence, as they could be forbidden from attending a parenting program. These complex family and societal relationships that parents

have to negotiate could significantly influence parental intention to enrol and they should be considered by facilitators of parenting programs.

Adolescent engagement in the decision-making process. Parents had varied responses when asked if their adolescents were involved in their decision-making processes. Parent #13 unequivocally wanted to include her adolescent in the process, after an initial discussion with her partner:

> *We would've definitely brought [adolescent's name] into the discussion after we'd had an initial talk.*

In contrast, other parents reported not wanting to involve their adolescents in the decision-making process. These divergent views reveal differences in family dynamics. Some parents highlighted the importance of clear communication for all involved, including the adolescent, while others identified a desire to protect and buffer their adolescent from knowledge about the program.

Of the parents who included their adolescents in the decision-making process, most reported that their adolescents did not want their parents to attend a parenting program at their high school:

> *If [child's name] don't want you to go, really, they don't want you to [go].* (Parent #10)

Parent #11 explained further:

> *[Adolescents] tend to put up a bit of a wall when you try and get them involved with something that is going to help improve them because it's like, "I already know about that, mum, I already know, you don't need to".*

Parents believed that including their adolescent could help to begin open and joint discussions about mental health problems. Therefore, they typically advocated for their

adolescent to either be provided with the information during school hours or be able to attend the program with their parents. Parent #10 explained:

> *The information sessions they often offer to the parents in the evenings and everything, well, that is coming to [parents]. [The school] should be going to them, the children. These young adults should be having these information sessions as part of their curriculum.*

While most parents prioritised their adolescents getting information above attending the program themselves, HSS believed this content was sufficiently covered for adolescents in existing school topics:

> *I have some time . . . in the classes to actually run some pastoral care [and mental health] workshops with the students.* (HSS #2)

Some HSS paired the teaching of mental health content to students with strategies that emphasised the importance of parents taking part in a program with their adolescent, such as through (well-attended) student-led events:

> *Part of that high attendance rate is because it's a student-run evening . . . [involving] the students providing information to the parents to sort of try and get them to, um perhaps think about how they're parenting, to do with [alcohol], specifically.*
> (HSS #1)

This creative solution addressed, in part, several concerns that were raised by parents: the adolescents learned the information so they could teach it to their parents and the parents did not require childcare, as the adolescent took part in the event. Significantly, parents were more likely to engage in the program, as their adolescent was 'presenting' at a school event. Facilitators did not discuss the how potential for adolescents to be involved in the preventive parenting program would contribute to parental engagement.

Preventive parenting program related factors

Framing advertisements. Parents reported wanting clear advertisement 'signposting' the subject of the program. Using terms such as mental health, anxiety and depression could increase their intentions to enrol if this was the type of program they sought.

Facilitators held differing opinions about this topic. They believed the term 'prevention' was not well understood and felt that prevention programs that were framed as 'learning more' or 'further educating parents' were gaining some traction. One facilitator said that her general 'parenting adolescents' workshops used advertisements that were framed as providing further education for parents. Parents often self-referred to these programs, explaining to her that:

I need to be prepared and I need to know all that stuff. (Facilitator #7)

This suggested that when parents were interested and in need of these programs, they would use the resources around them to seek this information.

HSS agreed that the term 'prevention' was not well understood in the general community. In addition, they felt that the term 'parenting programs' could further deter parents' from intending to enrol:

. . . you don't mention it's a parenting program, you never mention the word parenting because it puts a cloud over them as a parent. (HSS #7)

Instead, HSS reported that using less abstract, more concrete and outcome-focused terms such as 'exam preparation', 'enhancing resilience' and 'increasing communication skills' could increase parents' intention to enrol.

Scheduling. One of the biggest barriers for parents to attend programs related to the difficulty of managing other commitments that conflicted with the program sessions. Parent #1 explained:

> *I was keen to go to [parenting program]. I just couldn't go because I had something else on.*

While parents provided examples of alternative dates and times that would have allowed them to attend the program, this was often highly individual. Parents who did not work full time, worked in the evenings or had younger children (and thus required childcare or children to be attending kindergarten or school) preferred programs that were run during the day, while those who worked full time, had older children or had family support after hours preferred programs that were run in the evenings.

Parents often commented that one potential solution to these scheduling difficulties would be providing childcare. In this study, 14 parents (82%) had at least one child who required adult supervision, in addition to their adolescent, as Parent #2 explained:

> *I have a little one there, so in most cases, I have to stay at home and look after her.*

This barrier was further exacerbated for single parents or parents who had limited social support.

Facilitators identified similar scheduling difficulties for parents, understanding that parents' different work schedules and need for childcare were potential barriers to participation in parenting programs. However, because of a lack of funding, they were often unable to accommodate these needs. As an alternative, some facilitators supported the inclusion of an online component, to increase the flexibility and range of learning options for parents. However, they cautioned that while some formats, such as psycho-educational webinars, allowed parents to learn some new information, this new information might not be

enough to create behaviour change, as the parents would not be given the opportunity to practise new skills the way they would in face-to-face programs:

> *. . . but other webinars, you might just have psycho-educational format . . . where parents can just listen. . . My personal . . . opinion is that parents learn skills better if they're actually practising them in the group setting.* (Facilitator #6)

While they recognised the importance of offering flexible programs, HSS often reported restrictions in the types of program modalities they could make available at their school. For example, many only had the funding to hold a single-session program once during the school year and they would therefore select a time when they felt that the most parents could be captured, while acknowledging that this time might not suit some parents. They expressed considerable caution around online programs because of difficulties in controlling the information being accessed online, particularly when parents would 'Google' questions around parenting strategies and mental health problems in adolescents:

> *One of the things that I think is really important with the online [sic] is having a sense of that organisation and who's staffing it . . . what training they've received.* (HSS #1)

Program type and modality. The program modality had an effect on engagement. Most parents had been offered a traditional face-to-face program, either in a single- or multi-session format. Single-session seminars that aimed to increase parents' knowledge were perceived as being of limited benefit:

> *I really want the nitty gritty of how to help kids and I don't know that I've ever got that from an information session.* (Parent #2)

In contrast, multiple-session interventions, run by facilitators and aiming to change parenting behaviours, were often deemed by parents as more useful. However, they struggled to commit to attending for several weeks in a row. Therefore, many parents requested online alternatives to the more traditional face-to-face programs. Parents suggested that a school's

online interface could provide recordings of sessions held at the school and suggestions for where they could assess additional information if required.

Incentives. Incentives discussed during the interviews ranged from offering food and childcare through to the provision of free programs. Facilitators noted that for some parents, offering to serve a light supper for evening groups, or lunch for day groups, appeared to increase engagement. Facilitator #1 reported:

I know this sounds a bit odd, but sometimes they actually want food.

Providing food appeared to be one way that the programs could increase their utility for parents; that is, they could not only learn about prevention but being provided with a meal meant they did not have cook when they went home.

HSS acknowledged that the provision of catering could increase engagement by making parents feel important and cared for. HSS #11 reported:

Having things like refreshments is like a nurturing thing for parents. I think parents give so much already.

Perhaps the combination of catering to basic needs, such as food and childcare, along with the correct framing of programs, could jointly increase parental engagement.

Cost could be another barrier to parental engagement. In this study, the idea of charging parents to attend preventive parenting programs elicited some controversy. Some parents believed that programs with an associated fee had increased worth to parents and would thus increase a parent's commitment to attend; other parents indicated that they would prefer not to pay for a program, particularly one run through the school system, where they had already paid school fees.

Facilitators held conflicting views about charging parents to attend programs. While they understood parents' beliefs that they should not pay for such programs and thus wanted to provide free programs for all to access, they also understood that paid programs could

appear to be more valuable. Facilitators reported lower levels of dropout from paid programs, as charging seemed to cause parents to "make a commitment, so that we get less dropout" (Facilitator #3). HSS #10 said:

> *With free events, it's easy to book in and not have to show up because you haven't lost anything.*

However, as many of the HSS participants worked in low socio-economic areas schools, where even a small fee could exclude parents from engaging, they rarely charged for any programs that they offered:

> *Certainly, sometimes cost would be an issue with people attending . . . because they may not be able to afford that.* (HSS #11)

Location and transportation. Parents mentioned concerns about the location of preventive parenting programs, including whether the location would provide adequate anonymity. This was particularly important for families who were offered a school-based program or who lived in a smaller town, as this meant a higher likelihood of others in the group knowing them and their child personally and they might gossip about their family when outside the group.

With regard to location and transportation concerns, facilitators and HSS focused on the inconvenience of a location leading some parents to decline to take part in programs, sometimes because of difficulties in getting to the location. Facilitator #8 said:

> *. . . the location doesn't suit them, so then they pull out.*

Facilitators identified the following four parental transport-related barriers: (1) whether transport was available during evening hours; (2) their ability to drive; (3) costs associated with driving; and (4) the feasibility of programs providing transportation. This specific concern with travel and transport was not reported by the parents in this study.

Discussion

The study sought to understand multiple stakeholder perspectives on the barriers and enablers to parents' intention to enrol in preventive parenting programs to support adolescent mental health. This allowed an extension of the themes of previous studies by comparing the differing perspectives offered by non-engaged parents, program facilitators and referring HSS. The stakeholders' perceptions regarding the factors that increased parents' intention to enrol were found to include broadly similar themes but with varied emphasis. Each theme is summarised below, then this paper ends with a discussion of the way the results of this project could be used to increase parental engagement in preventive parenting programs, as well as the study's limitations and conclusions.

Beliefs, attitudes and emotions of parents

All of the stakeholders mentioned that the fear of stigma affected parents' intention to enrol in preventive parenting programs. This stigma arose at the societal and interpersonal levels and was internalised by many of the parents in the current study. There appeared to be an interaction between these different levels of stigma, with parents believing that attending a preventive program at their adolescent's school could elicit stigmatising judgement and gossip from other families, for both themselves and their adolescents. Flores and colleagues (2015) conducted focus groups with program completers who also reported fear of themselves or their child being stigmatised by others in the group. This type of stigma can be classified as self-stigma, which refers to a parent's perception of the public reaction towards a person (Corrigan, 2004). Vogel and colleagues (2006) noted that this type of stigma is often associated with seeking mental health services, whereby a person who seeks psychological treatment is seen by others as undesirable. This self-stigma has been documented for parents of children who have a diagnosed mental health problem (Eaton et al., 2016).

The current study indicated that self-stigma extended to parents considering engagement in a preventive parenting program, and program facilitators and HSS also believe that self-stigma is a reason for parents' lack of engagement. This high level of concern in parents with regard to stigma is not surprising given that worldwide, young people and adults with mental health problems are among those most stigmatised (Bos, Pryor, Reeder, & Stutterheim, 2013; Pescosolido, Fettes, Marton, McLeod, & Monahan, 2007). Previous research has demonstrated that parents, through their role and responsibility of caring for their children, also experience this stigma, by being labelled as a 'bad' parent (Corrigan & Miller, 2004; Mukolo, Helinger, & Wallston, 2010). This current study found that stigma was an important and pervasive barrier for parents when making the decision to engage in a preventive parenting program.

A likely consequence of the pervasiveness of self-stigma for participants in this project was that families had a shared understanding about what is and is not 'private family business'. Parents who participated in this study identified that they were unlikely to discuss prevention of mental health outside the family unit. Interestingly, however, parenting program facilitators did not recognise this reluctance to discuss mental health outside the family unit as a factor in parental non-engagement. The under-reporting of this factor by professionals has been noted in other research conducted with professional stakeholders. Indeed, stigma was only mentioned in one study in Mytton and colleagues' (2014) systematic literature review of qualitative studies. Further, their review found there had been no research conducted with professionals that focused on parents' fear and suspicion as a reason for non-engagement. This difference in reporting between parents and specifically parenting program facilitators requires further review. However, it could be due to the program facilitators' experiences with engaged parents who were open to discussing private and confidential family concerns, either individually or in a group. As the facilitators, would not often have

contact with non-engaged parents, they would be less likely to have insight into some of the reasons for parental non-engagement. On the other hand, HSS are often the first professionals to engage with parents who have never disclosed emerging concerns with anyone outside of the family. Nevertheless, program facilitators, along with the other stakeholder groups in this study, suggested that some program modifications could increase parental intention to enrol by removing some of the associated stigma. This included the use of online parenting programs for parents who did not want to take part in face-to-face group programs.

Attitudes and behaviours of significant others

Parents reported that the attitudes and beliefs of significant others, such as partners, peers and their adolescents, were paramount in their decision to not enrol. However, non-parental stakeholders described partners as only potential gatekeepers in parental engagement. Interestingly, in two systematic reviews of qualitative research with both engaged parents and non-parental stakeholders, the importance of partners, peers and adolescents' attitudes was not reported (Koerting et al., 2013; Mytton et al., 2014). There are two possible reasons for this theme to emerge in the current study. First, the interview schedule asked parents directly about their decision-making processes and whether family members were involved in their decision not to enrol. Second, previous research has mostly involved engaged parents, thus it is possible that the relationships that non-engaged parents have with their partners, peers and adolescents may have different dynamics compared to those of parents who typically engage with parenting programs. Alternatively, family and peer relationships may have similar influence for all parents, such that parents who engage have family/peers who support their engagement, while non-engaged parents have family/peers who do not support their engagement. The influence of significant others on parental intention to enrol warrants further study.

Preventive parenting program-related factors

Timing and logistical barriers were significant determinants of parents' intention to enrol. Work schedules, childcare, the provision of food (particularly if programs are run during mealtimes) and transportation all require consideration ahead of promoting a parenting program. As the research with engaged parents has indicated, appropriately addressing these timing and logistical factors could turn them into enablers of parental engagement (Mytton et al., 2014). Program developers should consider the additional supports that could be provided as essential components of program delivery, rather than as optional extras. For example, the current study found that when programs did not provide childcare, it was simply not possible for some parents to attend the programs.

Both parents and professional stakeholders commented on whether the cost of a program could increase parents' intention to enrol through increasing the perceived worth of engaging in parenting programs. Kumpfer (1991) stated, "although participation fees sometimes help increase commitment to the program among middle-class parents, fees reduce attendance among low-income parents" (p. 88). This view was supported by parents in the current study, with some parents reporting they would be more likely to attend a program with a fee attached, as it was perceived to have more worth. However, the facilitators and HSS noted that for low-income parents, adding a fee would reduce their ability to attend.

Further, all stakeholders regarded the sign-posting used to advertise parenting programs to be important. Of note was parents' reports that they wanted clearer sign-posting with words like 'prevention' and 'mental health' being used to describe the aims of the prevention parenting program. This directly contrasted with the views of the non-parental stakeholders, who expressed concern about using such terms due to the potential stigma attached to them. Facilitators and HSS suggested that terms such as 'learning more' and 'further education' may be more effective for increasing engagement. Due to the stark

contrast between the views of parents and non-parental stakeholders, it is critical for program designers to involve parents in the design of advertising materials, to ensure that assumptions about what is thought to be acceptable do not impede the development of materials that 'speak to' / appeal to precisely those parents the program is attempting to attract.

Increasing parental intention to enrol

Stigma, perceived susceptibility and responsibility appeared to play a large role in parental non-engagement. Perceived susceptibility refers to parents' perceptions about whether they or their family were susceptible to a problem (Nutbeam et al., 2010), and is reflected in parents' comments that adolescent mental health problems were "never going to happen to me" or their family. This insight allows researchers, professionals and policy makers to reflect on the type of strategies required to increase engagement. Community-wide strategies that could increase parents' perceived susceptibility and perceived responsibility, while decreasing the stigma surrounding preventive programs, could lead to increased parental engagement in parenting programs. Media campaigns, such as the Beyondblue "Beyond Barriers" campaign in Australia (Ipsos Social Research Institute, 2014) that seeks to support and encourage men to seek help for anxiety and depression through reducing barriers, offer a model for increasing public knowledge about preventive parenting programs.

In addition to reducing the perceived stigma at a national level, it may be important to inform parents about the relevance of preventive parenting programs and their adolescent's risk of developing a mental health problem. Parents' beliefs about their own adolescents' susceptibility provided insight into why some parents in the current study reported that preventive parenting programs were important, but did not subsequently engage. Similar to the explanation for this posited by the Health Belief Model (Rosenstock, 1974), the parents in the current study perceived a low level of susceptibility or risk for their adolescent to develop mental health problems, while simultaneously believing there was an increased likelihood for

other adolescents to develop a mental health problem. Hence, increasing both the parents' perceived need to enrol in the preventive parenting program and their perception of their adolescent's susceptibility to developing a mental health problem could increase the likelihood that parents would see the program as relevant and therefore, be more likely to engage. Carpentier and colleagues (2007) demonstrated that it was possible to influence parents' perceived need and susceptibility through letters addressed to parents advertising the parenting program, resulting in increased initial enrolment in their study.

Many parents reported wanting their adolescents to be provided with the information rather than their parents, or wanting to learn with their adolescents present. Some parenting programs, such as the Strengthening Families Program (Aalborg et al., 2010; Byrnes et al., 2012; Miller, Aalborg, Byrnes, Bauman, & Spoth, 2011), have elected to have the parent–child dyads take part in the group program through designing the material to be developmentally appropriate for adolescents. Further, Fleming and colleagues (2015) reported that when randomised into a parent-only versus a parent-and-child group program, parental attendance was significantly greater in the parent-and-child condition. One HSS member in the current study took this idea a step further through engaging adolescents in 'student-led evenings'. These evening events encouraged parents' attendance because it tapped into their desire to support their adolescent's performance in role-plays, while also learning from the knowledge that these adolescents had gained about topics such as alcohol and substance use, cyber safety and mental health problems.

Offering parenting programs in different modalities, including online alternatives, could increase overall engagement with programs (Lakind & Akins, 2018). There has been a growing acknowledgement in parenting program research that the online modality has the potential to reduce barriers to engagement. For example, Triple P Online (Baker, Sanders, Turner, & Morawska, 2017; Sanders, 1999, 2003; Sanders, Baker, & Turner, 2012),

Parenting Strategies (Yap, Martin, & Jorm, 2017; Yap et al., 2011) and Partners in Parenting (Cardamone-Breen, Lawrence, Rapee, Mackinnon & Yap, 2018; Yap et al., 2017; Yap et al., 2018) are all evidence-based online programs that could help to eliminate timing and location concerns for parents. In addition, they could reduce the potential for parents to fear judgement from others, as they could interact with these programs in the privacy of their own homes.

Finally, the framing of preventive program advertisements and the referral process appeared to be important modifiable factors in parental intention to enrol. Parents reported wanting clear 'signposting' about programs and incentives, while non-parental stakeholders were concerned that the increased use of mental health terminology could further reduce engagement. Perhaps it is more important to fit the advertising and framing of the programs to the target parent group. Lakind and Atkins' (2018) literature review also concluded that parenting programs should align with parents' individual and group goals. This could be achieved through conducting research with a program's target group about what outcomes they would like to see, as well as the potential barriers to engagement in the program (Metzler, Sanders, Rusby & Crowley, 2012; Sanders & Kirby, 2012). This information could then be used by other stakeholders to converse with parents at the point of referral. This conversation could include motivational interviewing techniques that are commonly used to increase therapeutic engagement, such as assessing the individual barriers, devising solutions for these barriers and using confidence and likelihood-to-attend rating scales (Miller & Rollnick, 2002; Nock & Kazdin, 2001). Ingoldsby (2010) found that the use of motivational interviewing, when integrated into parenting programs, could produce a positive effect on parental ongoing engagement. In addition, motivational interviewing strategies could help to increase parents' initial engagement by increasing their internal motivation to enrol (Miller & Rollnick, 2002). This was demonstrated by Mucka and colleagues (2017), who used

motivational interviewing during a multi-session group program and found that 62% of mothers attended all sessions.

Study limitations

While this study did include a generally overlooked group of parents, i.e., 'non-engaged' parents, interviews were not conducted with parents who had either (a) attended and dropped out, or (b) completed a preventive parenting program. Therefore, we cannot be sure whether engaged parents would identify similar themes if the same set of questions were asked. An additional layer of understanding could be ascertained if these two additional parent groups were included. For instance, do parents who engage in parenting programs have family/peers who support their engagement, whilst non-engaged parents do not, hence reinforcing the importance of significant others as a factor influencing parental initial engagement?

Further, many of the parents in the current study (82%) had completed both high school and further tertiary studies. This percentage was higher than the average (58%) across the suburbs from which participants were recruited (Australian Bureau of Statistics, 2016). Thus, although the parents were recruited from areas representing a range of socioeconomic positions, as a sample they were more highly educated than the general population. Although this limitation was somewhat mitigated through the inclusion of facilitators and HSS who worked with parents from a broader range of socioeconomic backgrounds, it will be important for future research to recruit non-engaged parents from diverse socioeconomic backgrounds.

Finally, this study did not assess the facilitators' or HSS' experience of working with families with adolescents. For example, the number of years running programs, working in schools, the types of parenting programs they conducted and/or the types of training they have completed. These factors may have influenced the facilitators or HSS participants'

insights and understanding of the barriers and enablers of parental engagement. Future research regarding parental engagement may benefit from collecting and analysing this information.

Conclusion

The current study examined the barriers to parental initial engagement in preventive parenting programs, as understood by three key stakeholder groups: non-engaged parents, facilitators and referring HSS. Identification and analysis of convergent and divergent themes from the three stakeholder groups revealed some similarities and differences between the professionals and parents' perspectives. Through greater understanding of these identified barriers, changes to recruitment strategies and the addition of community level interventions aimed to reduce stigma, can be made to achieve greater parental engagement. When making the decision about engaging in a parenting program, parents usually go through a complex process that can likely be facilitated by professionals who have an empathic understanding of the process. To increase parental engagement, professionals and researchers should consider the way stigma can affect parental engagement. They should increase the application of health behaviour theories (e.g., the Health Belief Model) during recruitment and offer different program modalities.

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Chapter 6: Extended discussion, conceptual framework and conclusion

Child and youth mental health problems are a leading cause of disadvantage and disability worldwide (Kessler et al., 2007; WHO, 2016a). While there are many potential environmental and genetic factors that can increase a young person's risk of developing a mental health disorder, burgeoning evidence indicates that a range of parenting factors are associated with the development of both internalising and externalising disorders in children and adolescents (Gramic & Patternson, 2006; Hoeve et al., 2009; Rothbaum & Weisz, 1994; Yap & Jorm, 2015; Yap et al., 2014). Therefore, preventive parenting programs have been developed to modify the key parenting behaviours that could avert the development of child and youth mental disorders. However, the potential of parenting programs as a preventive intervention has been obstructed by consistently low engagement by parents.

One of the aims of this doctoral research program was to develop a conceptual framework of the barriers and enablers that influence parents' intention to engagement in a preventive parenting program. This evidence-informed framework (presented below) was developed using both previously reported predictors of engagement (in theoretical and quantitative and qualitative research, presented in Paper 1 and Chapter 3) and the experiences of non-engaged parents and professionals (presented in Paper 2).

This chapter is organised in six sections. Section 6.1 provides a summary of the major findings of both Papers 1 and 2, which focused on (1) providing an overview of the current literature and (2) expanding on this knowledge through qualitative interviews with non-engaged parents and non-parental stakeholders. Section 6.2 then describes the evidence-informed conceptual framework of parental initial engagement, and is followed by a discussion of the potential implications for parenting program research and practice (Section 6.3). The limitations of this thesis and future research recommendations are discussed in

Sections 6.4 and 6.5, respectively. The chapter then ends with overall conclusions from the current program of research (Section 6.6).

6.1 Summary of key findings

6.1.1 Inconsistencies between the predicted factors and parent-reported factors of initial engagement

The identification and synthesis of the results from previous quantitative studies (Paper 1) and qualitative studies (Chapter 3) revealed that the commonly measured predictors in quantitative studies did not match the key factors of engagement in identified by parents and non-parental stakeholders in qualitative studies. In fact, most of the commonly measured predictors were not reliably associated with parental engagement in preventive parenting programs. The results of the semi-structured interviews conducted as part of this thesis (Paper 2) further substantiated that factors that may be important for parents are often associated with, but not measured as, predictors of initial engagement. For example, child age is often considered a potential predictor of parental engagement in preventive parenting programs. In the systematic review (Paper 1), although child age was not reliably associated with parental engagement, the non-engaged parents in Paper 2 reported that parental perceived responsibility for their child's mental health reduced as their child entered adolescence and high-school, this finding is consistent with previous research focusing on mental health treatment. This research found that as child age increases, parents participate less in treatment options (Nock & Ferriter, 2005). Additionally, some parents involved their adolescent in the decision-making process regarding engagement in preventive parenting programs. Similarly, while parents' employment status was not reliably associated with parental engagement, it did have an effect on the time of day that parents would prefer to attend a program. Finally, while the ratio of adults to children in a household was not reliably associated with parental engagement, it did affect the parents' need for childcare. Thus, it appeared that the

demographic factors that are often assessed as part of randomised controlled trials (such as those included in Paper 1) were not the most useful predictors of parental initial engagement in preventive parenting programs. Instead, community-based implementation of evidence-based programs could use a market evaluation approach to increase understanding of potential factors in parental engagement (Metzler, 2012; Sanders & Kirby, 2012). For example, staff could approach a representative sample of the target group of parents before starting recruitment to identify the key barriers and enablers to that target group's engagement and then design their recruitment method to match the results.

The potential predictors that consistently appeared among the predictors noted in Paper 1 and the key stakeholders' themes noted in Paper 2 were the target child's current mental health symptoms, parents' understanding of prevention, and parents' perceived susceptibility of their adolescent to develop a mental health problem. In Paper 1, the only predictor that was shown to be associated reliably with enrolment in a preventive parenting program was child mental health symptoms at the time of recruitment: that is, parents were more likely to enrol if their child was displaying some mental health symptoms. The non-engaged parents in the qualitative study showed a low level of perceived susceptibility regarding mental health issues in their children, explaining that they did not enrol in the preventive parenting program because at the time of being offered the program, their children were not displaying any mental health symptoms. Both of these findings suggest that parents' would be much more likely to enrol in a parenting program if their child was displaying some mental health symptoms. These findings are positive insofar as they suggest that many parents recognised the need to seek treatment early for their children and adolescents if they have mental health symptoms. However, it poses a problem for universal preventive parenting programs: if their children are not displaying any mental health symptoms, parents will not see a need for engagement in these programs and hence will not engage. Thus,

researchers and facilitators need to consider how to increase parent's understanding of both the benefits of engaging in a preventive parenting program, before their children develop any symptoms as well as, the potential risks associated with non-engagement. These points are discussed in more detail in Section 6.2.2.

6.1.2 Understanding the complexity of initial engagement

Both papers contained in this thesis have demonstrated that the issue of parental engagement in preventive parenting programs could be more complex than initially thought. Paper 1 illustrated this complexity through the finding that most individual predictors are not reliably associated with initial engagement. Further, the qualitative study in Paper 2 revealed many nuanced intrapersonal, interpersonal and program-based barriers that parents consider during their decision-making processes. Parents in the qualitative study discussed several aspects of inter- and intra-personal factors, such as their teenagers' reactions to the idea of their parents attending a parenting program and their concerns regarding stigmatisation. In addition, parents and professionals discussed the way external influences, such as issues surrounding the use of mental health terminology, program-related factors and the influence of others, could affect parents' decisions with regard to enrolling. Interestingly, parents and non-parental stakeholders did not always agree or report the same barriers to parental initial engagement. This discrepancy has important implications, in that (1) parental initial engagement or non-engagement is not fully understood and (2) parental initial engagement will not increase if non-parental stakeholders are attempting to reduce barriers that are not seen by non-engaged parents as important. Thus, this thesis aimed to report on parent-described important factors and demonstrate how these factors, when combined with non-parental stakeholder factors and previous research, created a complex decision-making process on top of reviewing the program for its applicability to their family and ensuring the timing, the program modality and the cost were acceptable. These findings suggested that a

socio-ecological framework would be helpful for synthesising the multiple factors influencing parental initial engagement. Therefore, a socio-ecological lens was used to facilitate understanding of the interactive effects of personal and environmental factors that determined parents' engagement behaviours (McLeroy et al., 1988). This lens allows for the behaviour of parents enrolling in a preventive parenting program to be viewed across all levels of the SEM (McLeroy et al., 1988). This type of ecological approach has been successfully applied to the results of qualitative interviews (Houle et al., 2018) and to an RCT which measured the barriers and enablers of a preventive parenting program for child language difficulties and school readiness (Hackworth et al., 2018). The study demonstrated that considering individual, program and contextual factors could assist in the identification of risk factors for poor engagement. Thus, an ecological approach was taken for the development of the evidence-informed conceptual framework. As demonstrated in the conceptual framework in Figure 6.1, many of the factors that were revealed in the qualitative study (Paper 2) and the single reliably associated predictor (child mental health symptoms) found in the systematic review (Paper 1) could all be contained within the first three levels (intra- and inter-personal and organisational factors) of the SEM. Factors that were identified in Chapter 3 (such as neighbourhood disorganisation) and in Chapters 3 and Paper 2 (factors pertaining to stigma) could be contained across the first three levels and in the levels of community and public policy.

6.1.3 Using previously developed theories to understand parental initial engagement

In an attempt to increase parental initial engagement, some studies that were reviewed in Paper 1 had developed 'enhanced engagement strategies'. The varied nature and implementation of these methods made a meta-analysis impossible. However, the preliminary findings from the review suggest that engagement strategies that either explicitly or implicitly used strategies that were in line with the individual health behaviour theories had the

potential to increase parental initial engagement. For example, these strategies focused on 'cues to action' (from the HBM) in the form of individualised letters to parents (Rosenstock, 1974) and 'subjective norms' (from the TPB) via community endorsement (Ajzen, 1991; Ajzen & Fishbein, 1980). In addition, the findings in Paper 2 supported the use of individual health behaviour theories, as parents described their level of perceived susceptibility (from the HBM) with regard to their adolescent developing mental health problems as an important factor in their decision making. These findings suggested that when conceptualising parental engagement in preventive parenting programs, there could be some value in using individual health behaviour theories within the larger socio-ecological framework (see Figure 6.1).

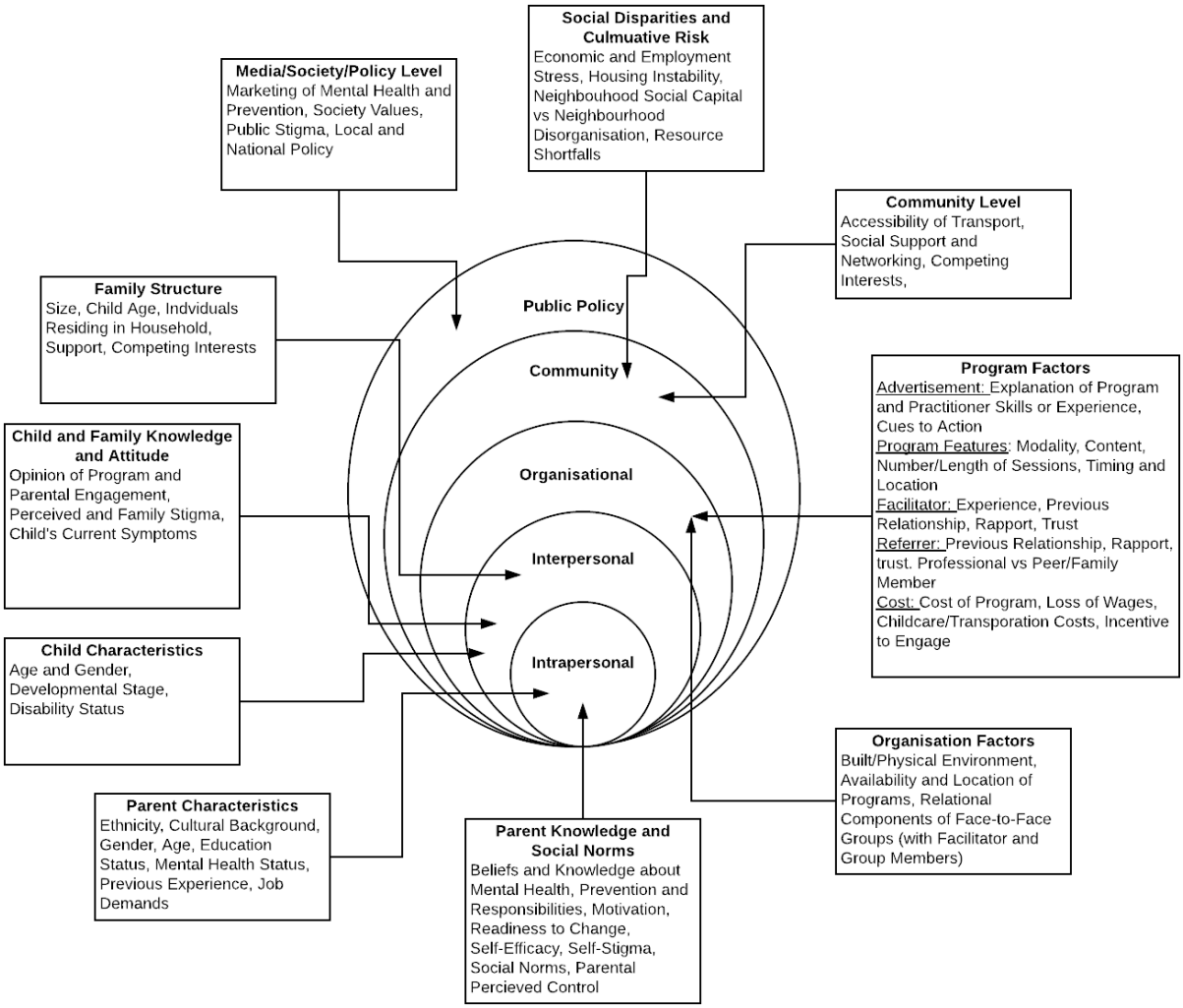

Figure 6.1. *Socio-Ecological Framework of Parental Initial Engagement*

6.2 Evidence-informed conceptual framework: The Socio-Ecological Framework of Parental Initial Engagement

The findings gathered in this thesis indicated a need for a systematic combination of both research findings and previously developed health behaviour models. The proposed evidence-informed conceptual framework for parental initial engagement in preventive parenting programs integrates the research to date, using a socio-ecological lens to produce a more complete picture of the factors influencing initial engagement. This framework focuses on parents' initial engagement in programs, particularly factors influencing intention to enrol as demonstrated in the qualitative literature (Koerting et al., 2013; Mytton et al., 2014).

Factors described in this framework could be either barriers or enablers, depending on the individual parent and the parenting program. For example, the absence of childcare provision during program sessions could be a barrier to enrolment, but childcare provision could be a facilitator. The finding that factors could be both a barrier and an enabler was not surprising, as a wealth of research in the areas of primary health care and health promotion has suggested that this is generally the case (Deber & Baumann, 2005; Pierre, Receveur, Macaulay & Montour, 2007). Therefore, the factors in the conceptual framework have been described as influencing initial engagement, without specifying a positive or a negative value. Consequently, researchers and practitioners would be guided to consider each factor and the ways they could meet the needs of the specific population of parents they are targeting. We expect that increasing the number of factors that are met for a particular group of parents will make it more likely that the parents will initially engage with the preventive parenting program. However, this cumulative relationship between factors is not likely to be linear. For each individual parent, some factors will have more importance than others and if these important factors are not met, they will be unlikely to engage.

The evidence-based conceptual framework presented in Figure 6.1 is a multi-level framework informed by socio-ecological approaches and it identifies factors influencing intention to enrol across all levels: intrapersonal, interpersonal, organisational, community and public policy. Through this socio-ecological lens, references to individual health behaviour theories (e.g., the HBM and TPB) are contained within the intra- and inter-personal levels. Each level of the socio-ecological framework contains several factors that could affect parental intention to enrol:

- *Intrapersonal:* A parent's intrapersonal experience, such as mental health, perceived susceptibility, attitude to prevention. Many of these factors are derived from the health behaviour models (i.e., the HBM and TPB).
- *Interpersonal:* The interpersonal family environment or parent–parent, adolescent–parent dyadic relationships; for example, the adolescent's or significant other's concerns about the program and the adolescent's current mental health symptoms (if any).
- *Organisational:* Program characteristics, such as timing, modality and cost.
- *Community:* The community surrounding the parents, such as public transportation, social networks.
- *Public Policy:* Describes local, state and federal laws regarding socio-behavioural programs and research. For example, the assumed roles and responsibilities of parents within society.

Each of the factors in the framework can affect one another in several ways. First, factors within the same level can influence and interact with each other (e.g., the experience of the practitioner who is facilitating the program can influence how much the parent is willing to pay for the program). Further, factors within each level can influence and interact with other levels (e.g., if a parenting program is being organised at the adolescent's high-

school, then the opinion of the adolescent about the parenting program is likely to matter more to parents, and to influence their readiness to engage). These factors can interact in dynamic ways to develop, maintain and moderate a parent's intention to enrol.

The next section of this thesis is organised according to the framework's structure: the intrapersonal, interpersonal, organisational, community and public policy levels that are hypothesised to affect parental initial engagement. The way each specific factor can inform researchers and practitioners about what could facilitate or inhibit parental engagement is described.

6.2.1 Intrapersonal parent-level factors

Of the commonly studied factors, intrapersonal or individual parent factors are some of the most complex. While many of the factors within this domain cannot be modified directly by practitioners and researchers, it is important to be aware of them when attempting to engage parents in preventive parenting programs. Consistent with the findings of McCurdy and Daro (2001) and Randolph and colleagues (2009), individual-level factors in this research include attitudes, beliefs, previous experiences, readiness to change and cost–benefit perceptions. In addition, parents' mental health, self-efficacy, motivation and self-stigma are expected to influence their intention to enrol. Studies have hypothesised that parents with a current or previous mental health diagnosis would be less likely to initially engage (Baydar, Reid & Webster-Stratton, 2003; Baker, Arnold, & Meagher, 2011; Mauricio et al., 2018; Mian et al., 2015; Winslow et al., 2009). However, these studies have produced inconsistent results, with only some studies reporting that parents endorsing current mental health symptoms in themselves significantly decreased engagement (Baydar et al, 2003; Mian et al., 2015).

Parental self-efficacy has been defined as parents' self-belief in their competence, or chance of accomplishing a task to produce a favourable outcome (Bandura, 1994). Within the

proposed conceptual framework, it is expected that parents' beliefs—that they can successfully engage in the program and use the strategies from the program to decrease their adolescents' risk of developing a mental health problem—will increase their initial engagement. This was demonstrated in one study in which parents' self-efficacy, which influenced their readiness to change their own parenting behaviours, was found to increase overall engagement (Nordstrom et al., 2008).

Parental motivation has been reported by parents and other non-parental stakeholders as an important factor to engagement (Houle et al., 2018; Rostad et al., 2017). Further, the type of motivation is known to affect parental initial engagement in preventive parenting programs (Spoth & Redmond 1995; Mauricio et al., 2010; Mucka et al., 2017). Ryan and Deci's (2000) Self-determination Theory posits that parents who experience intrinsic motivation or internalised motivation would have increased intention to enrol, while those parents who are extrinsically motivated, or motivated by external factors, may engage but be more likely to drop out. Thus, it could be useful to use extrinsic motivators, such as providing food, child care and/or payment for program engagement, while building parental intrinsic motivation as well. Ryan and Deci (2000) suggested that intrinsic motivation could be developed from extrinsic motivation through (1) connectedness, (2) perceived competence and (3) autonomous regulation (a synthesis of the meaning of the behaviour in relation to a person's goals and values). For preventive parenting program engagement, this means (1) building parents' connectedness and belonging within a parenting program; (2) increasing perceived competence to both engage and demonstrate the behaviours being taught in the program; and (3) parents synthesising the meaning of engaging in a parenting program with their goals and values about parenting.

Finally, in previous research aimed at parents whose children have a diagnosed mental health problem, the parents who participated reported several different types of

potential stigma, including self-stigma, which occurs when the parent accepts community-endorsed stigma as true of self (Eaton et al., 2016), and public stigma, which is the belief that a parent or their child will be stigmatised if the parent seeks treatment (Corrigan, 2004). This latter issue has been demonstrated across several empirical studies (e.g., Dempster, Wildman, & Keating, 2013; Eaton et al., 2016). These types of stigma are often associated with seeking mental health services, whereby a person who seeks psychological treatment is seen as undesirable (Vogel et al., 2006). However, there is emerging research that suggests that some preventive parenting programs may attract less public stigma than others (Brown et al., 1997; Lanier et al., 2017; Plath, Crafts, Graeme, 2016). Thus, further search is required to assess if public stigma affects initial engagement in preventive parenting programs designed to prevent adolescent mental health problems.

Further, self-stigma can affect parents, through their role and responsibility of caring for their child and can cause them to believe that accessing parenting programs will mean they will be labelled a 'bad' parent (Corrigan & Miller, 2004; Mukolo et al., 2010). Rusch and Thornicroft (2014) hypothesised that self-stigma could cause a person to avoid engaging in prevention. The non-engaged parents and non-parental stakeholders in Paper 2 noted that this self-stigma could be an issue in parental initial engagement in preventive parenting programs. The parents reported that they were concerned they would be labelled negatively if they needed to engage in any kind of parenting program, including a preventive parenting program. The concept of self-stigma should be further researched in the prevention space. As stigma was identified as a barrier to engagement across multiple levels, a multi-level, multi-strategy approach is required to decrease stigma and increase engagement. Suggestions for these are described in Section 6.3.4.

6.2.2 Interpersonal-level factors

A less researched issue with regard to parental engagement involves family factors. Previous studies and the HBM have reported that the current intensity or lack of child mental health symptoms could affect a parent's initial engagement (Mauricio et al., 2014; Plath et al., 2016; Rosenstock, 1974). Consistent with this, Paper 1 found that parents' enrolment in preventive parenting programs increased as parents reported increased levels of child mental health symptoms. This finding has implications for the different stages of prevention: universal, selective and indicated (Mrazek & Haggerty, 1994). For programs that aim to recruit a universal population and deliver an intervention that can minimise potential risk, the target population is not parents who have children currently experiencing mental health problems. However, as demonstrated in Alfredsson and Brobreg's (2016) study, one fifth of parents enrolling in a universal prevention program reported their child was already displaying symptoms. Consequently, owing to the lack of 'fit', parents of a child currently experiencing mental health problems, if enrolled, may drop out early or receive an ineffective product. Instead, the HBM suggests that 'cues to action', such as parents' knowledge and understanding of their child's mental health state, along with parents' perceived severity of the mental health issue (i.e., parents' insight into how severe the symptoms could become) could influence initial engagement for parents with mentally well children (Janz, Champion, & Strecher, 2002; Randolph et al., 2009). The findings from the study in Paper 2 supported this, with both non-engaged parents and non-parental stakeholders suggesting that it is important for parents to have insight and understanding about children's risk of developing a mental health problem, to increase their initial engagement in a preventive parenting program. Parental insight needs to be developed in a sensitive and moderate way, to avoid 'scare tactics'. For example, Mian and colleagues (2015) sent personalised letters highlighting the importance of parenting skills in the prevention of child anxiety, and

provided the opportunity for parents to ask questions through their follow-up telephone calls. This recruitment methodology successfully increased parental intention to enrol, and this intention was found to be related to ongoing engagement.

Further, for programs in which prevention is designed as selective (i.e., for individuals who have increased risk) or indicated (i.e., for high-risk participants), it may be helpful to increase parents' understanding of the emergence of mental health and behaviour problems in their children. This could be facilitated through recruiters asking questions about parents' current concerns for their children, including both behavioural symptoms and other risk factors (e.g., bullying and sleep concerns). This could take the form of pre-screening (Plueck et al., 2010). Plath and colleagues (2016) reported that parents who participated in pre-screeners, while often confused as to why this was required to begin with, found the process enlightening and increased parental readiness to engage in a program designed specifically for them and their children.

At the family level, it is envisioned that parents' relationships with significant others (family members, peers and their adolescents) will affect parents' intention to enrol. Many of the parents and professionals in Paper 2 reported the importance of significant others' opinions about both the preventive parenting program and any of the possible outcomes of parental engagement (e.g., being stigmatised) in parents' decision making regarding engagement. Interestingly, in several earlier frameworks for parental engagement, the link between the influence of significant others and parental initial engagement has not been made, despite 'subjective norms' featuring in the TPB (Ajzen, 1991; Ajzen & Fishbein, 1980). Subjective norms refer to the views and opinions of peers and significant others about both the parenting program and parents who enrol in parenting programs (Ajzen, 1991; Ajzen & Fishbein, 1980). Almost one-quarter (22%) of the parents surveyed in one previously published study reported another family member's refusal to participate in the initial

assessment as an important reason for not engaging (Spoth et al., 1996). Additionally, Perrino and colleagues (2001) found that while family system factors, such as family communication, shared views and family organisation, were significantly related to engagement, the family's level of cohesion was not. The findings that significant others play an important role in parental initial engagement is consistent with McLeroy and colleagues' (1988) SEM, which suggested that parents' interpersonal relationships were important factors in parental decision making and subsequent engagement in programs. The support of significant others, such as partners and close family members, in relation to parental engagement could be further enhanced by providing childcare, a meal and assistance with transportation.

Another seldom-discussed topic in the current research, which the non-engaged parents who were interviewed in the study described in Paper 2 stressed, was the importance of their adolescents' views and concerns about the program. These parents reported not engaging in preventive parenting programs because of their teenager expressing concerns about either (1) having to participate in the program themselves, or (2) the potential of their adolescent to experience embarrassment or shame through the association of their parent's presence at a parenting program which is being facilitated through the adolescent's school. This factor resonates with both the concept of 'subjective norms' from the TPB (Ajzen, 1991; Ajzen & Fishbein, 1980) and stigma (Corrigan et al., 2006).

The parents' and adolescents' perceptions of family stigma also affect parents' engagement in parenting programs. Worldwide, young people and adults with mental health problems are among those most stigmatised (Bos et al., 2013; Pescosolido et al., 2007). Corrigan et al. (2006) described family stigma as the discrimination that is extended to people who are somehow linked or associated with a stigmatised person. The non-engaged parents reported in Paper 2 mentioned family stigma when discussing their fear about the way their adolescents could be treated if their peers discovered that their parents were engaging in a

preventive parenting program. This was particularly important if the program was being offered at their adolescents' school. As noted above, potential solutions to decrease stigma and increase engagement are described in Section 6.3.4.

6.2.3 Organisational-level factors

Organisational-level factors include factors pertinent to both the organisation running the parenting program and the parenting program itself. As more research is conducted into engaging parents in parenting programs, it is important to recognise the heterogeneity of parents as a target group and provide the relevant content in several different modalities, time periods and locations. Socio-ecological theory explains that organisational factors relate to the (1) built/physical environment (e.g., school grounds), (2) program factors and (3) relational components of the face-to-face programs between the individual, other group members and individual professionals (McLeroy et al., 1988). Similar organisational themes have been consistently reported in several studies as the main reasons for not engaging in preventive parenting programs, including the program location, scheduling or modality being incompatible with the parents' schedules (Dumas et al., 2007; Levant, 1987; Spoth & Redmond, 1993; Haggerty et al., 2002; Hindman et al., 2012; Houle et al., 2018). More specifically, in both Paper 2 and other studies (Birkin et al., 2008; Spoth et al., 1996; Van Wyk & Lemmer, 2008) parents reported concerns related to the location of the preventive parenting program and the other participants who might attend. Interestingly, some of the participants in Paper 2 reported a preference for travelling longer distances to attend a program, to gain a higher level of anonymity. This was particularly important for parents residing in rural regions, and when programs are offered at the local high school.

A parent's assumptions about, and their relationship with, both the referring individual and the practitioner conducting the program can affect a parent's initial engagement (Garcia-Huidobro et al., 2016; McCurdy & Daro, 2000; Orrell-Valente et al.,

1999). This was demonstrated in Orrell-Valente and colleagues' (1999) study, as well as in Paper 2, through parents explaining that they needed to 'know' and 'trust' the practitioners conducting the preventive parenting program before they would feel happy to engage. Parents make decisions about how trustworthy a professional is based on the limited information that may be provided about the practitioner in a program advertisement (Wessels, Lester, & Ward, 2016).

Also, relevant to the organisational level of this conceptual framework was the common perception among parents that their child did not need the benefits offered by the preventive parenting program (Spoth, Redmond, Hockaday, & Shin, 1996). This perception reveals parents' limited understanding of the importance of prevention for child mental health problems. When considering the 'cues to action' aspect of the HBM, it is clear that both the advertisements/recruitment material given to parents and the family members, peers and professionals referring parents to programs could do more to educate parents about the importance of prevention of mental health problems. In addition, these recruitment methods could attempt to increase parents' perceptions regarding susceptibility to mental health problems and their severity, which was demonstrated in one study (Carpentier et al., 2007) to increase parental initial engagement. Specifically, Carpentier and colleagues (2007) used a bilingual letter that included the school's endorsement and a brochure explaining the program's purpose and cultural focus, incentives and benefits for both the family and community. The messages in the recruitment materials were driven by the HBM and drew upon other research on designing messaging to increase engagement. This recruitment procedure, along with follow-up telephone interviews, led to a 62% enrolment rate, which when compared to the standard enrolment rates of between 3% to 35% (Smokowski et al., 2018) demonstrates a significant increase in initial engagement.

6.2.4 Community-level factors

Parents live, work and interact most commonly in a small subsection of society within their immediate neighbourhood. A large body of research has shown the importance of neighbourhood and residential areas to child and adolescent health and development (see review by Sellstrom & Bremberg, 2006). However, only a small number of specific factors from this large body of research have been applied to parental engagement to date. The most common of these factors is neighbourhood disorganisation. The level of disorganisation of the neighbourhood in which a parent lives has been demonstrated to have a significant effect on parenting engagement in both health services (Auchincloss, Van Nostrand, Ronsaville, 2013) and preventive services (Byrnes et al., 2012). Neighbourhood Disorganisation Theory posits that low neighbourhood socio-ecological status and residential instability leads to less use of treatment and preventive health care services (Shaw & McKay, 1942; Winstanley et al., 2008). Neighbourhood Disorganisation Theory refers to certain neighbourhood characteristics that can make it difficult for residents to control their environment (Ellen, Mijanovich & Dillman, 2001; Shaw & McKay, 1942), in order to engage in a parenting program. These characteristics include increased social disparities (e.g., economic and employment stress) and housing instability, all of which lead to both an increased or cumulative risk of an adolescent developing mental health problems (Evans, Wells & Moch, 2003; Evans & Kantrowitz, 2002; Evans & Whipple, 2013), as well as increased risk that a parent will not initially engage in a parenting program. Associated community-level barriers can be physical (e.g., limited transportation) or social (e.g., higher levels of crime, low levels of workforce stability). These additional barriers can influence a parent's ability to develop stable social networks, which in turn, can influence parental intention to enrol (Evans & Kantrowitz, 2002). Studies that have recruited from ethnic minority groups (Bjørknes et al., 2011; Dawson-McClure, Calzada, Brotman, 2017; Garcia-Huidobro et al., 2016; Harachi et

al., 1997) have found that using more labour-intensive strategies, such as recruiting via community information meetings and recruitment in conjunction with community elders, was more effective and overall, more cost effective, than traditional recruitment through regular public health services (i.e., GP centres and hospitals). Further, Dawson-McClure and colleagues (2017) found that increasing referring professionals' knowledge of cultural differences and embedding programs into schools increased professionals' respect for ethnic minority parents, and their willingness to refer and connect with parents in the preventive programs. This change in professionals' perceptions of parents and willingness to refer is suggested by researchers (Dawson-McClure et al., 2017; Iruka, Currenton & Eke, 2014) to increase parental engagement in the long term as (1) parents who feel respected are more likely to engage and (2) more parents will be referred to the programs.

6.2.5 Wider society-/culture-level factors

Wider social and cultural values, while not mentioned by stakeholders in Paper 2, have been reported by other studies to have an explicit effect on parental initial engagement. This is reflected in the SEM's 'society' or 'policy/enabling environment' (McLeroy et al., 1988) and in the individual health behaviour theories' 'subjective norms' (Ajzen, 1991; Ajzen & Fishbein, 1980; Rosenstock, 1974). Examples of the way societal values can affect initial engagement have been shown in several studies that have attempted to increase fathers' engagement in parenting programs (Helfenbaum-Kun & Ortiz, 2007; Panter-brick et al., 2014). These studies have consistently reported that while fathers have many reasons for non-engagement, one common reason is the long-held societal view that parenting is the 'mother's job', while fathers are more likely to be working full-time and in the 'breadwinner' role. In addition, the wider society's acceptance of the importance of the prevention of mental health problems can affect a parent's understanding of prevention, its importance and their intention to enrol. This acceptance or non-acceptance of preventive parenting programs can

feed into parents' perceptions of public stigma. Rusch and Thornicroft (2014) suggested that public stigma could lead to (1) an unwillingness to participate in preventive efforts because of prejudice against people with mental illness and (2) pessimism about the success of preventive efforts.

Finally, the SEM demonstrates that the policies upheld by the local and national governments, including the allocation of resources to mental health and access to schools and healthcare services, affects parental engagement. Houle and colleagues (2018) reported that the government policies and social policies which affect the organisation implementing the parenting program influenced parental engagement. Further, researchers such as Patel et al. (2007), Kieling et al. (2011) and WHO (2016a; 2016b) have called for mental health problems to be recognised as a public health problem, to increase the funding allocated to reduce these problems. In response to these calls governments have begun to implement further mental health prevention and intervention provisions. For example, the Australian Fifth National Mental Health and Suicide Prevention Plan (Commonwealth of Australia, 2017) provides a first step towards increasing mental health preventions at all levels of government and policy.

6.3 Implications of thesis findings

There are several implications arising from this thesis particularly around strategies for improving parental engagement in preventive parenting programs. These implications fall into four areas: (1) recruitment and marketing strategies, (2) increasing the acceptability of interventions, (3) understanding and influencing the dynamic interaction between factors, and (4) developing a multi-level approach to the reduction of stigma.

6.3.1 Strategies for improving engagement: Recruitment and marketing

Previous research has revealed limits in the scope and variety of recruitment techniques. The techniques that have been trialled seem to be ad hoc and seldom informed by

theory despite the emerging research that suggests a range of modifiable factors that could be targeted by changes in recruitment strategies. Community and research recruitment needs to be proactive and purposeful. For example, in the case of Mian et al. (2015), the use of personalised telephone calls and follow-up letters attempted to modify several individual factors, such as parental motivation to attend, belief and self-efficacy that attending could lead to behaviour change, and perceived risk of the child developing a mental health problem. Further, Bjørknes and colleagues (2011) demonstrated that intentionally and proactively developing theoretically driven recruitment strategies was far more cost effective than traditional recruitment routes and yielded a higher number of participants from their identified target group (ethnic minority parents).

To extend upon these promising findings, researchers could look to the marketing and advertisement literature, which for many decades have specialised in increasing populations' interest and motivation to attend programs and/or buy products. This is not a new concept. In fact, as early as 1987, researchers (Levant, 1987) demonstrated the use of surveys with target parent populations, prior to marketing the parenting program, to shape the 'product price, place and promotion' of the parenting program (p. 246). More recently, Sanders and Kirby (2012) took this a step further and examined the strategies to engage parents in program development that could be employed at each stage of parenting program development and dissemination. They reported that many mental health professionals are somewhat cautious about using marketing strategies to motivate participants to engage with their services. However, they posited that if such marketing provides truthful information about evidence-based services and aims to increase parental awareness of parenting programs in ways that destigmatise and normalise parents' participation, these marketing strategies would, in fact, be ethically sound.

6.3.2 Strategies for improving engagement: Increasing acceptability of intervention content, modality and length

Providers need to implement a range of strategies targeting different factors from the framework to increase parental initial engagement for a wide range of parents. This includes engaging parents as consumers in program development. Sanders and Kirby (2012) highlighted the importance of qualitative methods such as focus groups and key stakeholder feedback to provide feedback on new topics and complex issues. In particular, the use of focus groups allows for the cost-effective piloting of program material (Bernal, 2006). While there are limitations to these methods, such as the presence of strong opinion leaders within focus groups, strategies such as employing an experienced focus group facilitator could assist in mitigating these limitations (Morgan & Krueger, 1998; Sanders & Kirby, 2012).

Further, the non-engaged parents in the study described in Paper 2 reported wanting the flexibility to engage in the same program content through different modalities. Although the underlying reason for this could differ among the parents (e.g., some parents wanted online access to programs because of their busy lifestyles, whereas others wanted to reduce the potential for stigma), the result is that practitioners and researchers need to provide multi-modal alternatives. It has been shown that when offered a choice of different program types, parents have a tendency to pick the program that has the intensity suited to their family situation. For example, Aalborg and colleagues (2012) found that parents who had more concerns about their child's behaviour chose to attend a more intense face-to-face group program over a booklet-based program. Thus, there is increasing recognition that one size does not fit all, and that multi-level approaches are required in order to meet the needs of different target groups of parents (Sanders, 1999, 2003; Yap et al., 2017).

6.3.3 Strategies for improving engagement: Dynamic interaction of engagement factors

As mentioned earlier in this chapter, each of the factors in the conceptual framework can interact in dynamic ways, both within and between levels. These interactions can change for different target populations of parents and over time. For example, a parent that does not have any current concerns for their child but has the belief that engaging in a preventive parenting program could make them look like a bad parent (self-stigma) is unlikely to engage, especially if no one from their peer group is willing to attend a face-to-face group program. Through reducing stigma and normalising the difficulties that parents in the community face, while simultaneously educating parents about their child's potential susceptibility to developing a mental health problem later in their adolescence, programs can encourage parental initial engagement. In more vulnerable and ethnic-minority populations, parents' lack of understanding of the recruitment materials and lack of trust of outsider facilitators and researchers can reduce initial engagement. Thus, increasing the trust between the parents and the facilitators/researchers and the development of appropriate recruitment materials, while also building in extrinsic motivators (incentives such as provision of food or monetary rewards), could assist with initial engagement (Sanders & Kirby, 2012). Once initially engaged, facilitators and researchers can work to increase parents' intrinsic motivation to ensure their continued engagement. These examples show the way multiple-level factors need to be influenced by researchers and facilitators to increase parental engagement across all phases of engagement (initial, ongoing and quality of engagement)

6.3.4 Strategies for improving engagement: Reduction of stigma, a multi-level approach

Further findings from this thesis have reinforced the need to destigmatise both preventive parenting programs and mental health problems. Parents in both this study and others (see review by Koerting et al., 2013) have consistently reported concerns of being labelled a 'bad parent' should they attend a parenting program. A parent's concern over how

they might be perceived by others seems to override their want or need to engage in a parenting program. In addition, parents are fearful about engaging in parenting programs that focus on adolescent mental health problems, as they are concerned about the potential for both themselves and their adolescent to be stigmatised. These findings indicate the importance of continuing to work at all levels of the conceptual framework to destigmatise parenting programs and mental health, as well as help parents to understand the meaning of prevention of mental health problems and its importance for their children. Cook, Purdie-Vaughns, Myer and Busch (2014) conducted a review of interventions relevant to stigma and health across the ecological system (as described in the evidence-informed conceptual framework above). They found evidence of effective multi-level, multi-strategy interventions, thus identifying potential strategies that could be implemented at each level of the evidence-informed conceptual framework.

First, for both intra- and inter-personal levels, strategies could focus on increasing the education of both stigmatised and non-stigmatised individuals in the issues around preventing mental illness problems (Cook et al., 2014). Although some intra- and inter-personal stigma-reducing interventions have been criticised as being superficial, as they do not change the structural forces (Link, Mirotznik, & Cullen, 1991), there is growing support for the idea that small changes can have enduring benefits (Johnson et al., 2010; Yeager & Walton, 2011). Further, these individual approaches often are relatively easy to implement (Blankenship, Friedman, Dworking, & Mantell, 2006; Cook et al., 2014). Educational approaches, designed across levels to contradict stereotyping of people with mental illness, have been found to be effective at reducing mental illness stigma (Cook et al., 2014). The difference for the current target group of parents was the preventive aspect of the program. Preventive parenting programs that build parents' and families' understanding of the prevention of mental health problems and the importance of reducing the risk of adolescents developing mental health

problems could lead to a reduction in self- and family stigma. This would include explaining the difference between prevention and crisis management, as well as the benefits of prevention. Educating individuals and families could be conducted through newsletters from schools, discussions with referring staff and discussions with other professionals, such as doctors.

Second, within the organisational level, offering the same preventive parenting content through different modalities, such as individual sessions, telephone counselling and online, could reduce parents' concerns about others' opinions and thus, increase overall engagement with programs. The need to offer different program modalities has been recognised in the wider parenting program literature (Heath et al., 2018; Lakind & Akins, 2018), as online alternatives of traditional parenting programs have been developed; for example, Triple P (Baker et al., 2017; Sanders, 1999; 2003; Sanders, Baker & Turner, 2012), Parenting Strategies (Yap, Martin, & Jorm, 2017; Yap et al., 2011) and Partners in Parenting (Yap et al., 2017). Such evidence-based online alternatives could eliminate timing and location concerns for parents, as well as reducing the potential for judgement from others, as parents interact with these programs in the privacy of their own homes.

Further, community-wide and public policy strategies, including the use of national media campaigns, could decrease the public stigma involved with attending preventive programs in relation to mental health and subsequently, increase parental engagement in parenting programs. For example, the Beyondblue "Beyond Barriers" campaign in Australia (Ipsos Social Research Institute, 2014), which supports and encourages men to seek help for anxiety and depression through reducing barriers, offers a framework for increasing public knowledge about preventive parenting programs. Vaughan and Hansen's (2004) research found that people with mental illness perceived less stigma among the public after a media

campaign. However, it is currently unknown whether this would have the same effect for parents considering a preventive parenting program related to mental health problems.

6.4 Limitations of the research

As discussed in each paper, the main limitations of the current thesis pertain to the inability to conduct a meta-analysis (Paper 1) and the lack of generalisability of the data, due to the exploratory nature of the research and the nature of the participants recruited for Paper 2. First, the small number of existing studies on parental engagement and their high heterogeneity prevented the execution of a meta-analysis. As such, the Stouffer's *p* analysis was adopted to estimate the reliability of associations between the investigated predictors and parental engagement in preventive parenting programs. This type of analysis provides a starting point but is unable to weight studies according to sample sizes (Darlington & Hayes, 2000). Further, all studies included in the systematic literature review were assessed to have a high risk of bias. This risk of bias along with the inability to weight studies according to sample sizes suggest, the analysis results should be read with some caution.

In addition, the results of Paper 1 suggested that there was no association between child age and parental engagement. However, Paper 2 suggested that there may be some factors that are specific to parents of adolescents. For example, many parents in Paper 2 reported concern about how their engagement in a program that was held at their adolescent's school might impact their adolescent. There is currently insufficient evidence to ascertain whether this consideration would also apply to parents of children under 12 years, and indeed, whether there are other differences between parents of high-school aged versus parents with primary school aged children.

Further, while Paper 2 did prioritise a generally overlooked population of parents, that of 'non-engaged' parents, it did not include other potentially important stakeholders. These stakeholders include 'engaged' parents, other professionals referring parents to programs

(such as, General Practitioners), as well as the children of parents being offered the preventive parenting programs. More specifically, while there have been many studies involving engaged parents and other stakeholders, these studies have not, to the best of my knowledge, used similar semi-structured interview questions to the current thesis. Thus, future research should extend the work presented here to include these additional stakeholders, to establish a more complete picture of factors influencing initial engagement, and to discover whether 'engaged' parents, other professionals and children would identify similar themes to the stakeholders consulted in the current research.

Over 80% of the parents in Paper 2 had completed high school and gone on to complete further tertiary studies. This percentage is higher than the average (58%) across the suburbs from which the participants were recruited (Australian Bureau of Statistics, 2016). This created a study limitation, as while the parents represented a range of socioeconomic positions, as a sample they were more highly educated than the general population. It is possible that this study captured the barriers to the 'worried well' attending universal parenting programs rather than those parents whose adolescents are at higher risk and could be considered 'hard to reach'. Although this limitation was somewhat mitigated through the inclusion of practitioners and HSS from a wider range of socioeconomic backgrounds, it is important that future research recruits non-engaged parents from a diversity of educational, socio-economic and ethnic backgrounds. Future research including those assessing parenting programs and those assessing barriers to engagement could consider using the engagement strategies of Families and Schools Together to increase research engagement for parents from diverse backgrounds. These strategies include; running fun family activities, free meals and free child care and were considered successful as they increased the number of parents initially engaging in the programs (McDonald, Miller & Sandler, 2015).

Whilst Paper 2 aimed to capture a broad range of experiences about multiple different modalities of parenting programs, the resultant participants all had experience with the more traditional face-to-face type parenting program. This limits the current study's ability to comment on the similarities and differences in barriers for different program modalities. However, all stakeholders reported the importance of having multiple modalities, including online versions. It was hypothesised by the stakeholders in Paper 2 that online parenting programs provided parents with an additional layer of anonymity. An online study conducted by Tapp and colleagues (2017) produced similar results to Paper 2 and suggested that parents expressed a high level of interest in engaging in an online parenting course. Further, the use of online programs can dramatically reduce other barriers, such as scheduling difficulties (Yap et al., 2017) and has been recommended by Cuijpers and colleagues (2010) as one key way to increase engagement rates in preventive interventions. Moreover, these online programs are demonstrating significant positive change for families with a meta-analysis conducted in 2013 suggesting that both guided and self-guided online parenting interventions can make a significant positive contribution for both children and their parents (Nieuwboer, Fukkink & Hermanns, 2013). Thus, this area of research is important and requires further exploration

Another limitation of this study was the recruitment methods used for Paper 2, which mainly involved advertisements through schools, community organisations, message boards and online websites such as Facebook and online newsletters, as well as snowballing procedures. While these methods appeared to be successful in recruiting non-engaged parents who otherwise would not have been represented in the research, they may have excluded some non-engaged parents from participating. Parents who generally do not engage with any form of media reporting on parenting programs, mental health or their teenagers' schooling

may not have received information about this project. Thus, this particularly under-reached group of parents may still not be represented in this study.

Finally, parents emphasised the importance of their adolescents in their decision making. A limitation of this study was that adolescents were not engaged in the qualitative interview process. Parents reported that they often received (or did not receive) information about the parenting programs being run through the high schools via their adolescents, who acted as gatekeepers. They said they would like to see more programs that included both parents and their adolescents. Engaging adolescents in discussions about the barriers and enablers of parental engagement could shed light on the types of parental engagement that would be acceptable to adolescents. Finding the answer to this question may decrease adolescent gatekeeping (e.g. adolescents requesting that their parents do not attend programs at the school and/or adolescents receiving hard copy advertisements and not passing these on to caregivers). In addition, asking adolescents about the types of program and knowledge they would like to obtain through engagement in a preventive program related to mental health could increase the usability of these programs to be run with both adolescents and parents. These types of programs have already been researched (Aalborg et al., 2012: Carpentier et al., 2007; Mauricio et al., 2014; Fleming et al., 2015; Skärstrand et al., 2009), but were not referred to by any of the Paper 2 participants, suggesting limited translation of the information into everyday practice. Thus, further research is needed to assess the usability of these programs in the community.

This thesis aimed to advance our understanding of factors influencing parental initial engagement, and to that end, the Socio-Ecological Framework of Parental Initial Engagement was developed. This framework provides researchers and parenting program facilitators with guidance about the type of factors that could influence parental initial engagement. Program facilitators and researchers can use this knowledge when designing and implementing

parenting programs to increase the initial engagement of the parents they are attempting to attract. Nonetheless, program facilitators and researchers should take into account the limitations to this preliminary framework. Firstly, the framework is specific to parents' initial engagement in preventive parenting programs, so it may not apply to all parenting programs. Secondly, the research presented in Paper 2 pertains specifically to parents of adolescents, thus more research is needed to see if the factors in the current framework pertain to parents of younger children. Finally, due to the preliminary nature of the framework, it cannot provide a more detailed representation of the factors that are most significant for parents of specific target groups. Thus, subsequent research is recommended to build on the foundations provided here, to further increase our knowledge of the factors of most importance for parents, and to establish whether different factors are more or less influential for different parents.

6.5 Future research

To the researcher's knowledge, this study is the first of its kind in Australia, indicating the need for further research in understanding parental initial and overall engagement in preventive parenting programs in relation to adolescent mental health. This research was unique, as it elicited the voices and experiences of non-engaged parents, who have rarely been selected for inclusion in research into parental engagement, as well as drawing on the perspectives of practitioners and referrers (e.g. high school staff). This triangulation of experiences, underpinned by critical realism, facilitated the discovery of factors hindering parental engagement. This research is the first step towards an understanding of parental initial engagement in preventive parenting programs in relation to adolescent mental health. Given the limited research in this area, subsequent research could be taken in several directions. Through further research with parents to establish (1) the relative importance of factors contained in the conceptual framework, and (2) the effect of

different recruitment/marketing techniques, an increase in parental initial engagement in these preventive parenting programs could be achieved.

6.5.1 Future research with parents

The conceptual framework described in this chapter provides a first step for researchers and practitioners in identifying the factors that can affect parents' initial engagement or intention to enrol in preventive parenting programs for adolescent mental health. However, as yet, this framework cannot provide a depiction of the factors that are most significant for certain populations of parents. The next step would involve researchers evaluating the framework factors, to provide a hierarchy of the elements and their relative importance for different populations of parents. One potential experimental method that could be used to demonstrate different factors' relative importance is discrete choice experiments. Discrete choice experiments are an attribute-based measure of benefit that is based on the assumption that (1) interventions can be described by their characteristics and (2) an individual's valuation depends on the levels of these characteristics (Ryan, 2004).

Discrete choice experiments have been used in both health economics (Ryan & Gerard, 2003) and more recently, to model mental health information preferences for parents of children with mental health problems (Cunningham et al., 2008). The type of factors, which are termed attributes in discrete choice experiments, that could be reviewed includes timing, location, modality and topics of the preventive parenting programs, as well as the relevant levels (e.g., single session versus multiple sessions). Parents would then choose from several options, each of which would detail a series of attributes at different levels (Sculpher et al., 2004). The relative importance of each factor and the trade-offs made between them, can be assessed by changing the levels of the factors and asking parents to make their choice again (Sculpher et al., 2004). Thus, using discrete choice experiments would allow the integration of parents' views and values on all aspects of these types of parenting programs in

one study. This would allow researchers to see the way parents weigh up the attributes of a program alongside the payoff of potential prevention of mental health problems in their children.

6.5.2 Future research with additional stakeholders

As noted in the current study's limitations, engaging additional stakeholders can increase our understanding of the barriers and enablers to parental initial engagement in preventive parenting programs related to mental health. Additional stakeholders should include any other professional staff who may refer parents to preventive parenting programs. Some studies have included stakeholders such as children or health centre staff (Axford et al., 2012; Rodríguez et al., 2014), program coordinators/facilitators (Axford et al., 2012; Mytton et al., 2014), and administration staff (Rodríguez et al., 2014). Further, doctors, GPs, nurses, and children's centre staff may be important stakeholders. Conversations about engaging parents in child mental health treatment have found that these stakeholders can act as gatekeepers, particularly with regard to referring parents to preventive parenting programs (Axford et al., 2012). Therefore, it is important to engage multiple stakeholders when researching parental engagement in preventive parenting programs related to mental health. Further, the research presented in Paper 2 identified that adolescents are another important stakeholder group when considering optimum parental engagement. Of particular note are the adolescents' and parents' views of engagement in a program that is held at the adolescent's school. Thus, adolescents, along with other referring professionals, should be included in future research.

6.5.3 Recruitment/marketing of preventive parenting programs

In addition to discrete choice experiments, further research in the form of the development of recruitment methodologies to fit the target parent population is required. Paper 1 demonstrated that there are several easily adjustable factors of commonly used

recruitment techniques, such as utilising health behaviour theories in recruitment flyers that aim to increase parents' initial engagement. Thus, researchers could look to the marketing and advertisement literature, to assist in the development of recruitment techniques (Metzler et al., 2012; Sanders & Kirby 2012). Researchers such as Levant (1987) have previously demonstrated how the use of surveys prior to marketing a parenting program to shape its 'product price, place and promotion' (p. 246) can effectively increase parental engagement. More recently, Sanders and Kirby (2012) and Metzler and colleagues (2012) discussed strategies for engaging parents in parenting program development and dissemination. The current thesis demonstrates the importance of these approaches in developing promotional materials that are inviting to typically non-engaged parents. This could be achieved by replicating and extending studies such as the ones mentioned above.

6.6 Conclusions

This program of research achieved its aim of exploring the factors that enable or inhibit parental engagement in preventive parenting programs related to adolescent mental health. The findings were not only based on previous quantitative and qualitative findings but also on theories underpinning health behaviours and the experiences of non-engaged parents, as well as facilitators and referring HSS. Analysing these experiences from the perspectives of both individual health behaviour theories and socio-ecological frameworks allowed the development of a comprehensive, evidence-informed conceptual framework of the factors influencing parental initial engagement in parenting programs to prevent mental health problems in adolescents. This research has revealed the need to (1) modify the commonly measured predictors of parental engagement, to capture the factors reported by multiple stakeholders; (2) utilise existing individual health behaviour theories in the development of recruitment methodologies, to increase parental initial engagement; (3) consider these recruitment methodologies within a socio-ecological lens, and (4) conduct further research

into the multiple factors influencing parental initial engagement, to understand the relative importance of factors for specific populations of parents. The evidence-informed conceptual framework that has been developed in this research provides the first step in understanding parental initial engagement by providing researchers and practitioners with a means to identify the multiple socio-ecological factors that enable or inhibit initial engagement. It provides a framework that can be used to develop methods to examine the relative importance of these factors, as well as recruitment strategies that can mitigate some of the potential barriers to parental initial engagement.

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Appendix A.1: PROSPERO Protocol

PROSPERO
International prospective register of systematic reviews

NHS
National Institute for Health Research

Factors influencing parental engagement in preventative parenting programs for child mental health: a systematic review

Samantha Finan, Marie Yap, Naomi Priest, Narelle Warren, Brooke Swierzbiolek

Citation

Samantha Finan, Marie Yap, Naomi Priest, Narelle Warren, Brooke Swierzbiolek. Factors influencing parental engagement in preventative parenting programs for child mental health: a systematic review. PROSPERO 2014 CRD42014013664 Available from: http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42014013664

Review question

The objective of this review is to conduct a systematic review of the factors that influence parental engagement in preventative parenting programs. The identified factors will then be compared and integrated with the view to provide guidance on effective ways to increase parental engagement.

Searches

The following databases will be searched: Cochrane Library, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Informit online, Ovid MEDLINE, ProQuest, PsycINFO, PubMed, Scopus and Web of Knowledge. Additionally, grey literature including reports on preventative parenting programs for child mental health will be searched. Google/Google Scholar will also be used to find the relevant studies available in full text. Manual searching of reference lists of included studies will be conducted to locate further relevant articles and dissertations of interest. A full description of the search strategy for the MEDLINE database is shown in the accompanying PDF; this will be adapted and modified as necessary for other databases. To ensure sensitivity and specificity when retrieving articles, keywords and subject headings will be used systematically. For example, when searching the MEDLINE database, Medical Subject Headings (MeSH) will be used. Search terms will be truncated and exploded to ensure all associated terms are included.
The search will be limited to studies written in English. Date restrictions will not be applied.

Search strategy

http://www.crd.york.ac.uk/PROSPEROFILES/13664_STRATEGY_20140821.pdf

Types of study to be included

This systematic review will include peer-reviewed journal articles and dissertations or theses. Empirical research studies, systematic reviews or meta-analyses (where individual study results can be extracted) and qualitative studies will be included. A study will be included only if:(1) over 50% of the intervention time is spent with parents; and(2) data are reported on the rates of parental engagement, as defined in the outcome of interest to include enrolment, participation and retention rates.Group, individual, mailout, phone or internet-based preventative programs for child mental health will be included. All intervention studies aimed at treating specific diagnosed mental illness in children will be excluded.Other research articles such as opinion articles, editorials, blogs, newspapers, books or book chapters and conference abstracts will be excluded.

Condition or domain being studied

Barriers of parental attendance to preventative parenting programs for child mental health. These programs can be defined as a program requiring parental attendance and interaction in more than 50% of the program and aimed specifically at preventing child mental health problems.

Participants/population

Studies will be eligible for inclusion if the preventative parenting program is aimed at parents of at least one child, and with a specific goal of preventing child mental health problems. As such, programs that target parents with children already diagnosed with a mental health issue will be excluded. This review will follow

the United Nations Children's Fund (UNICEF) definition of a child as 'a person under 18'. There will be no restrictions on gender of parent or child and the geographical location of the study participants.

Intervention(s), exposure(s)

Intervention methods to be included include researchers attempts to increase/facilitate engagement of parents in preventative parenting programs for child mental health. Programs that target parents with children already diagnosed with a mental health issue will be excluded.

Comparator(s)/control

These data will allow for analysis of the impact of different recruitment, participation and re-engagement strategies on rates of enrolment and participation. In addition, qualitative data on parents' and researchers' understanding of the barriers and facilitators to recruitment and retention will be extracted and synthesised. Outcomes focusing on the mental health of the children and change in parental mental health or parenting behaviours will not be considered.

Context

Primary outcome(s)

The key outcomes of interest from this review include the study's reported recruitment strategies, enrolment rate, participation rate, and dropout rates.

Timing and effect measures
Recruitment strategies: theories, methods and techniques used by the researchers to recruit participants.
Enrolment rates: number or percentage of participants who enrol into the preventative program as compared to the total eligible sample; and the number of participants who attend the first session.
Rate of participation: number or percentage of sessions attended by participants.
Dropout rate: number or percentage of participants who start but do not complete the preventative program. The methods of participation that researchers use to re-engage drop outs will also be of interest.

Secondary outcome(s)

None

Data extraction (selection and coding)

Data selection procedure
Two researchers will independently screen the title and abstract of references to identify studies to be included. The full text will be obtained of all potentially eligible studies. Both researchers will then independently assess full text articles for inclusion. Disagreement will be resolved through discussion, with involvement of the other authors when necessary. All reasons for exclusion of potentially relevant studies will be documented.
Data extraction and management
The data will be extracted initially from all studies by the first author, with 100% of the included studies having data extracted independently by a second researcher. Disagreement will be resolved through discussion, with involvement of the other authors when necessary. Extracted data will be placed into an Excel document. The researchers will attempt to contact the authors via email if required to obtain essential missing data from the studies that meet our inclusion criteria. The PROGRESS-Plus framework will be used to record the methodological variables, socio-demographic characteristics and outcome measures from the selected quantitative studies. Cochrane's 'Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions' will be used to record methodical variables, socio-demographic characteristics and key themes identified in selected qualitative studies.

Risk of bias (quality) assessment

The assessment of quality that will be undertaken includes risk of bias and quality of engagement strategies. Studies will be reviewed according to their design to assess for bias and quality.
Quality of engagement strategies will be assessed on the extent to which the strategies are based on a clear theoretical framework and whether the necessary development research was completed (e.g. pilot study to

determine feasibility and power).

Strategy for data synthesis

Data synthesis and analysis will be done according to PRISMA guidelines. A flow-diagram will be used to summarise the selection process of studies included in the review. Agreement between reviewers will be assessed using the kappa statistic. Data will be synthesised in tables. Summaries of the effect of different recruitment, participation and retention methods, theories and quality of study on study outcomes will be provided. Results will also be reported separately for different study designs. A descriptive summary will also be included in the results section of the review.
Data analysis will be both descriptive and narrative. There will be a description of the characteristics of included studies and studies will be grouped by the theory that informed their engagement procedures. A comparative analysis will be conducted to evaluate the impact of different engagement theories on engagement, recruitment and retention statistics and intended study outcomes.
A meta-analysis and associated analyses will be conducted if included studies are sufficiently homogeneous to permit meaningful summaries. The I-squared statistic will be used to assess the level of heterogeneity present between studies. If I-squared is <50% indicating the presence of less than moderate heterogeneity between studies, results will be pooled using a random-effects model, with standardised mean differences for continuous outcomes and odd ratios or risk ratios for binary outcomes. If meta-analysis is not possible, data will be synthesised based on a framework for narrative synthesis. Strengths and limitations of included studies will be assessed, reported and discussed in the discussion of this systematic review.
Recommendations for potential further research possibilities will also be made.

Analysis of subgroups or subsets

Summaries of the effect of different recruitment, participation and retention methods, theories and quality of study on study outcomes will be provided. Results will also be reported separately for different study designs.

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Conflicts of interest
None known

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Details of any existing review of the same topic by the same authors

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	Yes
Piloting of the study selection process	Yes	Yes
Formal screening of search results against eligibility criteria	Yes	Yes
Data extraction	Yes	Yes
Risk of bias (quality) assessment	Yes	Yes
Data analysis	Yes	Yes

Versions
24 September 2014
29 May 2018

Appendix A.2: PRISMA Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both. *Title identifies article as a systematic review of predictors and strategies to increase engagement*	p.1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number. *Please see abstract for structured summary*	p.2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. *Introduction includes details about child mental health problems and their effect on children and society and how prevention is one possible solution. Preventive parenting programs have shown promise in preventing both internalising disorders (Yap et al., 2016) and behaviour problems, as well as increase other child competencies (Sandler et al., 2011; 2015). Despite the potential benefits of preventive parenting programs, many studies examining the effectiveness of such programs have reported difficulties in engaging parents (Ingoldsby, 2010; Gross et al, 2001; Orrel-Valente, Piderhughes et al., 1999; Panter-Brick et al., 2014). There are two recent reviews completed by Ingoldsby (2010) and Chacko et al. (2016) that begin to look at the subject of engagement in parenting programs, Importantly Ingoldsby (2010) reviewed ongoing engagement and retention of families attending both intervention and indicated prevention programs designed to improve child mental health (child age range not specified). Notably this review did not include "…studies that focused on family enrolment unless the investigators also clearly hypothesised that the intervention would improve ongoing engagement or retention" (p.631). Universal and selective prevention programs were also not included in this review. While Chacko and colleagues (2016) reviewed and discussed predictors for parent engagement, within the domains of recruitment attrition, attendance (ongoing engagement) and treatment adherence (quality). This review included studies researching one type of parenting programs for parents of children aged 2-12 years (Behavioural Parent Training, BPT). This review also included a large number of studies because it examined multiple primary outcomes (including SES and child age), but did not focus on the factors influencing initial engagement. Another limitation of this review is that it did not review other types of evidence-based programs that have also reported engagement challenges (Heinrichs*	p.5-7

		et al., 2005; Spoth & Redmond, 2000). Therefore, the current review looks to extend of these studies by including programs specifically focused on the prevention of child mental health problems across childhood and adolescence (0-18 years). Specifically, this review focuses on the initial engagement and ongoing engagement components of parental engagement.	
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS). *Aims and Questions as follows: Specifically, this review aimed to: 1) investigate the predictors of parental engagement in preventive parenting programs, across the initial engagement (intent to enrol and enrolment) and ongoing engagement (attendance) components. Of particular interest, we aim to examine whether parental engagement differs depending on the age of the child at the time of parent participation; and 2) explore if any strategies used by researchers to increase parental engagement have been successful.*	p.7
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number. ***Systematic review registration:*** *PROSPERO CRD42014013664*	p.2
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale*. This review was conducted following the Cochrane Collaboration guidelines (Higgins & Green, 2009). Controlled trials (randomised and non-randomised), cross-sectional, case-control, and longitudinal studies were considered for inclusion. Articles were required to include participants who were defined as parents or primary caregivers of children aged 0-18 years. This wide child age range was used to maximise variance and the number of eligible studies, to explore whether child age is associated with parental engagement. Parents had to be 18 years or older. Interventions were those designed to prevent the development of mental health problems in children, where parents took part in at least 50% of the intervention. Interventions could be either group or individual programs and delivered face-to-face or via phone, mail or internet. To be included in this review, the articles were required to contain: 1) analysis of the predictors of parent engagement, or 2) an evaluation of the effects of an engagement strategy on parents' subsequent engagement in the parenting program. For more information see S1*	p.7-9, S1
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched. *The following electronic databases were searched: Cochrane Library, Informit online, Ovid MEDLINE, ProQuest, PsycINFO, PubMed and Scopus. The search was limited to studies written in English and articles published between 2004-2014. This publication date range was chosen to increase the likelihood that findings from this review will be more recent and relevant to current and future parenting programs. The initial search was conducted on the 12th of January 2015. To ensure that the latest data was included in the review, an update search was*	p.8

		conducted on the 21st of July 2016 which included articles published between January 2015-July 2016. A set of search terms were developed after consultation with a Post-Graduate Librarian Liaison. All terms within each concept were combined with OR and each concept was combined with AND. Search terms were truncated and explored to ensure all associated terms were included.	
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated. *A full description of the search strategy for the MEDLINE database is listed below (this was adapted and modified as necessary for other databases):* *1. Participat* OR engag* OR involve* OR uptake OR retention OR attrition OR recruit* OR enrol* OR dropout OR non-compliance OR adherence OR screen* OR evaluat* OR effect OR barrier* OR treat** *2. Parent* OR guardian* OR caregiver* OR carer OR mother OR father OR dad Or mum OR mom OR famil** *3. Program OR train* OR group* OR intervention OR behav* management* *4. Prevent** *5. Child* OR adolesce* OR teen* OR juvenile OR young person OR youth* *6. Mental health OR internal* OR external* OR conduct OR anxiety OR depress* OR emotion** *7. 1 AND 2 AND 3 AND 4 AND 5 AND 6*	p.8
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis). *Titles and abstracts of identified studies were reviewed to determine if they met inclusion criteria (see S1 for more detail about the inclusion/exclusion criteria*	p.8-9, Figure 1
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators. *). Full texts of articles that appeared to meet inclusion criteria were assessed by the first author (SF). Thirty-five percent of these titles and abstracts were independently assessed by a second author (BS) to check for inter-rater reliability of the inclusion criteria. Inter-rater reliability of inclusion criteria was 99.2%, with one additional article being included in the review. All reasons for exclusion of potentially relevant studies are documented in the PRISMA diagram (Figure 1). Importantly, studies were excluded if 1) engagement and/or retention were not primary outcomes of the study (n= 155) and/or 2) the studies had insufficient information to determine their definition of engagement (n= 32). Data extraction from all included studies was conducted by two authors (SF and BS) using a standardised, pilot-tested extraction sheet. Disagreements were resolved through discussion, with involvement of other authors when necessary.*	p.8-9, S1
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made. *Engagement factors were identified as factors that could influence a parent's engagement in preventive parenting programs. Themes were specified when two or more of the included studies examined the same engagement variable. The themes identified included: parent age,*	P.9-10 ,S1-4

		gender of parent, parent education status, parent employment status, parent race/ethnicity, parental mental health status, child age, child gender, child mental health symptoms, family structure and one- or two-parent households. *P-values were also sort from all studies, these values have been recorded in supplementary materials.* *Assumptions:* *Two hierarchies were created because for intent to enrol Dependent Variables (DV), the informant is the parent in all cases; and for all other stages of engagement (enrolment and attendance), the informant is the researchers in all cases. As many of the Independent Variables (IV) being measured are self-reported demographics (i.e. age in years, number of hours spent in paid employment), it was assumed that these factors would be more valid and reliable if reported by parents. Additionally, most of the included studies relied on parent-reported data as the IV. Therefore, parent-reported IV's were prioritised over teacher- and researcher-reported IV's. A total of three potential reporter combinations for intent to enrol and other stages of engagement were subsequently formed. For intent to enrol, the combinations in descending order of preference are: 1) DV reported by parent – IV reported by parent, 2) DV reported by parent – IV reported by teacher, and 3) DV reported by parent – IV reported by researcher. For other stages of engagement, the combinations in descending order of preference are: 1) DV reported by researcher – IV reported by parent, 2) DV reported by researcher – IV reported by teacher and 3) DV reported by researcher – IV reported by researcher*	
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis. *Critical appraisal of quantitative studies was based on the Cochrane Risk of Bias Tool (Higgins & Green, 2009), which involved assessing for adequate sequence generation, allocation concealment, blinding of assessors to treatment condition, the inclusion of intention to treat analysis and assessment of potential confounders. Risk of bias for all included studies was assessed by two authors (SF and BS) using a standardised, pilot-tested extraction sheet. Disagreements were resolved through discussion.* *Due to many studies obtaining several unclear bias ratings, the quality of the included studies remains inconclusive. As demonstrated in Table 2, the maximum number of low bias ratings for any individual study was three (Bjorknes, Jakobsen & Naerde, 2011; Bjorknes & Manger, 2013; Hellenthal, 2009). See Table 2 for a summary of results from the risk of bias assessment (for more details, see Table S6).*	p.11
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means). *To partly compensate for this limitation, the Stouffer's method (Stouffer et al., 1949) of combining p-values was identified as an appropriate method for synthesizing the findings of many of the included studies. Stouffer's p tests are a method of combining significance levels found in multiple studies, rather than assessing effect magnitude*	p.9-10

Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis. *Data extraction from all included studies was conducted by two authors (SF and BS) using a standardised, pilot-tested extraction sheet. Disagreements were resolved through discussion, with involvement of other authors when necessary. Engagement factors were identified as factors that could influence a parent's engagement in preventive parenting programs. Themes were specified when two or more of the included studies examined the same engagement variable. A meta-analysis was not possible due to substantial differences in interventions, settings, predictor variables, and analytic methods. To partly compensate for this limitation, the Stouffer's method (Stouffer et al., 1949) of combining p-values was identified as an appropriate method for synthesizing the findings of many of the included studies. Stouffer's p tests are a method of combining significance levels found in multiple studies, rather than assessing effect magnitude*.	p.13-15 for data see S2-4

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies). *Table 2 and S6 have a complete breakdown of all risk of assessment.*	p.11-12
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified. *Stouffer's P on analysis completed*	p.13-15
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram. *See figure 1 for details. From more than 13,000 studies identified in the initial searches of published literature, 358 were full-text screened and 333 articles were excluded (see Figure 1 for reasons). The remaining 23 articles were included, which involved 21 separate studies*.	p.11, Figure 1

Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations. *See table 3 and S2, 3 ,4 for complete details. In the text drtails included: Of the 21 studies included, most involved universal prevention programs, and were conducted in the USA (see Table 3). The most common mental health problem targeted was externalising disorders (n=13, i.e. conduct disorder). 19 studies were randomised controlled trials (RCT), while two were non-randomised experimental trials. Although the inclusion criteria allowed for a broader range of study designs only experimental trials met the additional inclusion criteria i.e. studies assessing parent engagement. The included studies can be categorised into two not-mutually-exclusive groups: 1) studies measuring predictors of engagement (n=17), and 2) studies that evaluated engagement methodologies (n=8). Some studies had dual aims, i.e. evaluation of an engagement methodology and measurement of predictors.*	p. 11-13, table 3 and S2, 3, 4
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12). *Due to many studies obtaining several unclear bias ratings, the quality of the included studies remains inconclusive. As demonstrated in Table 2, the maximum number of low bias ratings for any individual study was three (Bjorknes, Jakobsen & Naerde, 2011; Bjorknes & Manger, 2013; Hellenthal, 2009). See Table 2 for a summary of results from the risk of bias assessment (for more details, see Table S6).*	P 11, table 2, S6
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	n/a
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	n/a
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15). *Due to many studies obtaining several unclear bias ratings, the quality of the included studies remains inconclusive. As demonstrated in Table 2, the maximum number of low bias ratings for any individual study was three (Bjorknes, Jakobsen & Naerde, 2011; Bjorknes & Manger, 2013; Hellenthal, 2009). See Table 2 for a summary of results from the risk of bias assessment (for more details, see Table S6).*	P 11, table 2, S6
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	n/a
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers). *The key findings that will be discussed include:* • *Limited consistent evidence for predictors of parental engagement in preventive parenting programs.* • *Limited evidence to assess the association between the age of the target child and parental engagement in preventive parenting programs.* • *Preliminary evidence that enhanced recruitment methods that are consistent with health*	p. 11-16

		behaviour theories (i.e. Health Belief Model and Theory of Planned Behaviour) may increase parents' initial levels of engagement (intent to enrol and enrolment) in programs. • *Further research required to more accurately define and assess engagement, as well as the methodology used to increase parental engagement.*	
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias). *However, limitations of our findings should be noted. Firstly, there were not enough studies included in this review that consistently defined variables (both predictors of engagement, and stages of parental engagement), and that employed similar methods of analysis, to permit a meta-analysis to estimate effect sizes. As such, the Stouffer's p analysis was adopted to estimate the reliability of associations between investigated predictors and parental engagement. Nonetheless, the Stouffer's p method is unable to weight studies according to sample sizes (Darlington & Hayes, 2000). Furthermore, there has been a shift within the academic community away from reporting p-values as a demonstration of significant results (Thomas & Pencina, 2016). This is due to the prevalent misuse of p-values to arbitrarily divide studies into significant and non-significant, which was not the intention of the founders of statistical inference (Sterne & Smith, 2001). Effect size measures along with confidence intervals have also been demonstrated to be more clinically relevant than a stand-alone p-value (Thomas & Pencina, 2016). These limitations indicate that the quantitative results of this review should be interpreted with caution, and be considered as hypothesis-generating findings to guide future research.*	p. 21-22
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research. *This review found limited consistent evidence of factors associated with parental engagement in preventive parenting programs. Interestingly, individual characteristics such as gender and indicators of SEP (family structure, one- or two-parent households and parent education) appeared to have limited to no support in predicting parental engagement across all stages of engagement.* *Only one predictor, child mental health symptoms, was found to have reliable evidence in increasing enrolment. Parents with children who had increased child mental health symptoms were more likely to enrol. This association was not evident for attendance, suggesting that increased child mental health symptoms may lead a parent to enrol, but once the program has started they may drop out.* *Despite the difficulties in comparing the different engagement enhancement methods used by researchers, the current review found preliminary support for a range of methods modelled on the Health Belief Model and the Theory of Planned Behaviour and Reasoned Action, which could increase parents' intent to enrol and enrolment.*	p. 16-23

		Recommendations for future research: clearer definitions and reporting, development of engagement strategies based on health behaviour theories and adaptation of programs based on parent need	
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review. *This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. Samantha Finan is supported by Australian Government Research Training Program (RTP) Scholarship for her candidature in the Doctor of Psychology in Clinical Psychology at Monash University. Dr Naomi Priest is supported by the ANU Centre for Social Research and Methods, ANU; Dr Marie Yap is supported by a Career Development Fellowship (1061744) from the National Health and Medical Research Council.*	p.23-24

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.

Appendix A.3: Supplemental 1

Online Supplement 1: Search Strategy, Inclusion and Exclusion Criteria, Decision Rules, *p*-value Selection Rules

Search strategy

All terms within each concept were combined with OR and each concept was combined with AND. Search terms were truncated and explored to ensure all associated terms were included. A full description of the search strategy for the MEDLINE database is listed below (this was adapted and modified as necessary for other databases):

1. Participat* OR engag* OR involve* OR uptake OR retention OR attrition OR recruit* OR enrol* OR dropout OR non-compliance OR adherence OR screen* OR evaluat* OR effect OR barrier* OR treat*
2. Parent* OR guardian* OR caregiver* OR carer OR mother OR father OR dad OR mum OR mom OR famil*
3. Program OR train* OR group* OR intervention OR behav* management
4. Prevent*
5. Child* OR adolesce* OR teen* OR juvenile OR young person OR youth
6. Mental health OR internal* OR external* OR conduct OR anxiety OR depress* OR emotion*
7. 1 AND 2 AND 3 AND 4 AND 5 AND 6

Study characteristics

Include if:

a) Longitudinal
b) Cross-sectional
c) Case-control
d) Cohort study
e) Peer-reviewed full-text journal article
f) Dissertation

Exclude if:

a) Therapy/treatment intervention (*note: all prevention interventions are eligible for inclusion)*

b) Review or meta-analysis
c) Qualitative
d) Discussion paper
e) Language other than English

Main aim of article

Include if:

a) Recruitment strategies

Exclude if:

a) Prevention of mental health

Age of parent

Include if:

a) Parent >18 years

Exclude if:

a) Parent <18 years

Age of child

Include if:

a) Child <18 years (as described by the World Health Organisation (WHO), a child is defined as anyone under the age of 18 years)

Exclude if:

a) Pre-natal classes
b) Child >18 years

Dependent variable

Include if:

a) Includes description of recruitment method
b) Reports on number of parents engaging at different stages of engagement (intent, enrolment, ongoing engagement)

Exclude if:

a) Lacks adequate specificity of recruitment methods

Independent variables

Include if:

a) Variables are potentially factors in parents' degree of engagement

Exclude if:

a) Lacks adequate specificity (e.g., composite measure, measure of general psychopathology)
b) Study which compares diagnostic groups but does not include a normal (non-clinical) control group
c) Study is evaluating therapy or treatment for children with existing depression or anxiety disorders

Decision hierarchies

Due to the large variation of reporters of predictor and outcome variables in the included papers, the following hierarchies were developed as an index of the quality of the evidence based on the informants of the variables of interest. Two hierarchies were created as the dependent variable (DV) informant for intent to enrol will always be the parent and for all other stages of engagement (enrolment and ongoing engagement) the informant will always be the researchers.

As many of the independent variables (IV) being measured are self-reported demographics (i.e. age in years, number of hours spent in paid employment), it was assumed that these factors would be more valid and reliable if reported by parents. Additionally, most of the data reported in the studies includes parent-reported data as the IV. Therefore, parent-reported IV's were prioritised over teacher- and researcher-reported IV's.

Hierarchy of reporter combinations for intent to enrol

Based on the above hierarchies, there are 3 IV-DV reporter combinations, which were ordered in the following hierarchy:

DV reported by parent – IV reported by parent

DV reported by parent – IV reported by teacher

DV reported by parent – IV reported by researcher

Hierarchy of reporter combinations for enrolment and ongoing engagement

Based on the above hierarchies, there are 3 IV-DV reporter combinations, which were ordered in the following hierarchy:

DV reported by researcher – IV reported by parent

DV reported by researcher – IV reported by teacher

DV reported by researcher – IV reported by researcher

Hierarchy for extracting parenting variable (IV)

Combined paternal and maternal parenting

Maternal parenting only

Paternal parenting only

Mother-report of parenting was extracted over father-report of parenting; these decisions were made as a reflection of most studies in parenting program research, which have recruited and relied primarily on mothers.

***P*-value selection rules**

If both bivariate correlations and regression coefficients (controlling for covariates etc.) are reported, select the former

If non-significant *p*-values are not quoted, we allocate the association a conservative one-tailed *p*-value of 0.5

If significant *p*-values are not quoted, we allocate the association the minimum *p*-value required to indicate significance as stated by the study (i.e. if $p<.05$ then $p=.05$ allocated, or if $p<.01$ then $p=.01$ allocated)

Unless stated otherwise in the study we will assume two-tailed significance. This is due to the exploratory nature of many of the studies being reviewed

If a study reports data for overall mental health symptom measures, as well as separate symptom subscales, overall measures will be selected over individual subscales, as they tend to have better psychometric properties

If a study reports data at pre-test screening and then at subsequent time points, the pre-test screening will be selected over additional time points; this will lead to a truer measure of the factors pre- intent, enrolment or attendance to the program, that could have an effect on the stages of engagement

Appendix A.4: Supplementary 2

Online Supplement 2: Descriptive Summary of Included Studies

Table 2a: *Characteristics of studies testing recruitment methodologies*

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
Aalborg (2012) and Miller (2011)	USA	Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	Mail out or generic advertisement	Parents were eligible for study if: 1) they had an adolescent aged 11-12 years, 2) they spoke functional English, and 3) their adolescent was not previously or currently engaged in substance use treatment	614	**Intent:** not defined **Enrolment:** parents who showed initial interest in study and signed consent form **Ongoing engagement:** number of sessions attended or number of books completed	SFP; number of sessions attended FM; time taken to complete booklets, number of booklets completed, time spent on phone with health professionals
Bjorknes (2011) and Bjorknes (2013)	Norway	Parent Management Training - The	Personal invitations	Parents were eligible for the study if they: 1) had a child aged	96	**Intent:** not defined **Enrolment:** parents who	**Labour intensiveness:** days spent per strategy by recruitment team

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
		Oregon Model (PMTO)		3-9 years who was at risk of developing conduct problems, and 2) were mothers identified as refugees from Somali and Pakistan and were currently living in Norway		were eligible and signed consent form **Ongoing engagement:** 1) number that started program or waitlist, and 2) number that attended 10+ sessions	**Sociodemographic variables:** mother's ethnic origin, mother's age, child's age and gender, number of children in family, number of years mother had lived in Norway, education, employment status and if family received public financial support, mother's language skills **Parenting practices:** PPI; self-report questionnaire tapping parents' discipline of young children **Child behaviour factors:** Eyberg Child Behaviour Inventory (ECBI) and Teacher Report Form (TRF),

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							Social Skills Rating System (SSRS)
Byrnes (2012) [a]	USA	Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	Mail out or generic advertisement	Parents were eligible for the study if: 1) they had an adolescent aged 11-12 years, 2) spoke functional English, and 3) adolescent was not previously or currently engaged in substance use treatment	214	**Intent:** whether parent agreed to participate in study as indicated by scheduling a baseline interview **Enrolment:** whether family enrolled in study as indicated by signing of consent form and completing face-to-face baseline interview **Ongoing engagement**: not measured/defined	**Neighbourhood disorganisation:** gathered from 2000 census data on population and housing **Neighbourhood SES:** gathered from 2000 census data including rates of overall unemployment, persons below the poverty line, households receiving public assistance, high school dropouts and female-headed households **Residential instability:** proportion of residents who have

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							moved in past five years **Sociodemographic variables:** ethnicity, parent's level of education, parent's age and youth's gender
Calam (2008) [a]	UK	Driving Mum and Dad Mad	Mail out or generic advertisement	Nil reported	723	**Intent:** not defined **Enrolment:** not defined **Ongoing engagement:** defined as dichotomous variable of watching all or less than all episodes, also measured average number of episodes	**Sociodemographic variables:** Family Background Questionnaire (FBQ) **Child behaviour factors**: Eyberg Child Behaviour Inventory (ECBI) **Parenting practices:** Parenting Scale (PS), Parental Anger Inventory (PAI), PPC Problem scale, Parenting Tasks Checklist

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
						viewed by parents	**Parent behaviour factors:** Depression Anxiety Stress Scale (DASS), Relationship Quality Index (RQI)
Carpentier (2007)[a]	USA	Bridges to High School	Mail out plus phone call	Parents were eligible for the study if: 1) child was in 7th grade, under 15 years of age and enrolled in one of five recruitment schools, 2) one biological parent was of Mexican descent, and 3) spoke either English or Spanish	596 (initial enrolment analyses) 353 (program enrolment into interventio n condition)	**Intent:** not defined **Enrolment:** enrolment in program was indicated as completion of initial home visit session **Ongoing engagement:** family attendance was measured by number of sessions where at least one family representative was present	**Sociodemographic variables:** family language preference, number of hours worked per week, family aggregate income, number of children in home, single parent status, family education level (assessed through combining individual caregivers' education levels) **Child behaviour variables:** Child Behaviour Checklist (CBCL), Grade Point Average (GPA)

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							Variables assessed for both parent and adolescent: Acculturation Rating Scale for Mexican Americans, familism **Group environment:** Moos Group Environment Scale
Eisner (2011) [a]	Switzerland	Triple P	Practitioner-led dissemination. Mail out plus researchers spending time at centres	Nil reported	257	**Intent:** not defined **Enrolment:** agreement to take part in study, signed informed consent **Ongoing engagement:** parents who attended at least one session (participation), parents who attended all 4 sessions (completion)	**Sociodemographic variables:** single parent, dual-earner family, number of children, language, International Socio-Economic Index of Occupational Status (ISEI), neighbourhood networks **Parenting practices:** Alabama Parenting Questionnaire **Parent behaviour variables:** previous service utilisation, course climate

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							(assessed by program providers) **Child behaviour variables:** Externalising Problem Behaviour subscale of the Social Behaviour Questionnaire
Heinrichs (2006)	Germany	Triple P	Mail out plus researchers spending time at centres	Parents were required to: 1) have a basic understanding of the German language, and 2) have a child aged 2.6-6 years attending one of the kindergartens advertising the trial	197	**Intent:** initial enrollers were parents who listed contact details and/or booked in the initial session time **Enrolment:** included the final recruited sample **Ongoing engagement:** assessed in hours of intervention received	**Sociodemographic variables:** parent and child age, parent education status, parent occupational status, marital status, formal relationship to child **Child behaviour factors:** Child Behaviour Checklist $1^{1/2}$-5 (CBCL)

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
Helfenbaum-Kun (2007)	USA	Webster-Stratton's Incredible Years program	Mail out plus researchers spending time at centres	Fathers were eligible for the study if: 1) they had a child between 3-5 years enrolled at a head start centre, 2) spoke English or Spanish, and 3) parents were married and resided together, or unmarried and resided together for at least the past year	39	**Intent:** not defined **Enrolment:** agreeing at the recruitment sessions to take part in the study **Ongoing engagement:** number of sessions attended	**Child behaviour variables:** Eyberg Child Behaviour Inventory (ECBI), teacher-report of the Intensity scale of the Sutter-Eyberg Student Behaviour Inventory-Revised (SESBI-R) **Parent behaviour variables:** Parenting Scale, Block Child Rearing Practices Report (CRPR), Dyadic Adjustment scale (DAS), Child-Care Task Checklist (CCTC), Parenting Alliance Measure (PAM)

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
Mian (2015) [a]	USA	Program not named: once-off anxiety prevention seminar	Pre-screeners	Parents were eligible for the study if: 1) children were receiving nutritional assistance at children's hospital and aged 11-71 months, 2) aged at least 18 years themselves, 3) spoke English or Spanish, and (4) had a child considered high-risk according to one or more of following; elevated child anxiety symptoms, elevated parent anxiety symptoms, or child exposure to	101	**Intent:** not assessed before enrolment **Enrolment:** parents who were eligible and requested to be contacted **Ongoing engagement:** parents were asked if they planned to attend and to reply via RSVP card or phone call	**Sociodemographic variables:** risk; parent's highest level of education, family income, English language proficiency, and parent immigrant status **Child behaviour variables:** Brief Infant-Toddler Social and Emotional Assessment (BITSEA), Life Events Checklist **Parent behaviour variables:** parent service preferences (service format, type, topic, incentives, service characteristics), Beck Anxiety Inventory (BAI), Parent Satisfaction Survey

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
				a potentially traumatic event			

Notes:
[a] *Studies also report on predictors of engagement*

Table 2b: *Characteristics of studies measuring predictors of engagement*

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
Baker (2011)	USA	Webster-Stratton's Incredible Years program	Mail out plus researchers spending time at centres	Parents needed to have a child attending a preschool classroom in the childcare centre advertising study	106 193 agreed to participate, however current study was concerned with intervention condition subset (who gave informed consent) of 106 children. Of these 51 actually enrolled (i.e. attended at least 1 session)	**Intent:** not defined **Enrolment:** assessed as a dichotomous variable (never participated in program or participated in at least one program session) **Ongoing engagement:** measured for parents that attended at least one session, and calculated as a percentage of sessions attended	**Sociodemographic variables**: socioeconomic status (high or low income based on childcare centre child attended), single parenthood **Child behaviour factors:** Teacher's Report Form (TRF) **Parent behaviour factors:** Parent Satisfaction Ratings, Brief Symptom Inventory (BSI), Parent Social Support (PSS)

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
Brody (2006)	USA	Strong African American Families (SAAF)	Mail out plus phone call	Parents needed to: 1) have an 11-year-old child in a school participating in the research, and 2) be of African American ethnicity	322 150 families in the control counties and 172 families in the intervention counties. Since the present study addresses family participation in the intervention, the analyses include only those participants randomly assigned to the prevention group	**Intent:** not defined **Enrolment:** not defined **Ongoing engagement:** defined as the total number of sessions that each family attended (dosage)	**Sociodemographic variables:** ratio of children to adults in household, perceived economic stress (Money for Necessities subscale of Family Resource Scale), overall family risk score **Child behaviour factors:** youth unconventionality **Parent behaviour factors:** Centre for Epidemiologic Studies Depression Scale (CES-D), level of involvement in religious activities, communicative parenting - 4 indicators including: 1) involved-vigilant parenting, 2) adaptive racial socialisation (Racial

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							Socialisation Scale), 3) communication about sex (Parental Communication About Sex Scale), and 4) clear communication of expectations about alcohol use **Variables assessed for both parent and adolescent:** Interaction Behaviour Questionnaire (IBQ)
Fleming (2015)	USA	Common Sense Parenting (CSP)	Mail out or generic advertisement. Where possible, researchers spent time at evening school events	Parents were eligible for the study if: 1) child was in 8th grade attending a school involved in the study, and 2) parents spoke English	321 enrolled 213 in sample for analyses pertaining to predictors of enrolment; 157 for attendance/retention analyses	**Intent:** not defined **Enrolment:** attended at least one session **Ongoing engagement:** percentage of possible sessions	**Sociodemographic variables**: race, ethnicity, whether parent lived with a spouse or significant other, parents' and children's gender and age, SES - measured using household income and parent education

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
						attended (retention)	**Child behaviour factors**: self-reported academic performance, Strengths and Difficulties Questionnaire (SDQ) for internalising behaviours **Parent behaviour factors:** Alabama Parenting Questionnaire (APQ), parent-child affective quality
Garvey (2006)	USA	The Chicago Parent Program (CPP)	Mail out plus researchers spending time at centres	Parents eligible for study if they were: 1) parent or legal guardian of a 2-4 year-old child enrolled in a participating day care centre, and 2) able to speak English	292	**Intent:** not defined **Enrolment:** percentage of parents in target population who consented and completed baseline **Ongoing**	**Sociodemographic variables:** parent age, parent education level, parity, employment status, economic disadvantage, marital status, child sex **Child behaviour factors:** Eyberg Child Behaviour Inventory

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
						engagement: operationalised as dose and engagement 1) dose; percent of intervention sessions attended 2) engagement; degree to which parents actively participated in sessions	(ECBI) parent-report and teacher-report, Caregiver-Teacher Report Form (CTRF) **Parent behaviour factors**: Non-Participation Questionnaire, Toddler Care Questionnaire (TCQ), Everyday Stressor Index (ESI), Centre for Epidemiologic Studies Depression Scale (CESD), travel time to attend the intervention
Heinrichs (2005)	Germany	Triple P	Mail out plus researchers spending time at centres	Parents were eligible for the study if they: 1) had a child between 2.6-6.0 years of age, and 2) could speak German	282	**Intent:** not defined **Enrolment:** parents who completed consent and baseline assessment **Ongoing**	**Sociodemographic variables:** teacher ratings - age of parents, family status, parent occupation, number of people in the family, estimated social status of the

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
						engagement: choosing to attend program once allocated to intervention or control	family, whether family was on welfare **Child behaviour factors:** Child Behaviour Checklist for ages 1.5-5 years, Kaufman Assessment Battery for Children (K-ABC) **Parent behaviour factors:** videotaped parent-child interaction task, family non-participation survey
Hellenthal (2009)	USA	Barkley (1997)'s Behavioural Parent Training (BPT) program	Mail out or generic advertisement	Parents were eligible for the study if they: 1) lived in the community, and 2) had a child between 2-12 years	72	**Intent:** not defined **Enrolment:** agreed via telephone to take part in the group **Ongoing engagement:**	**Sociodemographic variables**: age, income, education and cultural factors, including race **Child behaviour factors:** Disruptive Behaviour Stress Inventory (DBSI), Ohio Scales

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
						attending 4 or more sessions	**Parent behaviour factors:** Social Provisions Scale (SPS), Alabama Parenting Questionnaire (APQ), Family Environment Scale – Form R, Parent Sense of Competence Scale (PSOC), Therapy Attitude Inventory (TAI)
Mauricio (2014)	USA	Bridges to High School	Mail out or generic advertisement	To be eligible parents needed to: 1) have a child between the ages of 11-14 years, and 2) speak English or Spanish	292 542 families in the RCT, 353 were assigned to treatment. 292 of 353 attended 1 or more sessions	**Intent:** measured after first home interview, single item on 5-point Likert scale **Enrolment:** not defined **Ongoing engagement:** attendance status	**Sociodemographic variables:** family income, comprised of wages, child support, state and federal assistance; number of biological children; self-reported education level **Child behaviour factors:** Externalising subscale of Child

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
						recorded at each session	Behaviour Checklist (CBCL), GPA average **Parent behaviour factors:** Critical Events subscale of the Barriers to Treatment Participation Scale, Centre for Epidemiologic Studies Depression Scale, Acculturation Rating Scale for Mexican-Americans-II, Mexican-American Cultural Values Scale, Moos Group Environment scale *Parent perceptions of participation benefits;* Multicultural Inventory of Parenting Self-Efficacy, Small and Kerns' Parental Monitoring scale,

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							Extrinsic Motivation subscale of the Parent Motivational Practices Scale
Nordstrom (2008)	USA	Parenting our Children to Excellence (PACE)	Mail out plus researchers spending time at centres	Day care centres needed to serve: 1) a minimum of 35 families with children between the ages of 3-6 years at the time of recruitment, and 2) an economically and ethnically diverse population	114 347 completed telephone survey; 216 stated intent to enrol; 114 actually enrolled	**Intent:** parents were asked; "Do you intend to enrol in the parenting program that is now offered or will be offered soon at your child's preschool or day-care?" and responses were rated on a 4-point Likert scale	**Sociodemographic variables:** child's age and gender, parent's age, parent ethnicity, employment status, highest level of education, marital status, yearly income **Child behaviour factors:** Disruptive Behaviour Disorders Rating Scale **Parent behaviour factors:** Parenting Sense of Competence Scale, The Raising Young

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
						Enrolment: parents were considered enrolled when they returned the registration form or contacted the day-care centre to register **Ongoing engagement:** parent attendance at each session was recorded on attendance logs, and summed across sessions to produce a composite score (ranging from 0-8)	Children Scale, Parenting Possibilities Questionnaire and the Family Stories measure, Obstacles to Engagement Scale

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
Plueck (2010)	Germany	Prevention Program for Externalising Problem Behaviour (PEP)	Pre-screeners	Parents were eligible if they had a child aged 3-6 years in local preschool, who, after completing the screening task, was defined as being at risk for developing more severe externalising problems	155 155 accepted invitation to pre-test. However only 74 consented for actual PEP program 2123 used for screening/intent to enrol analysis. 91 and 74 for enrolment and attendance analyses, respectively	**Intent:** defined as parents who submitted their screening survey and gave consent versus those who did not **Enrolment:** defined as those who were eligible for the group program and agreed to attend **Ongoing engagement:** number of sessions attended	**Socioeconomic variables:** age and gender of child, parent's language, teacher's assessment of parent's decision not to participate. SES was estimated as the mean of education and profession of both parents (classified as high, medium or low) **Child behaviour factors:** Child Behaviour Checklist, parent- and teacher-rated global questions assessing child's problems; (1) "How much do you feel bothered/burdened by the child's behaviour?"

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							(2) Do you think you or the child need(s) professional help because of the burden?" **Parent behaviour factors:** PEP-Screen
Reedtz (2011)	Norway	Webster-Stratton's Incredible Years program	Mail out or generic advertisement	Parents were eligible if: 1) they had a child aged between 2-8 years, and 2) child scored below 90th Percentile on ECBI Intensity subscale	189	**Intent:** not defined **Enrolment:** volunteering to participate in the study and fill out pre-test survey **Ongoing engagement**: not defined	**Sociodemographic variables:** child's gender, age, number of children the parents had, target child's birth order, parent's birth year, marital status, employment status, education level **Child behaviour factors:** Eyberg Child Behaviour Inventory (ECBI) **Parent behaviour factors:** PSOC, PSI-Short Form, PPI adapted from the Oregon Social

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							Learning Centre's Discipline Questionnaire, reasons for participation and help-seeking behaviour
Skarstrand (2009)	Sweden	Strengthening Families Program: For Parents and Youth 10-14 (SFP)	Mail out plus researchers spending time at centres	School's inclusion criteria: 1) having grades 6-9 at school, and 2) not having age-integrated classes Parents' inclusion criteria: child aged between 12-14 years	388 388 responded, however only 200 agreed to participate in part 1, and 115 agreed to participate in both part 1+2 of program	**Intent:** not defined **Enrolment:** if parent consented to program and attended at least one session in part 1 of the program **Ongoing engagement:** taking part in at least one session in part 1 and at least one session in part 2	**Sociodemographic variables:** gender, age, education, gender of target child, living with target child, working full-time, born in Sweden **Parent behaviour factors:** parent emotional warmth and responsiveness to child's needs, rule-setting, perception of norm-breaking behaviours, knowledge of school performance, parents' attitude

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
							towards adolescents and alcohol
Winslow (2009)	USA	Program for mothers who have recently divorced (unnamed)	Mail out or generic advertisement, phone calls	Parents were eligible for the study if: 1) divorce decree was granted within the previous two years, 2) the primary residential parent was female, 3) at least one child aged 9-12 years lived with the mother most of the time, 4) the mother and children living at home were not receiving mental health treatment, 5) the mother had	325 321 used for logistic regression analysis	**Intent:** not defined **Enrolment:** mother agreed to participate in parenting intervention at the recruitment visit **Ongoing engagement:** mothers who did not attend any sessions or dropped out before program completion were considered not retained. Mothers who completed the	**Sociodemographic variables:** maternal race/ethnicity, months since divorce, maternal education, income-to-needs ratio: dividing the mother's report of her annual household income by the US Census Bureau's official poverty threshold for the year in which income was reported **Child behaviour factors:** age 4-18 version of the Child behaviour Checklist (CBCL) **Parent behaviour factors:** child-report of Parenting Behaviour Inventory

Study	Country	Parenting program	Recruitment methodology	Inclusion and exclusion criteria	Total sample enrolled (*n*=)	Measures of engagement	Diagnostic tools
				not re-partnered, 6) custody was expected to remain stable during the trial, 7) the family lived within a 1-hour drive of the intervention delivery site, 8) the mother and target child spoke and read English, 9) the child was not receiving special education services, and 10) if child was diagnosed with ADHD, s/he was taking medications		program were considered retained	(CRPBI), Parent-Adolescent Communication Scale, inconsistent discipline subscale of CRPBI, Oregon Social Learning Centre ratio of appropriate to inappropriate discipline and follow-through scales, Psychiatric Epidemiology Research Interview (PERI) Demoralisation scale, Negative Life Events Scale

Appendix A.5: Supplementary 3

Online Supplement 3: Descriptive Summary of Parenting Programs Included in Review

Table 3: *Descriptive Summary of Parenting Programs Included in Review*

Program name	Aim	Session format	Number of sessions	Child involved	Reference
Barkley (1997)'s Behavioural Parent Training (BPT) program	Prevention of conduct disorders	Group	8 group sessions (1.5 hours per session)	No	Hellenthal (2009)
Bridges to High School	Increase protective factors and decrease risk factors associated with academic engagement and mental health	Group and individual	9 group sessions (2 hours per session) and 2 home visits	Yes	Carpentier (2007)
			9 group sessions (2 hours per session) and 2 home visits	Yes	Mauricio (2014)
Chicago Parent Program (CPP)	Demonstrate positive child behaviours and reduce negative behaviours	Group	11 group sessions (2 hours per session) and 1 booster session two months later	No	Garvey (2006)
Common Sense Parenting (CSP)	Prevention of problem behaviours	Group	CSP standard format: 6 group sessions for parents (2 hours per session)	No for CSP standard; yes for CSP plus	Fleming (2015)

Program name	Aim	Session format	Number of sessions	Child involved	Reference
			CSP plus format: 6 group sessions for parents (2 hours per session) plus two sessions that both parent and child attend		
Driving Mum and Dad Mad	Teaches positive parenting and communication skills	Individual	Format 1: 6 video episodes (30 minutes per video) Format 2: 5 video episodes (60 minutes per video) plus workbooks/web support	No	Calam (2008)
Family Matters (FM)	Prevent adolescent tobacco and substance use	Individual	4 booklets and 4 follow-up phone calls with researchers	Yes	Aalborg (2012) and Miller (2011), Byrnes (2012)
Parent Management Training – The Oregon Model (PMTO)	Strengthen parenting practices to prevent conduct disorder	Group	18 group sessions (2 hours per session)	No	Bjorknes (2011) and Bjorknes (2013)
Parenting our Children to Excellence (PACE)	Prevention of conduct disorders	Group	8 group sessions (2 hours per session)	No	Nordstrom (2008)

Program name	Aim	Session format	Number of sessions	Child involved	Reference
Prevention Program for Externalising Problem Behaviour (PEP)	Prevention of externalising behaviour problems	Group	10 group sessions (90-120 minutes per session)	No, however teachers are provided with training	Plueck (2010)
Program for mothers who have recently divorced (unnamed)	Prevention of child mental health problems	Group	11 group sessions (1.75 hours each) and 2 individual sessions (1 hour each) to tailor program to individual needs	No	Winslow (2009)
Program not named: once-off anxiety prevention seminar	Prevention of internalising disorders	Group	1 group session (60 minutes in length)	No	Mian (2015)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	Prevent adolescent tobacco and substance use	Group	7 weekly group sessions (2 hours per session)	Yes	Aalborg (2012) and Miller (2011), Byrnes (2012)
			Swedish version; 12 group sessions (1.5-2 hours per session)	Yes	Skarstrand (2009)
Strong African American Families (SAAF)	Prevention of substance use and engaging in early sexual activity	Group	7 group sessions (2 hours per session)	Yes	Brody (2006)

Program name	Aim	Session format	Number of sessions	Child involved	Reference
Triple P	Prevention of child behaviour problems	Individual or group	Format 1: 8 individual home visits (1 hour per session) Format 2: 4 group sessions (2 hours per session) and 4 check-in phone calls	No	Heinrichs (2006)
			4 group sessions (2 hours per session) and 4 check-in phone calls	No	Heinrichs (2005)
			4 group sessions (2-3 hours per session), video elements, a parent workbook, up to 4 20-minute phone contacts after the course	No	Eisner (2011)
Webster-Stratton's Incredible Years program	Decrease risk of development of conduct disorders	Group	8 group sessions (2 hours per session) Note; the original 12-15 week curriculum was reduced to 8 weeks for both studies	No	Baker (2011), Helfenbaum-Kun (2007)
			Short format: 6 group sessions (2 hours per session) Regular format: 12 group sessions (2 hours per session)	No	Reedtz (2011)

Appendix A.6: Supplementary 4

Online Supplement 4: Descriptive Summary of Included Studies by Themes as Related to the Three Stages of Engagement

Table 4a: *Descriptive summary of the predictors of intent to enrol*

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
1. Demographic information							
Total household income							
Program not named: once-off anxiety prevention seminar	101	Family income (converted to a 5-point scale)	Parent income (no stated direction)	No change	Stat n/r	Non-sig	Mian (2015)
Parenting our Children to Excellence (PACE)	322	Yearly income (converted to a 4-point scale)	Family income (no stated direction)	No change	Wald χ^2 = .83, OR = .88, CI = [.68, 1.15]	$p > .05$	Nordstrom (2008)
Neighbourhood socioeconomic status							
Prevention Program for Externalising Problem Behaviour (PEP)	2123	Social burden of district (calculated by Department of Youth and Family Welfare)	Increased social burden of district	Decreased	OR = 1.69, CI = [1.42, 2.01]	$p < .01$	Plueck (2010)
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Increased neighbourhood % on public assistance	No change	OR = .80	$p = .108$	Byrnes (2012)
Family Matters (FM) & Strengthening	214	2000 Census of Population and Housing	Increased neighbourhood % below poverty line	No change	OR = 1.18	$p = .279$	Byrnes (2012)

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
Families Program: For Parents and Youth 10-14 (SFP)							
Neighbourhood unemployment							
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher levels of neighbourhood unemployment	Decreased	OR = .73	*p* = .009	Byrnes (2012)
Transient nature of neighbourhood							
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher neighbourhood % of families moved in last 5 years	No change	OR = .97	*p* = .724	Byrnes (2012)
One- or two-parent households							
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher neighbourhood % of female headed households	No change	OR = 1.21	*p* = .109	Byrnes (2012)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Marital status (single parent)	No change	Wald χ^2 = .06, OR = 1.09, CI = [.56, 2.12]	*p* > .05*	Nordstrom (2008)
2. Parent factors							
Parent age							
Program not named: once-off anxiety prevention seminar	101	Study-specific questions answered by parent	Parent age (no stated direction)	No change	Stat n/r	Non-sig*	Mian (2015)

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	Study-specific questions answered by parent	Parent age (no stated direction)	No change	OR = .98	p = .089*	Byrnes (2012)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Maternal age (no stated direction)	No change	Wald χ^2 = 1.12, OR = .89, CI = [.72, 1.10]	p > .05*	Nordstrom (2008)
Parent gender							
Program not named: once-off anxiety prevention seminar	101	Gender of the survey respondent	Maternal respondent	No change	Stat n/r	Non-sig	Mian (2015)
Parent race/ethnicity							
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent (choice of African American or European American)	Maternal ethnicity (no stated direction)	No change	Wald χ^2 = 3.26, OR = .55, CI = [.29, 1.05]	p > .05*	Nordstrom (2008)
Program not named: once-off anxiety prevention seminar	101	Parents provided opportunity to list their immigration status and ethnicity on a scale and in an open-question format	Immigration status; foreign born parent	No change	Stat n/r	Non-sig*	Mian (2015)
Parent language proficiency							

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
Program not named: once-off anxiety prevention seminar	101	English proficiency measured on 5-point scale from 'not at all' to 'very well'	Parent's increased proficiency in English	No change	Stat n/r	Non-sig	Mian (2015)
Parent education							
Program not named: once-off anxiety prevention seminar	101	9-point scale from '8th grade or less' to 'professional degree'	Parent's highest level of education	No change	Stat n/r	Non-sig*	Mian (2015)
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Increased neighbourhood % high school dropout (parents' generation)	No change	OR = 1.22	p = .154	Byrnes (2012)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent (4-point scale from high school not completed to college graduate)	Maternal education (no stated direction)	No change	Wald χ^2 = .46, OR = .88, CI = [.62, 1.27]	p > .05*	Nordstrom (2008)
Parent occupation							
Program not named: once-off anxiety prevention seminar	101	Scale from 'unemployed' to 'full-time work'	Parent working part-time versus full-time versus unemployed	Increased	92.9%, 64.7% and 59.4% planned to attend, respectively	Fischer's exact p = .07 and p<.05 respectively*	Mian (2015)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent (either not currently employed or currently employed)	Maternal employment status (no stated direction)	No change	Wald χ^2 = .13, OR = 1.14, CI = [.56, 2.33]	p > .05*	Nordstrom (2008)
Parent mental health status							

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
Program not named: once-off anxiety prevention seminar	101	Beck Anxiety Inventory (BAI)	Parent anxiety (no stated direction)	No change	Stat n/r	Non-sig*	Mian (2015)
Parent's perceived benefit of attending							
Parenting our Children to Excellence (PACE)	322	The Raising Young Children Scale	Parent's perceived benefits of the program (no stated direction)	Increase	Wald χ^2 = 10.31, OR = 1.08, CI = [1.03, 1.13]	$p < .001$	Nordstrom (2008)
Measures of parenting behaviours							
Parenting our Children to Excellence (PACE)	322	Parenting Efficacy subscale of the Parenting Sense of Competence Scale	Parenting efficacy (no stated direction)	No change	Wald χ^2 = 2.31, OR = 1.04, CI = [.99, 1.09]	$p > .05$	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	322	Parenting Possibilities Questionnaire, Family Stories measure	Positive attributions (no stated direction)	No change	Wald χ^2 = .87, OR = 1.28, CI = [.76, 2.17]	$p > .05$	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	322	Parenting Possibilities Questionnaire, Family Stories measure	Negative attributions (no stated direction)	No change	Wald χ^2 = 1.30, OR = 1.34, CI = [.81, 2.21]	$p > .05$	Nordstrom (2008)
3. Child factors							
Child age							
Prevention Program for Externalizing Problem Behaviour (PEP)	2123	Child's age as reported by teacher	Older child	Decreased	Stat n/r	$p = .015$*	Plueck (2010)

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
Program not named: once-off anxiety prevention seminar	101	Study-specific questions answered by parent	Child age (no stated direction)	No change	Stat n/r	Non-sig*	Mian (2015)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Child age (no stated direction)	No change	Wald χ^2 = 2.90, OR = .76, CI = [.55, 1.04]	$p > .05$*	Nordstrom (2008)
Child gender							
Prevention Program for Externalizing Problem Behaviour (PEP)	2123	Study-specific questions answered by parent	Child gender (male)	No change	Stat n/r	$p = .623$*	Plueck (2010)
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	Study-specific questions answered by parent	Child gender (male)	No change	OR = .82	$p = .221$*	Byrnes (2012)
Program not named: once-off anxiety prevention seminar	101	Study-specific questions answered by parent	Child gender (male)	No change	Stat n/r	Non-sig*	Mian (2015)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Child gender (male)	No change	Wald χ^2 = 3.09, OR = .61, CI = [.35, 1.06]	$p > .05$*	Nordstrom (2008)
Mental health symptoms							
Prevention Program for Externalizing Problem Behaviour (PEP)	2123	Teacher-report - Child Behaviour Checklist	Increased child externalising behaviour	No change	Stat n/r	$p = .079$*	Plueck (2010)
Program not named: once-off anxiety prevention seminar	101	Brief Infant-Toddler Social and Emotional Assessment (BITSEA)	Child anxiety (no stated direction)	No change	Stat n/r	Non-sig*	Mian (2015)

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
Prevention Program for Externalizing Problem Behaviour (PEP)	2123	Teacher-report - Child Behaviour Checklist	Increased child internalising behaviours	No change	Stat n/r	$p = .950$*	Plueck (2010)
Parenting our Children to Excellence (PACE)	322	Disruptive Behaviour Disorders rating scale	ADHD symptoms (no stated direction)	No change	Wald $\chi^2 = .56$, OR = .98, CI = [.94, 1.03]	$p > .05$*	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	322	Disruptive Behaviour Disorders rating scale	ODD symptoms (no stated direction)	No change	Wald $\chi^2 = .60$, OR = .97, CI = [.89, 1.05]	$p > .05$*	Nordstrom (2008)
Child's exposure to trauma							
Program not named: once-off anxiety prevention seminar	101	Life Events Checklist	Increased child's exposure to previous trauma	No change	Stat n/r	Non-sig	Mian (2015)
Perceived burden of child's behaviours							
Prevention Program for Externalizing Problem Behaviour (PEP)	2123	Teacher-reported burden for themselves due to child's behaviours	Increased burden of child's behaviours	No change	Stat n/r	$p = .150$	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	2123	Teacher's reported need for additional assistance in the class room due to child's problems	Increased need for help	Decreased	OR = 1.34, CI = [1.09, 1.64]	$p = .003$	Plueck (2010)
4. Parent/child relational factors							
Nil Reported							
5. Barriers to engagement/service preferences							
Time and scheduling difficulties							
Parenting our Children to Excellence (PACE)	322	The Obstacles to Engagement Scale (OES)	Fewer time/scheduling barriers	Increase	Wald $\chi^2 = 38.88$, OR = 1.93,	$p < .001$	Nordstrom (2008)

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
					CI = [1.57, 2.37]		
Parenting our Children to Excellence (PACE)	322	The Obstacles to Engagement Scale (OES)	Less personal obstacles	No change	Wald χ^2 = 2.03, OR = .91, CI = [.79, 1.04]	$p > .05$	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	322	The Obstacles to Engagement Scale (OES)	Low intervention demands	No change	Wald χ^2 = .58, OR = .94, CI = [.81, 1.10]	$p > .05$	Nordstrom (2008)
Service preferences							
Program not named: once-off anxiety prevention seminar	101	Parent service preferences	Session type - parents who preferred "a group that teaches skills for parenting"	Decrease	16.3% vs 45.0%, χ^2 = 6.29	$p < .05$	Mian (2015)
Program not named: once-off anxiety prevention seminar	101	Parent service preferences	Session topic – parents who preferred a topic of "healthy living and wellbeing"	Decrease	26.5% vs 55.0%, χ^2 = 5.08	$p < .05$	Mian (2015)
Program not named: once-off anxiety prevention seminar	101	Parent service preferences	Previous service utilisation	No change	χ^2 = 1.65	$p > .05$	Mian (2015)
Program not named: once-off anxiety prevention seminar	101	Parent service preferences	Group format	No change	Stat n/r	Non-sig	Mian (2015)
Program not named: once-off anxiety prevention seminar	101	Parent service preferences	Offer of incentives	No change	Stat n/r	Non-sig	Mian (2015)
Program not named: once-off anxiety prevention seminar	101	Parent service preferences	Group characteristics	No change	Stat n/r	Non-sig	Mian (2015)

Parenting program name	*n*=	Instrument	Predictor of engagement	Intent to enrol rate	Statistics	Significance	Study
Parenting our Children to Excellence (PACE)	322	The Obstacles to Engagement Scale (OES)	Program relevance/trust	No change	Wald $\chi^2 = .74$, OR = 1.07, CI = [.92, 1.23]	$p > .05$	Nordstrom (2008)

Notes:
*Indicates *p*-values selected for Stouffer's *p* analysis

Table 4b: *Descriptive Summary of the Predictors of Enrolment*

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
1. Demographics							
Total household income							
Bridges to High School	353	Study-specific questions answered by parent (family income included an aggregate of wages, salary, child support and state assistance)	Family income (no stated direction)	No change	Wald χ^2 = .49, SE = .01, Beta = .01	$p > .05$	Carpentier (2007)
Common Sense Parenting (CSP)	213	Study-specific questions answered by parent (19-point scale from <10,000 to over 200,00)	Higher household income	Increased	OR = 1.50, CI = [1.09, 2.06]	$p < .05$	Fleming (2015)
Parenting our Children to Excellence (PACE)	322	Yearly income (converted to a 4-point scale)	Family income (no stated direction)	No change	Wald χ^2 = .05, OR = .97, CI = [.74, 1.28]	$p > .05$	Nordstrom (2008)
Individual socioeconomic status							
Triple P	257	International Socio-Economic Index of occupational status	High SES	Increased	OR = 2.15, CI = [1.38, 3.35]	$p < .001$	Eisner (2011)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	parent-report: calculated as a mean of both parents' education and profession	SES (no stated direction)	No change	Stat n/r	$p = .956$	Plueck (2010)
Triple P	282	Study-specific questions answered by teacher	Middle SES family or neighbourhood	Decreased	OR = .50, CI = [.34, .73] and OR = .69, CI = [.49, .97], respectively	$p < .05$	Heinrichs (2005)
Webster-Stratton's Incredible Years program	106	Ranked as high or low by neighbourhood SES of childcare	High SES	Increased	χ^2 (1) = 15.42	$p < .001$	Baker (2011)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Program for mothers who have recently divorced (unnamed)	321	Parent-report of household income divided by US Census Bureau's poverty threshold	Higher income-needs ratio	Increased	*b* = .27, SE = .10, Beta = .31	$p < .05$	Winslow (2009)
Triple P	282	Study-specific questions answered by teacher	Low SES family or neighbourhood	Decreased	OR = .27, CI = [.14, .51] and OR = .49, CI = [.34, .72], respectively	$p < .05$	Heinrichs (2005)
Neighbourhood socioeconomic status							
Triple P	282	Social structure index	High or moderate social problems	Decreased	χ^2 (2) = 31.2	$p < .001$	Heinrichs (2005)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Social burden of district (calculated by Department of Youth and Family Welfare)	Increased social burden of district	No change	Stat n/r	$p = .210$	Plueck (2010)
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher neighbourhood % below poverty line	No change	OR = 1.09	$p = .743$	Byrnes (2012)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher neighbourhood % on public assistance	No change	OR = 1.36	*p* = .165	Byrnes (2012)
Neighbourhood unemployment							
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher levels of neighbourhood unemployment	No change	OR = 1.13	*p* = .485	Byrnes (2012)
Transient nature of neighbourhood							
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher neighbourhood % of families moved in last 5 years	No change	OR = 1.09	*p* = .561	Byrnes (2012)
Family Structure							
Triple P	282	Study-specific questions answered by teacher	Number of family members in household (no stated direction)	No change	Stat n/r	Non-sig*	Heinrichs (2005)
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Neighbourhood % of female headed households	No change	OR = .85	*p* = .317	Byrnes (2012)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent	Parent and child living together	No change	OR =1.45, CI = [.75, 2.81]	*p* > .05*	Skarstrand (2009)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Bridges to High School	353	Study-specific questions answered by parent	Number of kids in the home (no stated direction)	No change	Wald χ^2 = .33, SE = .09, Beta = .05	$p > .05$*	Carpentier (2007)
Triple P	257	Study-specific questions answered by parent	Large family (3+ children)	Decreased	OR = .50, CI = [.30, .81]	$p < .01$*	Eisner (2011)
One- or two-parent households							
Triple P	282	Study-specific questions answered by teacher	Single parent home	Increased	OR = 1.56, CI = [1.05, 2.32]	$p < .05$*	Heinrichs (2005)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Study-specific questions answered by parent	Single parent home	No change	Stat n/r	$p = .854$*	Plueck (2010)
Webster-Stratton's Incredible Years program	106	Study-specific questions answered by parent	Single parent status	No change	χ^2 (1) = 1.19	$p = .28$*	Baker (2011)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Marital status (single parent)	No change	Wald χ^2 = 3.16, OR = .53, CI = [.26, 1.07]	$p > .05$*	Nordstrom (2008)
Common Sense Parenting (CSP)	213	Study-specific questions answered by parent	Parent living with partner	No change	OR = 1.66, CI = [.90, 3.07]	$p > .05$*	Fleming (2015)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Triple P	257	Study-specific questions answered by parent	Single parent	No change	OR = .82, CI = [.48, 1.40]	*p* > .05*	Eisner (2011)
Bridges to High School	353	Study-specific questions answered by parent	Single parent status	No change	Wald χ^2 = .86, SE = .39, Beta = -.36	*p* > .05*	Carpentier (2007)
2. Parent factors							
Parent age							
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	Study-specific questions answered by parent	Older parents	Increased	OR = 1.04	*p* = .037*	Byrnes (2012)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Lower maternal age	Increased	Wald χ^2 (1, N = 322) = 8.30	*p* < .004*	Nordstrom (2008)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Study-specific questions answered by parent	Parent's age	No change	Stat n/r	*p* = .063*	Plueck (2010)
Triple P	282	Study-specific questions answered by teacher	Parent's age (no stated direction)	No change	Stat n/r	Non-sig*	Heinrichs (2005)
Common Sense Parenting (CSP)	213	Study-specific questions answered by parent	Parent's age (no stated direction)	No change	OR = 1.36, CI = [.97, 1.90]	*p* > .05*	Fleming (2015)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent	Parent's age (no stated direction	No change	OR=1.06, CI = [.78, 1.43]	*p* > .05*	Skarstrand (2009)
Parent gender							
Common Sense Parenting (CSP)	213	Study-specific questions answered by parent	Parent male	No change	OR = .54,	*p* > .05*	Fleming (2015)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
					CI = [.25, 1.16]		
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered as parent	Parent male	No change	OR =1.05, CI = [.54, 2.03]	$p > .05$*	Skarstrand (2009)
Parent race/ethnicity							
Webster-Stratton's Incredible Years program	106	Study-specific questions answered by parent	Caucasian families versus African American and Puerto Rican families	Increased	χ^2 (1) = 8.60 and χ^2 (1) = 14.95, respectively	$p <.01$ and $p <.001$ respectively*	Baker (2011)
Common Sense Parenting (CSP)	213	Study-specific questions answered by parent	Parent race (Hispanic)	No change	OR = .88, CI = [.34, 2.28]	$p > .05$*	Fleming (2015)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent ('Where you born in Sweden?')	Born in Sweden	No change	OR = 1.70, CI = [.81, 3.56]	$p > .05$*	Skarstrand (2009)
	321	Study-specific questions answered by parent (parent's self-reported ethnicity)	Parent being of minority ethnicity	No change	b = .24, SE = .05, Beta = .07	$p > .05$*	Winslow (2009)
Program for mothers who have recently divorced (unnamed)							
Bridges to High School	353	Acculturation Rating Scale for Mexican Americans-II	Primary parent Anglo orientation	No change	Wald χ^2 = 1.60, SE = .25, Beta = -.32	$p > .05$*	Carpentier (2007)
Bridges to High School	353		Primary parent familism	No change	Wald χ^2 = .30, SE = .39,	$p > .05$	Carpentier (2007)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
		16-item composite of three subscales (obligations to family, level of emotional closeness, using family as referent in decision-making)			Beta = -.21		
Bridges to High School	353	16-item composite of three subscales (obligations to family, level of emotional closeness, using family as referent in decision-making)	Child Anglo orientation	No change	Wald χ^2 = 1.50, SE = .25, Beta = -.31	$p > .05$	Carpentier (2007)
Bridges to High School	353	Acculturation Rating Scale for Mexican Americans-II	Child familism (no stated direction)	No change	Wald χ^2 = .03, SE = .34, Beta = -.06	$p > .05$	Carpentier (2007)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent (choice of African American or European American)	Maternal ethnicity (no stated direction)	No change	Wald χ^2 = 3.20, OR = 1.85, CI = [.94, 3.62]	$p > .05$*	Nordstrom (2008)
Parent language proficiency							
Bridges to High School	596	Study-specific questions answered by parent	Family language preference (Spanish)	Increased	Wald χ^2 (1) = 15.28, Beta = -.56, SE = .14, Beta = .57	$p < .001$	Carpentier (2007)
Parent education							
Webster-Stratton's Incredible Years program	189	Parent-report versus Statistics Norway (2010)	Educated parents (bachelor degree or higher)	No change	78% vs 41%	$p > .05$*	Reedtz (2011)
Common Sense Parenting (CSP)	213	8-point measure ranging from 'some high school' to 'PhD, J.D, D.D.S, M.D, D.V.M'	Higher parent education	Increased	OR = 1.48, CI = [1.00, 2.14]	$p < .05$*	Fleming (2015)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	2000 Census of Population and Housing	Higher neighbourhood % high school dropout (parent's generation)	Decrease	OR = .56	p = .006	Byrnes (2012)
Program for mothers who have recently divorced (unnamed)	321	Study-specific questions answered by parent (ordinal scale i.e. elementary, some high school, graduation)	Maternal education (no stated direction)	No change	b = .06, SE = .05, Beta = .10	p > .05*	Winslow (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent	Parent education (no stated direction)	No change	OR = 1.29, CI = [.85, 1.95]	p > .05*	Skarstrand (2009)
Bridges to High School	353	Highest education level obtained by any primary caregiver in family	Family education level (no stated direction)	No change	Wald χ^2 = 1.96, SE = .05, Beta = -.07	p > .05*	Carpentier (2007)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent (4-point scale from high school not completed to college graduate)	Maternal education (no stated direction)	No change	Wald χ^2 = 3.76, OR = 1.48, CI = [1.00, 2.20]	p > .05*	Nordstrom (2008)
Parent occupation							
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent	Working full-time	No change	OR = 1.65, CI = [.73, 3.75]	p > .05	Skarstrand (2009)
Triple P	282	Study-specific questions answered by teacher (parents' occupation placed in categories of workers, employers, public servant, self-employed, other)	Parent occupation type (no stated direction)	No change	Stat n/r	Non-sig*	Heinrichs (2005)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Bridges to High School	353	Study-specific questions answered by parent (parents asked to report how many hours worked a week)	Number of parent hours worked	No change	Wald χ^2 = .08, SE = .01, Beta = .01	$p > .05$*	Carpentier (2007)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent (either currently not employed or currently employed)	Maternal employment status (no stated direction)	No change	Wald χ^2 = 1.63, OR = 1.63, CI = [.77, 3.45]	$p > .05$*	Nordstrom (2008)
Triple P	257	Study-specific questions answered by parent	Dual-earner family	Decreased	OR = .46, CI = [.29, .73]	$p < .001$*	Eisner (2011)
Parental mental health status							
Program for mothers who have recently divorced (unnamed)	321	Psychiatric Epidemiology Research Interview (PERI) Demoralisation scale	Maternal distress (no stated direction)	No change	*b* = .00, SE = .01, Beta = .02	$p > .05$*	Winslow (2009)
Webster-Stratton's Incredible Years program	106	Brief Symptom Inventory (BSI)	Increased parent depression score	No change	*t* (76) = -.48	$p = .63$*	Baker (2011)
Months since divorce							
Program for mothers who have recently divorced (unnamed)	321	Study-specific questions answered by parent	Increased number of months since divorce	No change	*b* = -.03, SE = .02, Beta = -.15	$p > .05$	Winslow (2009)
Parental perceived benefit							
Parenting our Children to Excellence (PACE)	322	The Raising Young Children Scale	Higher perceived benefits	Increased	Wald χ^2 (1, N = 322) = 6.64	$p < .010$	Nordstrom (2008)
Parental self efficacy							

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Parenting our Children to Excellence (PACE)	322	Parenting Efficacy subscale of the Parenting Sense of Competence Scale	Higher parental self-efficacy	Increased	Wald χ^2 (1, N = 322) = 6.37	$p < .012$	Nordstrom (2008)
Measures of parenting behaviours							
Program for mothers who have recently divorced (unnamed)	321	Composite of self-report scales (CRPBI Inconsistent Discipline subscale, Oregon Social Learning Centre ratio of inappropriate-to-appropriate discipline and follow-through scales)	Effective discipline	No change	*b* = .020, SE = .17, Beta = .13	$p > .05$	Winslow (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Parent-report of rule-setting in home	Increased rule-setting by parents	No change	OR = .99, CI = [.59, 1.67]	$p > .05$	Skarstrand (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent	Knowledge of school performance	No change	OR = .84, CI = [.49, 1.43]	$p > .05$	Skarstrand (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent	More restrictive attitude to alcohol	Increase	OR = 2.03, CI = [1.02, 4.06]	$p < .05$	Skarstrand (2009)
Parenting our Children to Excellence (PACE)	322	Parenting Possibilities Questionnaire, Family Stories measure	Positive attributions (not stated direction)	No change	Wald χ^2 = .41, OR = 1.20, CI = [.69, 2.07]	$p > .05$	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	322	Parenting Possibilities Questionnaire, Family Stories measure	Negative attributions (no stated direction)	No change	Wald χ^2 = .13, OR = .91, CI = [.54, 1.52]	$p > .05$	Nordstrom (2008)
Triple P	257	Alabama Parenting Questionnaire	Parenting problems (no stated direction)	No change	OR = 1.25,	$p > .05$	Eisner (2011)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
					CI = [.85, 1.86]		
Parental social support							
Webster-Stratton's Incredible Years program	106	Social Support Appraisals Scale (SSAS)	Greater social support	Increased	*t* (74) = -2.66	*p* = .01	Baker (2011)
Triple P	257	Study-specific questions answered by parent	Strong neighbourhood social networks	Increased	OR = 1.58, CI = [1.05, 2.37]	*p* < .05	Eisner (2011)
3. Child factors							
Child age							
Common Sense Parenting (CSP)	213	Study-specific questions answered by parent	Younger child	Increased	OR = .70, CI = [.51, .95]	*p* < .05*	Fleming (2015)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Study-specific questions answered by teacher	Child's age (no stated direction)	No change	Stat n/r	*p* = .841*	Plueck (2010)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Child age (no stated direction)	No change	Wald χ^2 = .60, OR = .87, CI = [.62, 1.23]	*p* > .05*	Nordstrom (2008)
Child gender							
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Study-specific questions answered by parent	Child gender (male)	No change	OR = .08	*p* = .061*	Plueck (2010)
Family Matters (FM) & Strengthening Families Program: For Parents and Youth 10-14 (SFP)	214	Study-specific questions answered by parent	Child's gender (no stated direction)	No change	OR = .77	*p* = .298*	Byrnes (2012)
Common Sense Parenting (CSP)	213	Study-specific questions answered by parent	Child's gender (male)	No change	OR = 1.28, CI = [.69, 2.37]	*p* > .05*	Fleming (2015)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent	Child's gender (male)	No change	OR = 1.00, CI = [.61, 1.66]	$p > .05$*	Skarstrand (2009)
Parenting our Children to Excellence (PACE)	322	Study-specific questions answered by parent	Child gender (no stated direction)	No change	Wald $\chi^2 = .04$, OR = .94, CI = [.54, 1.66]	$p > .05$*	Nordstrom (2008)
Child's academic success							
Common Sense Parenting (CSP)	213	Study-specific questions answered by child	Child's school grades (no stated direction)	No change	OR = 1.29, CI = [.96, 1.75]	$p > .05$	Fleming (2015)
Bridges to High School	353	Letter grades aggregated across quarters to yield a GPA	Child GPA (no stated direction)	No change	Wald $\chi^2 = .03$, SE = .01, Beta = -.05	$p > .05$	Carpentier (2007)
Child mental health symptoms							
Webster-Stratton's Incredible Years program	189	ECBI (Intensity and Problem subscales) versus Norwegian norm	Increased externalising problem behaviours	Increased	Intensity; t=7.7 Problem; t=7.1	Both p's < .001*	Reedtz (2011)
Parenting our Children to Excellence (PACE)	322	Disruptive Behaviour Disorders rating scale	More child ODD symptoms	Increased	Wald χ^2 (1, N = 322) = 11.62	$p < .001$*	Nordstrom (2008)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Parent-report (pre-test): Child Behaviour Checklist	Less child externalising behaviours	Decreased	OR = .88	$p = .044$*	Plueck (2010)
	106	Teacher's Report Form (TRF)	Increased child externalising behaviours	No change	t (97) = -.58	$p = .57$*	Baker (2011)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Webster-Stratton's Incredible Years program							
Common Sense Parenting (CSP)	213	Strengths and Difficulties Questionnaire – Conduct Problems scale	Child conduct problems (no stated direction)	No change	OR = 1.08, CI = [.79, 1.48]	$p > .05$*	Fleming (2015)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Parent-report (screening): Child Behaviour Checklist	Child externalising behaviours (no stated direction)	No change	Stat n/r	$p = .976$	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Teacher-report (screening): Child Behaviour Checklist	Child externalising behaviours (no stated direction)	No change	Stat n/r	$p = .460$	Plueck (2010)
Bridges to High School	353	Externalising score on Child Behaviour Checklist (CBCL)	Child externalising symptoms (no stated direction)	No change	Wald χ^2 = .09, SE = .02, Beta = -.01	$p > .05$*	Carpentier (2007)
Triple P	257	Social Behaviour Questionnaire (Externalising Problem Behaviour subscale)	Child externalising problem behaviour (no stated direction)	No change	OR = 1.03, CI = [.69, 1.54]	$p > .05$*	Eisner (2011)
Parenting our Children to Excellence (PACE)	322	Disruptive Behaviour Disorders rating scale	ADHD symptoms (no stated direction)	No change	Wald χ^2 = .38, OR = .99, CI = [.95, 1.03]	$p > .05$*	Nordstrom (2008)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Parent-report (pre-test): Child Behaviour Checklist	Child internalising behaviours (no stated direction)	No change	Stat n/r	$p = .900$*	Plueck (2010)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Parent-report (screening): Child Behaviour Checklist	Child internalising behaviours (no stated direction)	No change	OR = 2.00	p = .076	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Teacher-report (screening): Child Behaviour Checklist	Child internalising behaviours (no stated direction)	No change	Stat n/r	p = .315	Plueck (2010)
Common Sense Parenting (CSP)	213	Strengths and Difficulties Questionnaire – emotional symptoms scale	Child emotional symptoms (no stated direction)	No change	OR = .84, CI = [.63, 1.13]	p > .05*	Fleming (2015)
Bridges to High School	353	Internalising score on Child Behaviour Checklist (CBCL)	Child internalising symptoms (no stated direction)	No change	Wald χ^2 = .01, SE = .02, Beta = .01	p > .05*	Carpentier (2007)
Program for mothers who have recently divorced (unnamed)	321	Child Behaviour Checklist (CBCL)	Higher child maladjustment	Increased	b = .03, SE = .01, Beta = .23	p < .05*	Winslow (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Study-specific questions answered by parent (14 statements which made a 'perception of norm-breaking behaviours')	Child's norm-breaking behaviours (no stated direction)	No change	OR = .94, CI = [.61, 1.45]	p > .05*	Skarstrand (2009)
Child's exposure to negative life events							

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Program for mothers who have recently divorced (unnamed)	321	Negative Life Events Scale	Increased child's exposure to negative life events	No change	*b* = .01, SE = .03, Beta = .03	*p* > .05	Winslow (2009)
Academic success							
Common Sense Parenting (CSP)	213	Study-specific questions answered by child	Child's school grades (no stated direction)	No change	OR = 1.29, CI = [.96, 1.75]	*p* > .05	Fleming (2015)
Bridges to High School	353	Letter grades aggregated across quarters to yield a GPA	Child GPA (no stated direction)	No change	Wald χ^2 = .03, SE = .01, Beta = -.05	*p* > .05	Carpentier (2007)
Perceived burden of child's behaviour							
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Study-specific questions answered by parent	Parent's increased need for assistance with child's behaviour	No change	Stat n/r	*p* = .232	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Teacher's reported need for additional assistance in the class room due to child's problems	Need for help	No change	Stat n/r	*p* = .731	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Teacher reported burden for themselves due to child's behaviours	Increased burden of child's behaviours	Decreased	Stat n/r	*p* = .012	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	91	Parent-report of burden of child's behaviours	Increased burden of child's behaviours	No change	Stat n/r	*p* = .711	Plueck (2010)

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
4. Child/parent factors							
Parent-child affect quality							
Common Sense Parenting (CSP)	213	Parent-report of parent-child affect quality	Decreased parent-child affect quality	Increased	OR=.70, CI = [.50, .96]	$p < .05$	Fleming (2015)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	200	Warmth of Parenting Scale	Decreased parent warmth	Decreased	OR=.48, CI = [.29, .80]	$p < .01$	Skarstrand (2009)
Program for mothers who have recently divorced (unnamed)	321	Acceptance and Rejection subscales of the Child Report of Parenting Behaviour Inventory and the Parent-Adolescent Communication Scale	Mother-child relationship quality (on stated direction)	No change	b = -.05, SE = .12, Beta = -.04	$p > .05$	Winslow (2009)
Family management							
Common Sense Parenting (CSP)	213	Alabama Parenting Questionnaire	Family management (no stated direction)	No change	OR = .99, CI = [.73, 1.35]	$p > .05$	Fleming (2015)
5. Barriers to engagement/ service preferences							
time/scheduling barriers							
Parenting our Children to Excellence (PACE)	322	The Obstacles to Engagement Scale (OES)	Less time/scheduling barriers	Increased	Wald χ^2 (1, N = 322) = 27.43	$p < .001$	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	322	The Obstacles to Engagement Scale (OES)	Less personal and family obstacles	Increased	Wald χ^2 (1, N = 322) = 8.39	$p < .004$	Nordstrom (2008)
Service preferences							
Child and parent attending							
Common Sense Parenting (CSP)	213	Common Sense Parenting versus Common Sense Parenting Plus	Parents enrolled in CSP Plus	No change	OR = 1.64, CI = [.88, 3.09]	$p > .05$	Fleming (2015)
Program relevance/trust							

Parenting program name	*n*=	Instrument	Predictor of engagement	Enrolment rate	Statistics	Significance	Study
Parenting our Children to Excellence (PACE)	322	The Raising Young Children Scale	More program relevance/trust	Increased	Wald χ^2 (1, N = 322) = 5.15	$p < .023$	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	322	The Obstacles to Engagement Scale (OES)	Low intervention demands	No change	Wald χ^2 = .01, OR = .99, CI = [.84, 1.17]	$p > .05$	Nordstrom (2008)
Triple P	257	Study-specific questions answered by parent	Non-Triple P language (i.e. non-native language)	Decreased	OR = .46, CI = [.28, .75]	$p < .01$	Eisner (2011)
Triple P	257	Study-specific questions answered by parent	Previous parent service utilisation	No change	OR = .99, CI = [.64, 1.52]	$p > .05$	Eisner (2011)

Notes:
*Indicates *p*-values selected for Stouffer's *p* analysis

Table 4c: *Descriptive summary of the predictors of ongoing engagement*

Parenting program name	*n*=	Instrument	Predictor of engagement	Ongoing engagement rate	Statistics	Significance	Study
1. Demographic information							
total household income							
Chicago Parent Program (CPP)	292	Study-specific questions answered by parent	Financial parity (no stated direction	No change	Stat n/r	Non-sig	Garvey (2006)
Triple P	282	Study-specific questions answered by teacher	Parent income (no stated direction)	No change	Stat n/r	Non-sig	Heinrichs (2005)
Common Sense Parenting (CSP)	157	19-point measure with categories ranging from <$10,000 to over $200,000	Total household income	No change	Beta = 3.31, SE = 2.34	*p* > .05	Fleming (2015)
Program not named: once-off anxiety prevention seminar	101	Family income (converted to a 5-point scale)	Parent income (no stated direction)	No change	Stat n/r	Non-sig	Mian (2015)
Parenting our Children to Excellence (PACE)	114	Yearly income (converted to a 4-point scale)	Family income (no stated direction)	No change	Beta = .37, SE = .27, *t* (93) = 1.40	Non-sig	Nordstrom (2008)
Triple P	257	Study-specific questions answered by parent	Dual-earner family	Decreased	OR = .23, CI = [.06, .80]	*p* < .05	Eisner (2011)
Bridges to High School	353	Study-specific questions answered by parent (family income included an aggregate of wages, salary, child support and state assistance)	Family income (no stated direction)	No change	*b* = .01, SE = .01, Beta = .03	Non-sig	Carpentier (2007)
Individual socioeconomic status							

Prevention Program for Externalizing Problem Behaviour (PEP)	74	Parent-report: calculated as a mean of both parents' education and profession	Low SES	Decreased	OR = .25	*p* = .001	Plueck (2010)
Webster-Stratton's Incredible Years program	106	High or low SES based on childcare attending	Low SES	No change	*t* (49) = -.76	*p* = .45	Baker (2011)
Chicago Parent Program (CPP)	292	Parent-report (parents indicated whether any of 7 possible events occurred to them in last year, i.e. being unable to pay rent/mortgage)	Level of economic disadvantage	No change	Stat n/r	Non-sig	Garvey (2006)
Barkley (1997)'s Behavioural Parent Training (BPT) program	72	Study-specific questions answered by parent	Low SES	No change	Stat n/r	Non-sig	Hellenthal (2009)
Bridges to High School	292	Study-specific questions answered by parent	Assessed as one factor: family income, child support required and state and federal assistance	No change	Stat n/r	Non-sig	Mauricio (2014)
Program for mothers who have recently divorced (unnamed)	321	Parent-report of household income and dividing it by US Census Bureau's poverty threshold	Income-needs ratio	No change	*b* = .08, SE = .11, Beta = .09	*p* > .05	Winslow (2009)
Strong African American Families (SAAF)	172	Money for Necessities subscale from the Family Resource Scale	Perceived economic stress	No change	Stat n/r	Non-sig	Brody (2006)

Triple P	257	International Socio-Economic Index of occupational status	High SES	No change	OR = 2.27, CI = [.68, 7.53]	$p > .05$	Eisner (2011)
Neighbourhood socioeconomic status							
Triple P	282	Social structure index of preschool (OKS)	Low SES neighbourhood	Decreased	OR = .31, CI = [.13, .75]	$p < .05$	Heinrichs (2005)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Social burden of district (calculated by Department of Youth and Family Welfare)	Social burden of district	No change	Stat n/r	$p = .290$	Plueck (2010)
Family Structure							
Strong African American Families (SAAF)	172	Ratio of children to adults calculated by dividing number of children in household by number of adults living there	Higher ratio of children to parents	Decreased	Beta = -.24 (SEM model; χ^2 (40, N = 164) = 33.36, $p = .76$)	$p < .05$*	Brody (2006)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Living with target child	No Change	OR = .84, CI = [.41, 1.74]	$p > .05$*	Skarstrand (2009)
Triple P	257	Study-specific questions answered by parent	Large family (3+ children)	Decreased	OR = .19, CI = [.05, .75]	$p < .05$*	Eisner (2011)
Bridges to High School	353	Study-specific questions answered by parent (parents asked how many children living at home)	Number of kids in the home	No change	$b = -.06$, SE = .12, Beta = -.02	$p > .05$*	Carpentier (2007)

One- or two-parent households							
Common Sense Parenting (CSP)	157	Baseline parent interview	Parent living with partner	No change	Beta = .19, SE = 4.69	$p > .05$*	Fleming (2015)
Parenting our Children to Excellence (PACE)	114	Study-specific questions answered by parent	Marital status (single parent)	No change	Beta = -1.09, SE = .71, t (93) = -1.55	Non-sig*	Nordstrom (2008)
Triple P	257	Study-specific questions answered by parent	Single parent	No change	OR = .84, CI = [.13, 5.38]	$p > .05$*	Eisner (2011)
Bridges to High School	353	Study-specific questions answered by parent	Single parent status	No change	b = -.39, SE = .53, Beta = -.04	$p > .05$*	Carpentier (2007)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Study-specific questions answered by parent	Single parent	No change	Stat n/r	$p = .746$*	Plueck (2010)
Chicago Parent Program (CPP)	292	Study-specific questions answered by parents	Marital status (no stated direction)	No change	Stat n/r	Non-sig*	Garvey (2006)
Webster-Stratton's Incredible Years program	106	Study-specific questions answered by parents	Single parent status	Increase	t (46) = -2.85	$p < .01$*	Baker (2011)
2. Parent factors							
Parent age							
Barkley (1997)'s Behavioural	72	Study-specific questions answered by parent	Younger parent age	Decreased	$r = .36$	$p < .01$*	Hellenthal (2009)

Parent Training (BPT) program							
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Parent age (no stated direction)	No change	OR = 1.33, CI = [.94, 1.87]	*p* > .05*	Skarstrand (2009)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Study-specific questions answered by parent	Parent age (no stated direction)	No change	Stat n/r	*p* = .349*	Plueck (2010)
Chicago Parent Program (CPP)	292	Study-specific questions answered by parent	Parent age (no stated direction)	No change	Stat n/r	Non-sig*	Garvey (2006)
Common Sense Parenting (CSP)	157	Study-specific questions answered by parent	Parent age (no stated direction)	No change	Beta = 2.25, SE = 2.25	*p* > .05*	Fleming (2015)
Parenting our Children to Excellence (PACE)	114	Study-specific questions answered by parent	Maternal age (no stated direction)	No change	Beta = -.14, SE = .21, *t* (93) = -.65	Non-sig*	Nordstrom (2008)
Parent gender							
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Parent gender (male)	No change	OR = 1.01, CI = [.51, 2.01]	*p* > .05*	Skarstrand (2009)

Common Sense Parenting (CSP)	157	Study-specific questions answered by parent	Parent gender (male)	No change	Beta = 9.27, SE = 6.51	$p > .05$*	Fleming (2015)
Parent race/ethnicity							
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Birth place of parent (same country as study)	Increased	OR = 4.98, CI = [1.62, 15.30]	$p < .01$*	Skarstrand (2009)
Webster-Stratton's Incredible Years program	106	Study-specific questions answered by parent	Ethnicity (African American versus Puerto Rican versus Caucasian)	No change	F (2,43) = 1.25	$p = .30$*	Baker (2011)
Chicago Parent Program (CPP)	292	Study-specific questions answered by parent	Ethnicity/race (no stated direction)	No change	Stat n/r	Non-sig*	Garvey (2006)
Common Sense Parenting (CSP)	157	Baseline parent interview	Parent Race (Caucasian verses African American)	No change	Beta = 7.88, SE = 5.41	$p > .05$*	Fleming (2015)
Program for mothers who have recently divorced (unnamed)	321	Study-specific questions answered by parent (self-report of ethnicity)	Parent minority ethnicity	No change	b = -.47, SE = .30, Beta = -.15	$p > .05$*	Winslow (2009)
Parenting our Children to Excellence (PACE)	114	Study-specific questions answered by parent (choice of African American or European American)	Maternal ethnicity (no stated direction)	No change	Beta = 1.08, SE = .67, t (93) = 1.62	Non-sig*	Nordstrom (2008)

Bridges to High School	353	Acculturation Rating Scale for Mexican Americans-II	Primary parent Anglo-orientation	No change	*b* = -.02, SE = .34, Beta = -.01	*p* > .05*	Carpentier (2007)
Bridges to High School	353	16-item composite of three subscales (obligations to family, level of emotional closeness, using family as referent in decision-making)	Primary parent familism	No change	*b* = -.22, SE = .52, Beta = -.02	*p* > .05	Carpentier (2007)
Bridges to High School	353	16-item composite of three subscales (obligations to family, level of emotional closeness, using family as referent in decision-making)	Child Anglo orientation	No change	*b* = .05, SE = .33, Beta = .01	*p* > .05	Carpentier (2007)
Bridges to High School	353	Acculturation Rating Scale for Mexican Americans-II	Child familism	No change	*b* = .61, SE = .45, Beta = .07	*p* > .05	Carpentier (2007)
Parent language proficiency							
Triple P	257	Study-specific questions answered by parent	Non-Triple P language (i.e. non-native language)	Decreased	OR = .27, CI = [.07, 1.13]	*p* < .10	Eisner (2011)
Bridges to High School	353	Study-specific questions answered by parent	Family language preference (Spanish)	Increased	*b* = 1.46, SE = .44, Beta = .21	*p* < .01	Carpentier (2007)

Parent education							
Parenting our Children to Excellence (PACE)	114	Study-specific questions answered by parent (4-point scale from high school not completed - college graduate)	Higher maternal education	Increased	Beta = .79, *t* (93) = 2.23	*p* = .026*	Nordstrom (2008)
Program for mothers who have recently divorced (unnamed)	321	Study-specific questions answered by parent (ordinal scale i.e. elementary, some high school, graduation)	Higher maternal education	Increased	*b* = .13, SE = .06, Beta = .21	*p* < .05*	Winslow (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Education level (no stated direction)	No change	OR = 1.48, CI = [.93, 2.37]	*p* > .05*	Skarstrand (2009)
Chicago Parent Program (CPP)	292	Study-specific questions answered by parent	Parent education level (no stated direction)	No change	Stat n/r	Non-sig*	Garvey (2006)
Barkley (1997)'s Behavioural Parent Training (BPT) program	72	Study-specific questions answered by parent	Parent education (no stated direction)	No change	Stat n/r	Non-sig*	Hellenthal (2009)
Common Sense Parenting (CSP)	157	8-point measure ranging from 'some high school' to 'PhD, J.D, D.D.S, M.D, D.V.M'	Parent education (no stated direction)	No change	Beta = 3.94, SE = 2.26	*p* > .05*	Fleming (2015)
Bridges to High School	353	Highest education level obtained by any primary caregiver in family	Family education level (no stated direction)	No change	*b* = .04, SE = .06, Beta = .04	*p* > .05*	Carpentier (2007)

Parent occupation							
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Working full-time	No change	OR = 1.19, CI = [.46, 3.05]	*p* > .05*	Skarstrand (2009)
Chicago Parent Program (CPP)	292	Study-specific questions answered by parent	Maternal employment status (no stated direction)	No change	Stat n/r	Non-sig*	Garvey (2006)
Parenting our Children to Excellence (PACE)	114	Study-specific questions answered by parent (choice of not currently employed or currently employed)	Maternal employment status (no stated direction)	No change	*b* = -.58, SE = .89, *t* (93) = -.65	Non-sig*	Nordstrom (2008)
Bridges to High School	353	Study-specific questions answered by parent	Number of parent hours worked	No change	*b* = -.01, SE = .01, Beta = -.02	*p* > .05*	Carpentier (2007)
Parent mental health status							
Bridges to High School	292	Centre for Epidemiologic Studies Depression Scale	Increased symptoms of depression	More likely to attend but drop out early	Logit = -0.03, SE = 0.01, OR = .97	*p* < .05*	Mauricio (2014)
Chicago Parent Program (CPP)	292	Everyday Stressor Index (ESI)	Baseline parent stress (no stated direction)	No change	Stat n/r	Non-sig*	Garvey (2006)
Chicago Parent Program (CPP)	292	Centre for Epidemiologic Studies Depression Scale (CESD)	Baseline parent depression (no stated direction)	No change	Stat n/r	Non-sig*	Garvey (2006)

Webster-Stratton's Incredible Years program	106	Brief Symptom Inventory	Increased parent depression score	No change	*r* (44) = .05	*p* = .74*	Baker (2011)
Barkley (1997)'s Behavioural Parent Training (BPT) program	72	Disruptive Behaviour Stress Inventory	Parenting stress (no stated direction)	No change	Stat n/r	Non-sig*	Hellenthal (2009)
Program for mothers who have recently divorced (unnamed)	321	Psychiatric Epidemiology Research Interview Demoralisation scale	Maternal distress (no stated direction)	No change	*b* = .00, SE = .01, Beta = .04	*p* > .05*	Winslow (2009)
Strong African American Families (SAAF)	172	Centre for Epidemiologic Studies Depression scale (CESD)	Maternal depression (no stated direction)	No change	Stat n/r	Non-sig*	Brody (2006)
Months since divorce							
Program for mothers who have recently divorced (unnamed)	321	Parent-report	Increased number of months since divorce	Decreased	*b* = -.04, SE = .02, Beta = -.21	*p* < .05	Winslow (2009)
Parent perceived benefit							
Parenting our Children to Excellence (PACE)	114	The Raising Young Children Scale	Perceived benefits	No change	Beta = 0.00, SE = .06, *t* (93) = -.02	Non-sig	Nordstrom (2008)

Measures of parenting behaviours							
Chicago Parent Program (CPP)	292	Toddler Care Questionnaire	Decreased self-efficacy	Increased	$r = -.20$	$p < .05$	Garvey (2006)
PACE (Parenting Our Children to Excellence)	322	Parenting Efficacy subscale of the Parenting Sense of Competence Scale	Decreased self-efficacy	Decreased	Beta = -.10, t (93) = -2.08	$p = .040$	Nordstrom (2008)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Warmth of Parenting Scale	Increased warmth	Increased	OR = .36, CI = [.21, 0.64]	$p < .001$	Skarstrand (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent (parents asked to choose one statement from four potential options)	More restrictive attitude to alcohol	No change	OR = 1.63, CI = [.75, 3.57]	$p > .05$	Skarstrand (2009)
Driving Mum and Dad Mad	723	Parenting Scale (PS)	More positive parenting style	Increased participation, unless parenting conflict added to regression	χ^2 (5, N = 154) = 16.69	$p < .01$	Calam (2008)
Program for mothers who have recently divorced (unnamed)	321	Composite of self-report scales (CRPBI, Oregon Social Learning Centre)	Effective discipline	No change	$b = -.26$, SE = .18, Beta = -.17	$p > .05$	Winslow (2009)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Parent-report of rule-setting in the home	Rule-setting (no stated direction)	No change	OR = .67, CI = [.38, 1.20]	$p > .05$	Skarstrand (2009)
	114	Parent Efficacy subscale of the Parent Sense of Competence Scale	Positive attributions (no stated direction)	No change			Nordstrom (2008)

Parenting our Children to Excellence (PACE)					*b* = -.03, SE = .51, *t* (93) = -.06	Non-sig	
Parenting our Children to Excellence (PACE)	114	Parent Efficacy subscale of the Parent Sense of Competence Scale	Negative attributions (no stated direction)	No change	Beta = .71, SE = .47, *t* (93) = 1.50	Non-sig	Nordstrom (2008)
Driving Mum and Dad Mad	723	Parent Problem Checklist (PPC) problem scale	More conflict	Decreased	χ^2 (7, N = 154) = 20.84	*p* < .005	Calam (2008)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Parent's knowledge of school performance (no stated direction)	No change	OR = 1.16, CI = [.65, 2.09]	*p* > .05	Skarstrand (2009)
Triple P	257	Alabama Parenting Questionnaire	Parenting problems (no stated direction)	No change	OR = .40, CI = [.14, 1.12]	*p* > .05	Eisner (2011)
Parent social support							
Webster-Stratton's Incredible Years program	106	Social Support Appraisal Scale	Decreased parents perceived social support	No change	*r* (42) = -.06	*p* = .71	Baker (2011)
Triple P	257	Parent-report	Strong neighbourhood social networks	Increased	OR = 4.32, CI = [1.30, 14.30]	*p* < .05	Eisner (2011)
Parent cognitions							
PACE (Parenting Our Children to Excellence)	114	Study-specific questions answered by parent	Parental cognitions (no stated direction, this factor is a combination of several cognitions)	Increased	*F* (18,111) = 2.38	*p* = .004	Nordstrom (2008)
Religious involvement							

Strong African American Families (SAAF)	172	Study-specific questions answered by parent	Low religious involvement	No change	Stat n/r	Non-sig	Brody (2006)
3. Child factors							
Child age							
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Study-specific questions answered by parent	Child age (no stated direction)	No change	Stat n/r	*p* = .139*	Plueck (2010)
Common Sense Parenting (CSP)	157	Baseline parent interview	Child age (no stated direction)	No change	Beta = -4.18, SE = 2.35	*p* > .05*	Fleming (2015)
Parenting our Children to Excellence (PACE)	114	Study-specific questions answered by parent	Child age (no stated direction)	No change	Beta = .50, SE = .36, *t* (93) = 1.41	Non-sig*	Nordstrom (2008)
Child gender							
Common Sense Parenting (CSP)	157	Baseline parent interview	Child gender (male)	Increased	Beta = 11.94, SE = 4.45	*p* < .01*	Fleming (2015)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Study-specific questions answered by parent	Child gender (male)	No change	OR = 1.63, CI = [.93, 2.86]	*p* > .05*	Skarstrand (2009)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Study-specific questions answered by parent	Child gender (male)	No change	Stat n/r	*p* = .233*	Plueck (2010)
Chicago Parent Program (CPP)	292	Study-specific questions answered by parent	Child gender (male)	No change	Stat n/r	Non-sig*	Garvey (2006)

Parenting our Children to Excellence (PACE)	114	Study-specific questions answered by parent	Child gender (no stated direction)	No change	Beta = .29, SE = .61, *t* (93) = .47	Non-sig*	Nordstrom (2008)
Child mental health symptoms							
Chicago Parent Program (CPP)	292	Eyberg Child Behaviour Inventory (EBCI)	Increased behaviour problems	Increased	*r* = .19	*p* < .05*	Garvey (2006)
Chicago Parent Program (CPP)	292	Caregiver-Teacher Report Form (CTRF)	Teacher-rated child behaviour problems	No change	Stat n/r	Non-sig	Garvey (2006)
Driving Mum and Dad Mad	723	Eyberg Child Behaviour Inventory (ECBI)	More problematic child behaviour	Increase	χ^2 (4, N = 154) = 12.09	*p* < .05*	Calam (2008)
Bridges to High School	292	Externalising Subscale of Child Behaviour Checklist (CBCL) answered by teacher	Increased externalising symptoms	More likely to attend but drop out early	Logit = .05, SE = .02, OR = 1.05	*p* < .05*	Mauricio (2014)
Webster-Stratton's Incredible Years program	106	Teacher Report Form	Increased child externalising behaviours	No change	*r* (49) = .22	*p* = .14	Baker (2011)
Triple P	257	Social Behaviour Questionnaire (Externalising Problem Behaviour subscale)	Child externalising problem behaviour (no stated direction)	No change	OR = .65, CI = [.22, 1.92]	*p* > .05*	Eisner (2011)
Common Sense Parenting (CSP)	157	Strengths and Difficulties Questionnaire	Increasing child conduct problems	No change	Beta = .66, SE = 2.25	*p* > .05*	Fleming (2015)
Prevention Program for	74	Parent-report (screening): Child Behaviour Checklist	Child externalising behaviours (no stated direction)	No change	Stat n/r	*p* = .311	Plueck (2010)

Externalizing Problem Behaviour (PEP)							
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Teacher-report (screening): Child Behaviour Checklist	Child externalising behaviours (no stated direction)	No change	Stat n/r	*p* = .453	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Parent-report (pre-test): Child Behaviour Checklist	Child externalising behaviours (no stated direction)	No change	Stat n/r	*p* = .530*	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Teacher-report (pre-test): Child Behaviour Checklist	Child externalising behaviours (no stated direction)	No change	Stat n/r	*p* = .652	Plueck (2010)
Parenting our Children to Excellence (PACE)	114	Disruptive Behaviour Disorders rating scale	ADHD symptoms (no stated direction)	No change	Beta = -.03, SE = .04, *t* (93) = -.73	Non-sig*	Nordstrom (2008)
Parenting our Children to Excellence (PACE)	114	Disruptive Behaviour Disorders rating scale	ODD symptoms (no stated direction)	No change	Beta = .04, SE = .08, *t* (93) = .54	Non-sig*	Nordstrom (2008)
Bridges to High School	353	Externalising score on Child Behaviour Checklist (CBCL)	Child externalising symptoms (no stated direction)	No change	*b* = -.09, SE = .03, Beta = -.05	*p* > .05*	Carpentier (2007)

Bridges to High School	353	Internalising score on Child Behaviour Checklist (CBCL)	Child internalising symptoms (no stated direction)	No change	*b* = .03, SE = .02, Beta = .10	*p* > .05*	Carpentier (2007)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Teacher-report (screening): Child Behaviour Checklist	Higher child internalising behaviours	Decrease	Stat n/r	*p* = .025	Plueck (2010)
Common Sense Parenting (CSP)	157	Strengths and Difficulties Questionnaire	Child emotional symptoms (no stated direction)	No change	Beta = -1.56, SE = 2.47	*p* > .05*	Fleming (2015)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Parent-report (screening): Child Behaviour Checklist	Child internalising behaviours (no stated direction)	No change	Stat n/r	*p* = .931	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Parent-report (pre-test): Child Behaviour Checklist	Child internalising behaviours (no stated direction)	No change	Stat n/r	*p* = .798*	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Teacher-report (pre-test): Child Behaviour Checklist	Child internalising behaviours (no stated direction)	No change	Stat n/r	*p* = .424	Plueck (2010)
Barkley (1997)'s Behavioural Parent Training (BPT) program	72	Ohio Scales	More severe child behaviour symptoms	Increased	*r* = .24	*p* = .05*	Hellenthal (2009)

Program for mothers who have recently divorced (unnamed)	321	Child Behaviour Checklist (CBCL)	Child maladjustment (no stated direction)	No change	*b* = .00, SE = .01, Beta = .03	*p* > .05*	Winslow (2009)
Webster-Stratton's Incredible Years program	106	Teacher Report Form	Increased rule breaking behaviour	Increased	*r* (49) = .29	*p* = .05*	Baker (2011)
Strengthening Families Program: For Parents and Youth 10-14 (SFP)	115	Scale constructed for study by researchers	Increased norm-breaking behaviours	No change	OR = .88, CI = [.55, 1.42]	*p* > .05*	Skarstrand (2009)
Child's exposure to negative life events							
Program for mothers who have recently divorced (unnamed)	321	Negative Life Events Scale	Child's exposure to negative life events	No change	*b* = .00, SE = .04, Beta = .00	*p* > .05	Winslow (2009)
Child's academic success							
Common Sense Parenting (CSP)	157	Child-report	Child's school grades (no stated direction)	No change	Beta = -.82, SE = 2.26	*p* > .05	Fleming (2015)
Bridges to High School	353	Letter grades aggregated across quarters to yield a GPA	Child GPA (no stated direction)	No change	*b* = .18, SE = .07, Beta = .14	*p* < .05	Carpentier (2007)
Youth unconventionality							
Strong African American Families (SAAF)	172	Assessed by standardising and summing youths' responses to three measures; willingness to have sex,	Increased youth unconventionality	Decreased	Beta = -.43 (SEM model; χ^2 (40, N =	*p* <.05	Brody (2006)

		ability to resist peer pressure, resistance efficacy			164) = 33.36, *p* = .76)		
Perceived burden of child's behaviours							
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Teacher-reported burden for themselves due to child's behaviours	Increased burden of child's behaviours	No change	OR = 3.04	*p* = .326	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Parent-reported burden for themselves due to child's behaviours	Increased burden of child's behaviours	No change	Stat n/r	*p* = .672	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Teacher's reported need for additional assistance in the class room due to child's problems	Increased need for help	No change	Stat n/r	*p* = .061	Plueck (2010)
Prevention Program for Externalizing Problem Behaviour (PEP)	74	Parent's reported need for additional assistance	Increased need for help	No change	Stat n/r	*p* = 9.08	Plueck (2010)
4. Parent/child relational factors							
Parent-child affect quality							
Program for mothers who have recently divorced (unnamed)	321	2 subscales from Child Report of Parenting Behaviour Inventory and Parent-Adolescent Communication Scale	Mother-child relationship quality	No change	*b* = -.04, SE = .15, Beta = .03	*p* > .05	Winslow (2009)
Common Sense Parenting (CSP)	157	Parent-report of parent-child affective quality (12 survey items	Parent-child affective quality	No change	Beta = -2.13, SE = 2.36	*p* > .05	Fleming (2015)

		pertaining to frequency of behaviours in prior month)					
Strong African American Families (SAAF)	172	Interaction Behaviour Questionnaire (IBQ); mother- and adolescent-report	Poor relationship quality	No change	Stat n/r	Non-sig	Brody (2006)
Family management							
Common Sense Parenting (CSP)	213	Alabama Parenting Questionnaire	Family management	No change	Beta = -.53, SE = 2.13	$p > .05$	Fleming (2015)
4. Barriers to engagement/service preferences							
Personal and family obstacles							
PACE (Parenting Our Children to Excellence)	114	The Obstacles to Engagement Scale (OES)	Increased personal and family obstacles	Decreased	Beta = -.29, t (93) = -2.10	$p = .038$	Nordstrom (2008)
Time and scheduling difficulties							
PACE (Parenting Our Children to Excellence)	114	The Obstacles to Engagement Scale (OES)	Fewer time and scheduling barriers	Increased	Beta = .74, t (93) = 3.99	$p < .001$	Nordstrom (2008)
Service preferences							
Common Sense Parenting (CSP)	213	Common Sense Parenting versus Common Sense Parenting Plus	Child attending program	No change	Beta = -4.02, SE = 4.54	$p > .05$	Fleming (2015)
Bridges to High School	292	Moos Group Environment scale	Increased cohesion	Increased	Logit = .25, SE = .12, OR = 1.28	$p < .05$	Mauricio (2014)
Bridges to High School	292	Familism subscale of the Acculturation Rating Scale for Mexican-Americans-II	Increased Perceived familism	Increased	Logit = 1.03, SE = .54, OR = 2.80	$p < .05$	Mauricio (2014)
Chicago Parent Program (CPP)	292	Geographical location	Living within 3 miles of day care centre	Decreased	t (153) = -2.3	$p < .05$	Garvey (2006)

Parenting our Children to Excellence (PACE)	114	The Obstacles to Engagement Scale (OES)	Increased program relevance/trust	No change	Beta = .02, SE = .14, *t* (93) = .17	Non-sig	Nordstrom (2008)
Triple P	257	Study-specific questions answered by parent	Previous parent service utilisation	No change	OR = .79, CI = [.23, 2.65]	*p* > .05	Eisner (2011)
Parenting our Children to Excellence (PACE)	114	The Obstacles to Engagement Scale (OES)	Low intervention demands	No change	Beta = -.04, SE = .18, *t* (93) = -.23	Non-sig	Nordstrom (2008)
6. Engagement factors							
Intent to enrol							
Bridges to High School	292	Provider ratings of parent's intentions	Less intention to attend	Decreased	Logit = 0.39, SE = .15, OR = 1.47	*p* < .05	Mauricio (2014)
Attendance at first sessions							
Chicago Parent Program (CPP)	292	Attendance records	Attendance at first session	Increased	91% more likely to attend at least 2 sessions	n/a	Garvey (2006)
Engagement in sessions							
Chicago Parent Program (CPP)	292	Attendance records	Increased engagement in sessions	Increased	*r* = .59	*p* < .001	Garvey (2006)

Notes:
*Indicates *p*-values selected for Stouffer's *p* analysis

Appendix A.7: Supplementary 5

Online Supplement 5: Descriptive Summary of Risk of Bias of Included Quantitative Studies
Cochrane Collaboration's tool used to assess risk of bias in quantitative studies (handbook.cochrane.org/chapter_8/table_8_5_a_the_cochrane_collaborations_tools_for_assessing.html)
Table 5:*Descriptive Summary of Risk of Bias of Included Quantitative Studies*

Study	**Selection bias**		**Performance bias**	**Detection bias**	**Attrition bias**	**Reporting bias**	**Other bias**
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
Aalborg (2012) and Miller (2011)	Risk unclear: specific method n/r, beyond 'randomly' assigned to choice or control condition. p. 3. Miller (2011)	Risk unclear: supporting data n/r	High risk: no blinding attempted	Risk unclear	Risk unclear	Risk unclear: insufficient information to permit judgement of low or high risk; no protocol available	Risk unclear
Baker (2011)	Risk unclear: specific method n/r, beyond 'half of the classrooms were randomly assigned to a parent training intervention group'. p. 129	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear: supporting data n/r	Risk unclear: unclear whether teachers were blinded to group allocation	Risk unclear	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Bjorknes (2011) and	Low risk: 'randomization sequences were	Low risk: 'randomization procedures were	Risk unclear: supporting data n/r	Unclear risk: unclear whether teachers	Low risk: missing data imputed using acceptable	Risk unclear: insufficient informat	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other sources of bias
Bjorknes (2013)	computer generated (Microsoft Excel)'. p. 55. Bjorknes (2013)	carried out after the entire group of study participants had completed the baseline interview.' p. 55. Bjorknes (2013)		were blinded to group allocation	methods. 'Missing-completely-at-random (MCAR) test was carried out for each instrument, and the statistical method expectation–maximization (EM) was used to estimate and fill in missing values at the item level.' p. 57. Bjorknes (2013)	ion to permit judgement of low or high risk	
Brody (2006)	Risk unclear: randomisation method n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear: supporting data n/r	Risk unclear	Risk unclear	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Byrnes (2012)	Risk unclear: randomisation method n/r beyond 'families were randomly assigned to	Risk unclear: supporting data n/r	High risk: no blinding attempted	Risk unclear	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
	one of two programs or a control condition'. p. 178					or high risk	
Calam (2008)	Risk unclear: randomisation method n/r. Only reported that 'randomization produced similar, comparable groups'. p. 329	Low risk: central allocation (web-based randomisation procedure)	Low risk: outcome not likely to be influenced by lack of blinding due to use of web-based platform for study	Low risk	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Carpentier (2007)	Risk unclear: randomisation method n/r. Only reported that 'families were randomly assigned to either the control or intervention condition'. p. 528	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear: supporting data n/r	Risk unclear	High risk: 'listwise deletion excluded participants with missing data from the analyses regarding program enrolment'. p. 533	Risk unclear: insufficient information to permit judgement of low or high risk; no protocol available	High risk: unequal probability assignment. English families were given a 70% chance of being placed in treatment and 30% chance of being placed in control. Convers

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
							ely, Spanish families were given a 60% chance of being placed in treatment, and a 40% chance of placement in control
Eisner (2011)	Risk unclear	Risk unclear: insufficient information provided	Risk unclear: supporting data n/r	Risk unclear	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk; no protocol available	Risk unclear
Fleming (2015)	Low risk: '…assigned identification numbers in the order in which participants returned permission slips and then blocked the	Risk unclear: supporting data n/r	Risk unclear: 'staff person who made assignments to condition had no contact with individual families and had no	Low risk: 'data collection staff, who were not informed of condition assignments…'. p. 108	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk; no protocol available	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
	participants by school and adolescent gender. Within blocks… assigned families sequentially to one of the three experimental conditions… or a no-intervention control condition'. p. 108		information on families other than identification numbers, gender of the students, and the students' schools'. p. 108 However, unclear whether participants were blinded to allocation				
Garvey (2006)	Risk unclear: randomisation procedure not clear. '7-day care centers were assigned to one of two equivalent groups that were matched on size, racial/ethnic composition, median income, and percent single-family households	Risk unclear	Risk unclear: supporting data n/r	Risk unclear: PT group leaders reported on parents' engagement in program, but unclear whether leaders themselves were blinded to group allocation	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
	and then randomly assigned to the intervention or waiting list control condition'. p. 205						
Heinrichs (2005)	High risk: 'families were assigned to the experimental or control group based on preschool affiliation. Preschools were randomized to the two conditions after being matched according to the social structure of their respective neighbourhoods'. p. 278	High risk: inadequate concealment of interventions prior to allocation. Participants were aware of possibility they would be allocated to one of two conditions (control or experimental)	High risk	Risk unclear: unclear whether teachers rating participating families were themselves blinded to group allocation	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Heinrichs (2006)	Unclear risk: specific randomisation procedure n/r - 'preschools were first matched	Risk unclear: method of concealment is not described in sufficient	High risk: 'one of these female recruiters was aware of the	Risk unclear	Risk unclear	Risk unclear: insufficient information to permit judgeme	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
	based on their size and then randomly assigned to one of the four recruitment conditions'. p. 349	detail to allow a definitive judgement	main hypotheses of the study while the other one was blind. Complete blindness was not possible because half of the female recruiters were also responsible for conducting the prevention program'. p. 349-50			nt of low or high risk	
Helfenbaum-Kun (2007)	Risk unclear: randomisation method n/r, merely that 'fathers were randomly assigned to a parent-training group consistent with their language preference, or to a no-treatment control group'. p. 53	Risk unclear	Risk unclear	Risk unclear: 'Head Start teachers completed the Intensity scale of the Sutter-Eyberg Student Behavior Inventory-Revised'. p. 53 However unclear whether teachers were	Risk unclear	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
				blinded to group allocation			
Hellenthal (2009)	Low risk: intervention group only, no control group	Low risk: intervention group only, no control group	Low risk: intervention group only, no control group	Low risk: intervention group only, no control group. Furthermore, data collected in an anonymous fashion as parents utilised a code on all forms except the consent form, which was kept separate from all other forms	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Mauricio (2014)	Risk unclear: randomisation method n/r	Risk unclear	Risk unclear	Risk unclear: 'teachers completed paper–pencil questionnaires on child behavior'. p. 373. Unclear whether teachers were blinded to	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other sources of bias
				condition allocation			
Mian (2015)	Risk unclear: 'parents were randomized to two recruitment strategies'. p. 61. However, specific randomisation method n/r	Risk unclear	Risk unclear	Risk unclear	Low risk: missing data for variables associated with hypotheses were imputed using multiple imputation in PASW Statistics 18 with 20 imputations, informed by sociodemographic and psychological variables	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Nordstrom (2008)	Risk unclear	Risk unclear	Risk unclear	Risk unclear	High risk: nine mothers with missing data were excluded from analyses. Imputation not implemented	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Plueck (2010)	Risk unclear: randomisation method n/r	Risk unclear	Risk unclear	Risk unclear regarding teacher-reported data, and whether they were blinded to group allocation	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
Reedtz (2011)	Risk unclear: 'children and families were randomized to either the shortened basic version (*n*=89), or the control group (*n*=97)'. p. 268. However, randomisation method n/r	Risk unclear	Risk unclear	Risk unclear	Risk unclear	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear
Skarstrand (2009)	Risk unclear: 'schools were stratified on socio-economic position: 12 in high-income areas and ten in low-income areas. Half of the schools in the high-income areas, and half of the schools in the low-income areas were randomly assigned to form the intervention	Risk unclear	Risk unclear: supporting data n/r	Risk unclear	Risk unclear: supporting data n/r	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear

Study	Selection bias		Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
	Random sequence generation	**Allocation concealment**	**Blinding of participants and personnel**	**Blinding of outcome assessment**	**Incomplete outcome data**	**Selective reporting**	**Other sources of bias**
	group or the control group'. p. 386. Specific randomisation method n/r						
Winslow (2009)	Risk unclear: specific randomisation method n/r, beyond 'mothers were told that they would be randomly assigned to one of three program conditions'. p. 157	Risk unclear	Risk unclear	Risk unclear	Risk unclear	Risk unclear: insufficient information to permit judgement of low or high risk	Risk unclear

Notes:
n/r= not reported

Appendix B.1: Interview Protocol

Recruitment Script- Telephone Calls

Hi my name is _____ and I am a researcher at Monash University. Have I called you at a bad time?

Note: If yes, ask when is a convenient time to call and schedule in calendar.

I received your phone call/email suggesting you were interested in learning more about our current study on why parents chose not to participate in parenting programs. We are hoping that the results of our study will help us to make parenting programs more applicable to parents of teenagers and assist parents in supporting their children.

Participation will involve the completion of a short interview which will be administered over the telephone, or face-to-face. It will take approximately 30 minutes to complete. The interview will centre around your opinions as to why more parents do not attend parenting programs.

Would you be willing to participate? [Record consent]

If Yes:

Would you like to complete the interview over the phone or face-to-face? When would you be available to conduct this interview? What is the most convenient number to contact you on?

I also have a participant information sheet which I will email/post, that explains the study we will be conducting in more detail. This also contains a consent form which will need to be signed and returned in the reply paid envelope provided or via email before your interview time.

Do you have any questions with regard to the study or your involvement?

Thank you very much for your time and I look forward to talking to you on….. [Interview day and time]. Please feel free to contact me if you have any questions or need to reorganise your interview time, my contact details will be on the participant information sheet that I send to you.

Thank you again, Goodbye.

If No:

Not a problem. Thank you very much for your time. Have a lovely day. Goodbye.

Recruitment Script- Email Contact

Attachments:

1. Consent form (to be returned)
2. Participant information sheet
3. Interview Questions

Title: Participation Monash University Study on "What do parents want?" interviews

Email Content:

Hi [insert person's name],

Thank you for your email. It would be great to speak to you more about parents needs and your views on engaging parents in parenting programs. I have attached some further information for yourself and a consent form. Would you prefer to complete the interview over the phone or in person? I am available [state availability]. Please let me know if there is a time here that could suit. Interviews generally take 20-40 minutes.

Can I also confirm that you [are a high-school teacher/have at least one child in high-school/ are a facilitator of parenting programs for parents of teenage children]?

If over the phone is more convenient, can you please return the consent form via email before the date of the interview.

Kind Regards,
Samantha Finan
Yap Lab
Child and Adolescent Mental Health
DPsych (Clinical) Candidate and Provisional Psychologist
Monash University
(Monday and Tuesday)
Email: samantha.finan@monash.edu

Interview Script

Intro:
Thank you for agreeing to participate in this study, is now still a convenient time to complete the interview? It should take between 20 to 40 minutes to complete.
If No, reschedule a convenient day and time for the interview.
Informed Consent:
If Yes: Thank you for returning your consent form. Did you have any questions about the information that you received?
If No: Did you get a chance to read the information sheet that was sent to you? Do you have any questions? We have not received your consent form but if you are happy to participate we can record your consent over the phone. Would you still like to participate in the study? (Record consent)
Explanation
Before we begin I will just run through a brief explanation of what the interview will entail. The questionnaire will explore demographics, experiences and barriers to parents attending programs and possible things we as researchers could do to improve parents attendance.
If at any time you wish to stop the interview or if I am asking anything that is upsetting to you or broaching subjects you don't want to discuss please let me know.
This interview will be recorded for coding purposes but any reported information will be anonymous
Conclusion
Does this all sound ok?
Would you like to ask anything before we start?
Ok great, we will get started then, I am turning the recording device on now

Interview Questions
For practitioners
Parenting Programs for Child Mental Health: What Do Parents Want?

1. What type of parenting programs have you advertised for/being involved in, in the past and present?

2. How do parents find out about your programs?
    a. What strategies have you used in the past/currently to engage more parents in your parenting programs?

3. What do you believe are the reasons for parents and families deciding not to participate in the parenting programs?
    a. What reasons have you heard from parents?

4. What do you believe are the reasons for parents beginning but not completing parenting programs?
    a. What reasons have you heard from parents

5. Do you think these reasons are similar or different to programs that are aimed towards preventing child mental health problems?

6. What changes could be made to parenting programs that would make parents more likely to attend or complete?

7. Are there other resources that parent use or could use? i.e. resources such as books, websites, speaking to friends or professionals.
    a. If yes, can you tell me about them?
        i. Is there anything we can do to make these resources better/more accessible?
    b. If no, what types of resources could we create for parents?

8. What is it about these resources, do you think, makes parents more likely to engage with them instead of attending programs?

9. Is there anything else you think is important for us to know about engaging parents in parenting programs?

Interview Questions
For Parents
Parenting Programs for Child Mental Health: What Do Parents Want?

1. What program did you chose to not participate in? How was it advertised?
    a. Is there a better way to advertise this programs?

2. How did you and your family choose not to participate?
    a. For example how your decision was made i.e. spoke as a couple, as a family etc. What was considered or discussed?

3. Did you ever think you would enrol in the program, and then change your mind?
    a. Was there anything about the program that made you change your mind or was there something else that made you change your mind?

4. Are there any changes that could be made to the program or did you have any suggestions to improve the program? (to increase your likelihood of attending)

5. Have you ever attended other parenting programs in the past? What about these programs was useful and helped you to attend?

6. Would you have attended the parenting program if you knew it could help prevent child mental health problems?
    a. Have you ever attended a program like this in the past?
    b. Why did you choose to attend/not attend this program?
    c. Are there any changes that could have been made to help parents attend a program for child mental health prevention?

7. Is there any other resources that you know of that you could use or have used in the past? i.e. resources such as books, websites, speaking professionals
    a. If yes, can you tell me about them?
        i. Is there anything that could be done to these resources to make them better?
    b. If no, would you consider using any resources such as these?
        i. Are there any changes that would need to be made to these resources for you to use them?

Interview Questions
For Teachers
Parenting Programs for Child Mental Health: What Do Parents Want?

1. Can you please explain your current (and/or previous, if relevant) roles at your school?

2. What contact have you had in the past and/or present with parenting programs?
    a. Did you recruit for these programs?
    b. Where they run internally or externally from the school?
    c. What type of parenting programs?

3. How do parents find out about your programs?
    a. What strategies have you used in the past/currently to engage more parents in your parenting programs?

4. What do you believe are the reasons for parents and families deciding not to participate in the parenting programs?
    a. What reasons have you heard from parents?

5. What do you believe are the reasons for parents beginning but not completing parenting programs?
    a. What reasons have you heard from parents

6. Do you think there are any additional reasons why parents may find it difficult to engage with parenting programs that are aimed at preventing child mental health problems?

7. What changes could be made to parenting programs that would make parents more likely to attend or complete?

8. Are there other resources that you recommend for parents use or could use? i.e. resources such as books, websites, speaking to friends or professionals.
    a. If yes, can you tell me about them?
        i. Is there anything we can do to make these resources better/more accessible?
    b. If no, what types of resources could we create for parents?

9. What is it about these resources, do you think, makes parents more likely to engage with them instead of attending programs?

10. Is there anything else you think is important for us to know about engaging parents in parenting programs?

Appendix B.2: Explanatory Statements

EXPLANATORY STATEMENT FOR PARENTS

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH: WHAT DO PARENTS WANT?

Chief Investigator: Dr Marie Yap
School of Psychological Sciences, Faculty of Medicine, Nursing and Health Sciences
Phone: 9905 0723
email: marie.yap@monash.edu

Co-investigator: Dr Naomi Priest
Australian National University
Phone: 02 6125 4849
Email: naomi.priest@anu.edu.au
Student: Samantha Finan (Doctorate of Clinical Psychology)
email: samantha.finan@monash.edu

Invitation to participate:

You are invited to take part in research being conducted by Monash University, as part of a Doctorate of Clinical Psychology Degree. Please read this Explanatory Statement in full before deciding whether or not to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact Samantha Finan by email at samantha.finan@monash.edu.

What does the research involve?

This study aims to identify what factors influence parents' decision to enrol in a preventative parenting program and identify potential changes that can be made to such programs to increase engagement and enrolment. This will be done through conducting interviews with participants. Specifically:

- Participants are invited to take part in a short 30-40 minutes face-to-face or telephone interview about their decision to not take part in a preventative parenting program for child mental health.
- Participants will be asked questions such as: Did you ever think you would enrol in the program, and then changed your mind? Was there anything about the program that made your change your mind?
- Information such as participant age, occupation and highest level of education will be collected.
- Data from interviews will be included in a student thesis and publication will be sought from professional journals.
- In addition, a small reimbursement in the form of a $20 Coles/Myers card will be given to all participants to thank them for their time.

Who is being asked to participate?

We are inviting participation from parents who have ever decided not to participate in any parenting program. In addition, in order to participate in the current study, parents need to live in metropolitan Melbourne and be proficient in English.

What if I change my mind?

Participation in this project is voluntary. If you decide to participate, you will be asked to sign a consent form agreeing to be part of the research. If you change your mind about participating, you are free to end the interview at any time. You may also choose not to answer specific questions you regard as too personal or intrusive. In addition, after the interview you may withdraw any information about yourself and your answers to the interview questions by contacting us.

Possible benefits and risks to participants

There are several benefits for participants including:

- The knowledge gained from this research can help us better understand how to engage parents in preventing child mental health problems and could lead to a decrease in mental health problems in the community.
- The knowledge gained from this research may be used to increase the accessibility of parenting programs in the future.

We have also identified a few possible risks to you in taking part in this research:

- Though unlikely, it is possible that you may get upset or distressed by the interview questions, either during or after completing the survey. If you become distressed, please seek support from a trusted family member or friend, or a helpline from the list below:
    - Lifeline 13 11 14 (24 hours a day, 7 days a week)
    - Parentline 13 22 89 (8am-midnight, 7 days a week)
- Though unlikely, there is a risk to participant's privacy, due to mandatory reporting procedures in the unlikely event that a participant does disclose information to the researcher that is considered to lead to risk of harm to the child or others, a report to the relevant services will be made, this could include Department of Health and Services.

Confidentiality and storage of data

Any information we collect from you will be stored separately from any identifying information to protect your confidentiality. This information will only be accessible by the researchers named on this project. Electronic flies will be password protected and paper files such as Consent forms stored in a locked cabinet. Data from the project will be securely destroyed after a minimum of 5 years after the final report on the study is published. Any written or verbal reports will only contain group data. Individuals will not be identifiable in any report.

Who can I contact about participation and access to results?

If you would like more information before deciding to participate, or if you would like to receive a copy of the summary of the findings, when available in late 2017 please contact Samantha Finan at samantha.finan@monash.edu.

Complaints

Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the

Executive Officer, Monash University Human Research Ethics (MUHREC):
Executive Officer
Monash University Human Research Ethics Committee (MUHREC)
Room 111, Building 3e
Research Office
Monash University VIC 3800
Tel: +61 3 9905 2052 Email: muhrec@monash.edu Fax: +61 3 9905 3831

Thank you,
(insert chief investigator's signature)
Dr Marie Yap
NHMRC Career Development Fellow

Senior Research Fellow and Psychologist
School of Psychological Sciences,
Faculty of Medicine, Nursing and Health Sciences
Monash University

EXPLANATORY STATEMENT FOR TEACHERS

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH: WHAT DO PARENTS WANT?

Chief Investigator: Dr Marie Yap
School of Psychological Sciences, Faculty of Medicine, Nursing and Health Sciences
Phone: 9905 0723
email: marie.yap@monash.edu

Co-investigator: Dr Naomi Priest
Australian National University
Phone: 02 6125 4849
Email: naomi.priest@anu.edu.au
Student: Samantha Finan (Doctorate of Clinical Psychology)
email: samantha.finan@monash.edu

Invitation to participate:

You are invited to take part in research being conducted by Monash University, as part of a Doctorate of Clinical Psychology Degree. Please read this Explanatory Statement in full before deciding whether or not to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact Samantha Finan by email at samantha.finan@monash.edu.

What does the research involve?

This study aims to identify what factors influence parents' decision to enrol in a preventative parenting program and identify potential changes that can be made to preventative parenting programs to increase engagement and enrolment. This will be done through conducting interviews with participants. Specifically:

- Participants are invited to take part in a short 30-40 minutes face-to-face or telephone interview about why parents may make the decision to not take part in a preventative parenting program for child mental health.
- Participants will be asked questions such as: What would have increased a parent's intention to enrol in the preventative parenting program for child mental health?
- All interviews will be audio taped for coding purposes.
- Information such as participant age, occupation and highest level of education will be collected.
- Data from interviews will be included in a student thesis and publication will be sought from professional journals
- In addition, a small reimbursement in the form of a $20 Coles/Myers card will be given to all participants to thank them for their time and opinions expressed in these interviews.

Who is being asked to participate?

We are inviting participation from teachers who have some insight into why parents decide not to participate in the preventative parenting programs. In addition, teachers who participate need to live in metropolitan Melbourne and be proficient in English.

What if I change my mind?

Participation in this project is voluntary. If you decide to participate, you will be asked to sign a consent form agreeing to be part of the research. If you change your mind about participating, you are free to end the interview at any time. You may also choose not to answer specific questions you regard as too personal or intrusive. In addition, after the interview you may withdraw any information about yourself and your answers to the interview questions by contacting us.

Possible benefits and risks to participants

There are several benefits for participants including:

- The knowledge gained from this research can help us better understand how to engage parents in preventing child mental health problems and could lead to a decrease in mental health problems in the community.
- The knowledge gained from this research may be used to increase the accessibility of parenting programs in the future.

We have also identified a few possible risks to you in taking part in this research:

- Though unlikely, it is possible that you may get upset or distressed by the interview questions, either during or after completing the survey. If you become distressed, please seek support from a trusted family member or friend, or Lifeline 13 11 14 (24 hours a day, 7 days a week).
- Though unlikely, there is a risk to participant's privacy, due to mandatory reporting procedures in the unlikely event that a participant does disclose information to the researcher that is considered to lead to risk of harm to the child or others, a report to the relevant services will be made, this could include Department of Health and Services.

Confidentiality and storage of data

Any information we collect from you will be stored separately from any identifying information to protect your confidentiality. This information will only be accessible by the researchers named on this project. Electronic flies will be password protected and paper files such as Consent forms stored in a locked cabinet. Data from the project will be securely destroyed after a minimum of 5 years after the final report on the study is published. Any written or verbal reports will only contain group data. Individuals will not be identifiable in any report.

Who can I contact about participation and access to results?

If you would like more information before deciding to participate, or if you would like to receive a copy of the summary of the findings, when available in late 2017, please contact Samantha Finan at samantha.finan@monash.edu.

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Tel: +61 3 9905 2052 Email: muhrec@monash.edu Fax: +61 3 9905 3831

Thank you,
(insert chief investigator's signature)
Dr Marie Yap
NHMRC Career Development Fellow
Senior Research Fellow and Psychologist
School of Psychological Sciences,

Faculty of Medicine, Nursing and Health Sciences
Monash University

EXPLANATORY STATEMENT FOR PARENTING PROGRAM FACILITATORS

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH; WHAT DO PARENTS WANT?

Chief Investigator: Dr Marie Yap
School of Psychological Sciences, Faculty of Medicine, Nursing and Health Sciences
Phone: 9905 0723
email: marie.yap@monash.edu

Co-investigator: Dr Naomi Priest
Australian National University
Phone: 02 6125 4849
Email: naomi.priest@anu.edu.au
Student: Samantha Finan (Doctorate of Clinical Psychology)
email: samantha.finan@monash.edu

Invitation to participate:

You are invited to take part in research being conducted by Monash University, as part of a Doctorate of Clinical Psychology Degree. Please read this Explanatory Statement in full before deciding whether or not to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact Samantha Finan by email at samantha.finan@monash.edu.

What does the research involve?

This study aims to identify what factors influence parents' decision to enrol in a preventative parenting program and identify potential changes that can be made to preventative parenting programs to increase engagement and enrolment. This will be done through conducting interviews with participants. Specifically:

- Participants are invited to take part in a short 30-40 minutes face-to-face or telephone interview about why parents may make the decision to not take part in a preventative parenting program for child mental health.
- Participants will be asked questions such as: What would have increased a parent's intention to enrol in the preventative parenting program for child mental health?
- All interviews will be audio taped for coding purposes.
- Information such as participant age, occupation and highest level of education will be collected.
  Data from interviews will be included in a student thesis and publication will be sought from professional journals
- In addition, a small reimbursement in the form of a $20 Coles/Myers card will be given to all participants to thank them for their time and opinions expressed in these interviews.

Who is being asked to participate?

We are inviting participation from facilitators of preventative parenting programs. In addition, facilitators who participate need to live in metropolitan Melbourne and be proficient in English.

What if I change my mind?

Participation in this project is voluntary. If you decide to participate, you will be asked to sign a consent form agreeing to be part of the research. If you change your mind about participating, you are free to end the interview at any time. You may also choose not to answer specific questions you regard as too personal or intrusive. In addition, after the interview you may withdraw any information about yourself and your answers to the interview questions by contacting us.

Possible benefits and risks to participants

There are several benefits for participants including:

- The knowledge gained from this research can help us better understand how to engage parents in preventing child mental health problems and could lead to a decrease in mental health problems in the community.

- The knowledge gained from this research may be used to increase the accessibility of parenting programs in the future.

We have also identified a few possible risks to you in taking part in this research:

- Though unlikely, it is possible that you may get upset or distressed by the interview questions, either during or after completing the survey. If you become distressed, please seek support from a trusted family member or friend, or Lifeline 13 11 14 (24 hours a day, 7 days a week).
- Though unlikely, there is a risk to participant's privacy, due to mandatory reporting procedures in the unlikely event that a participant does disclose information to the researcher that is considered to lead to risk of harm to the child or others, a report to the relevant services will be made, this could include Department of Health and Services.

Confidentiality and storage of data

Any information we collect from you will be stored separately from any identifying information to protect your confidentiality. This information will only be accessible by the researchers named on this project. Electronic flies will be password protected and paper files such as Consent forms stored in a locked cabinet. Data from the project will be securely destroyed after a minimum of 5 years after the final report on the study is published. Any written or verbal reports will only contain group data. Individuals will not be identifiable in any report.

Who can I contact about participation and access to results?

If you would like more information before deciding to participate, or if you would like to receive a copy of the summary of the findings, when available in late 2017, please contact Samantha Finan at samantha.finan@monash.edu.

Complaints

Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the

Executive Officer, Monash University Human Research Ethics (MUHREC):
Executive Officer
Monash University Human Research Ethics Committee (MUHREC)
Room 111, Building 3e
Research Office
Monash University VIC 3800
Tel: +61 3 9905 2052 Email: muhrec@monash.edu Fax: +61 3 9905 3831

Thank you,

(insert chief investigator's signature)
Dr Marie Yap
NHMRC Career Development Fellow
Senior Research Fellow and Psychologist
School of Psychological Sciences,

Faculty of Medicine, Nursing and Health Sciences
Monash University

Appendix B.3: Consent Forms

PARENT CONSENT FORM

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH: WHAT DO PARENTS WANT?

Chief Investigator: Dr Marie Yap
Student Investigator: Samantha Finan

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

I understand that participation is voluntary and I can withdraw from the project at any time, prior to the publication of results. I understand that I can request to review and edit the transcript of the discussion prior to my information being processed.

I consent to the following:	Yes	No
Taking part in a one-on-one telephone interview	☐	☐
Audio-recording during the interview	☐	☐
Use of the information I provide during the research for reporting in a non-identifiable form	☐	☐
Use of the information I provide during the research for other research purposes, in a non-identifiable form. Such future studies will be subject to approval from the relevant Ethics Committee.	☐	☐

Name of Participant (Print) _____

Participant Signature _____ Date / / .

TEACHER CONSENT FORM

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH: WHAT DO PARENTS WANT?

Chief Investigator: Dr Marie Yap
Student Investigator: Samantha Finan

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

I understand that participation is voluntary and I can withdraw from the project at any time, prior to the publication of results. I understand that I can request to review and edit the transcript of the discussion prior to my information being processed.

I consent to the following:	Yes	No
Taking part in a one-on-one telephone interview	☐	☐
Audio-recording during the interview	☐	☐
Use of the information I provide during the research for reporting in a non-identifiable form	☐	☐
Use of the information I provide during the research for other research purposes, in a non-identifiable form. Such future studies will be subject to approval from the relevant Ethics Committee.	☐	☐

Name of Participant (Print) _____

Participant Signature _____ Date / / .

FACILITATOR CONSENT FORM

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH: WHAT DO PARENTS WANT?

Chief Investigator: Dr Marie Yap
Student Investigator: Samantha Finan

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

I understand that participation is voluntary and I can withdraw from the project at any time, prior to the publication of results. I understand that I can request to review and edit the transcript of the discussion prior to my information being processed.

I consent to the following:	Yes	No
Taking part in a one-on-one telephone interview	☐	☐
Audio-recording during the interview	☐	☐
Use of the information I provide during the research for reporting in a non-identifiable form	☐	☐
Use of the information I provide during the research for other research purposes, in a non-identifiable form. Such future studies will be subject to approval from the relevant Ethics Committee.	☐	☐

Name of Participant (Print) _____.

Participant Signature _____ Date / / .

Appendix B.4: Demographic Information

PARENT DEMOGRAPHIC INFORMATION

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH; WHAT DO PARENTS WANT?
(To be given to participants at the beginning of interview after consent signed)

What is your sex?	1. Male 2. Female
What is your age range in years?	1. 18-19 2. 20-29 3. 30-39 4. 40-49 5. 50-59 6. 60-69 7. 70+
What is your highest level of education?	1. Year 7 to Year 11 2. Year 12 3. Trade/apprenticeship 4. Other TAFE/technical certificate 5. Diploma 6. Bachelor degree 7. Post-graduate degree
What is your postcode?	

How many children/teenagers do you have?	1 2 3 4 5 6+

What is your relationship with the child/teenager who the parenting program was suggested for?	1. Mum 2. Dad 3. Guardian 4. Other(please specify)_____

TEACHER DEMOGRAPHIC INFORMATION

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH; WHAT DO PARENTS WANT?

(To be given to participants at the beginning of interview after consent signed)

What is your sex?	3. Male 4. Female
What is your age range in years?	8. 18-19 9. 20-29 10. 30-39 11. 40-49 12. 50-59 13. 60-69 14. 70+
What is your highest level of education?	8. Year 7 to Year 11 9. Year 12 10. Trade/apprenticeship 11. Other TAFE/technical certificate 12. Diploma 13. Bachelor degree 14. Post-graduate degree
What is your postcode? (of employment)	

FACILITATOR DEMOGRAPHIC INFORMATION

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH; WHAT DO PARENTS WANT?
(To be given to participants at the beginning of interview after consent signed)

What is your sex?	5. Male 6. Female
What is your age range in years?	15. 18-19 16. 20-29 17. 30-39 18. 40-49 19. 50-59 20. 60-69 21. 70+
What is your highest level of education?	15. Year 7 to Year 11 16. Year 12 17. Trade/apprenticeship 18. Other TAFE/technical certificate 19. Diploma 20. Bachelor degree 21. Post-graduate degree
What is your postcode? (of employment)	

Appendix B.5: Principal Letter for Permission to Recruit

(Insert name of principal)

Principal

(Insert name of school)

(Insert address of school)

(Insert Date)

Dear (Insert name of principal),

Permission to recruit parents, teachers and facilitators for research project

I am seeking your permission to recruit parents of children attending, teachers and parenting program facilitators working at (insert name of school) to participate in a face-to-face telephone interview for a research project being run by Monash University. This research project will be conducted by a student researcher, Samantha Finan, and makes up part of her Doctorate Degree in Clinical Psychology.

The knowledge gained from this research will help increase parental engagement in preventative parenting programs for child mental health, such as the one(s) you are currently running or have previously offered at your school.

Research Overview

This research project is entitled 'Parenting programs for child mental health: What do parents want?' It aims to identify what factors influence parents' decision to enrol in a preventative parenting program and identify potential changes that can be made to such programs to increase engagement and enrolment.

We are inviting participation from parents who have ever decided not to participate in any parenting program. These parents will be invited to take part in a short face-to-face or telephone interview to provide more detailed information about why they made the decision to not attend the preventative parenting program.

In addition, teachers at your school and facilitators will be invited to take part in a short face-to-face or telephone interview about their views of parents' non-participation.

Parents, teachers or facilitators who agree to be contacted for the interview will be asked to provide an email or postal address, which the researcher will use to contact them and provide more information about what participation in the research involves.

Participation in the research is entirely voluntary. Whether or not you decide to advertise this project at your school will not disadvantage you or the school in any way.

Demands on the school staff

The demands on the school and its staff will be minimal. The University will provide all recruitment materials such as printed letters, flyers and envelopes. These materials will be delivered to schools already prepared and in envelopes. Schools will be asked to print address labels for eligible parents. These address labels will be affixed on the school grounds and sent directly to parents. Alternatively, emails or other online formats can be used to contact parents and teachers and facilitators.

Benefits of participation

Participating schools, teachers, facilitators and parents can benefit by receiving a summary report of the research upon request by contacting the student researcher. Parents and schools may also benefit from this research if our findings help to make parenting programs more readily accessible in the future. In addition, a small reimbursement in the form of a $20 Coles/Myers card will be given to all participants to thank them for their time.

Risk of participation

Though unlikely, it is possible participants may be upset by the interview questions, and protocols for managing such situations have been identified (refer to Explanatory Statements attached). Though unlikely, there is also a risk to participant privacy through breaches of confidentiality, particularly where we believe that participants are at risk to themselves or to others. Similarly, there are protocols identified for such situations.

Who has approved the research?

Approval has been granted from the Monash University Human Research Ethics Committee.

We plan to publish results from this research in group form, with names and other identifiable information modified or removed. The school will not be identified in any report or publications arising from the work. Through this research, we hope to increase parental engagement in preventative parenting programs, which can have a positive effect on children's mental health and wellbeing.

We will be in contact over the next few days to see if you're willing to grant us permission to recruit for our study through your school. Alternatively, please feel free to call me on 9905 0723 for further information.

Yours Sincerely,

(insert chief investigator's signature)
Dr Marie Yap
NHMRC Career Development Fellow
Senior Research Fellow and Psychologist
School of Psychological Sciences,
Faculty of Medicine, Nursing and Health Sciences
Monash University

Appendix B.6: Permission Letter

PERMISSION LETTER

PARENTING PROGRAMS FOR CHILD MENTAL HEALTH: WHAT DO PARENTS WANT?

Dr Marie Yap
NHMRC Career Development Fellow
Senior Research Fellow and Psychologist
School of Psychological Sciences
Faculty of Medicine, Nursing and Health Sciences
Room 616 Bld 17, Wellington Rd
Monash University
CLAYTON, VIC 3800

Date __/__/____

Dear Marie,

Thank you for your request to recruit participants from (insert name of school) for the above-named research.

I have read and understood the Explanatory Statement regarding the research project *Parenting programs for child mental health: What do parents want?* and hereby give permission for this research to be promoted to the parents and staff at our school.

Yours sincerely.

(Insert Signature)

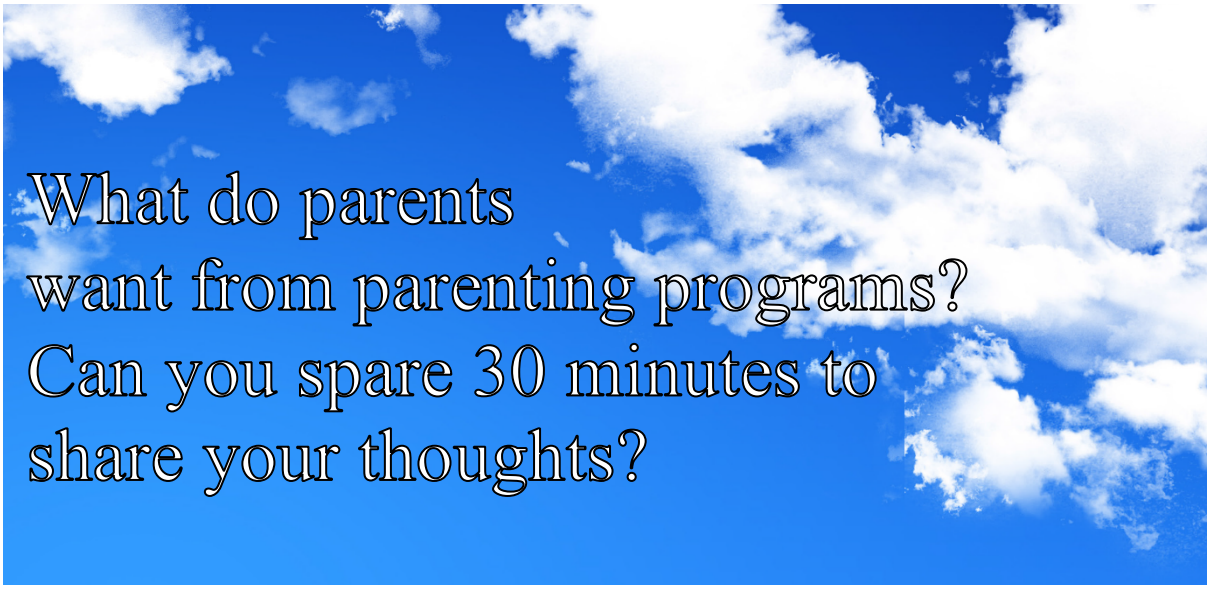
(Insert name of school principal)

Principal

(Insert school name)

Appendix B.7: Recruitment Flyers

PARENT ADVERTISEMENT



If you are a parent or guardian of a high school aged child, your views are important to us.
Can you spare 30 minutes to share your thoughts about why parents do or don't attend?

What does the research involve?

You are invited to participate in a research project to explore the reasons why parents do not attend parenting programs. The project hopes to identify how these programs can be changed so that parents are more likely to attend. The knowledge gained in this research ultimately aims to assist the prevention of mental health problems in the community.

Your participation involves a one-on-one interview (face-to-face, or by phone), which will last approximately 30-40 minutes, and be held at a local venue at a time convenient to you. Participants will receive a $20 Coles/Myer card to thank them for their time.

Who can participate?

If you are a parent or guardian who has been *offered a parenting program but who has chosen not to take part*, we want to hear from you! You also need to have a child currently attending high school, be located in metropolitan Melbourne, and be fluent in English.

What are the risks and benefits?

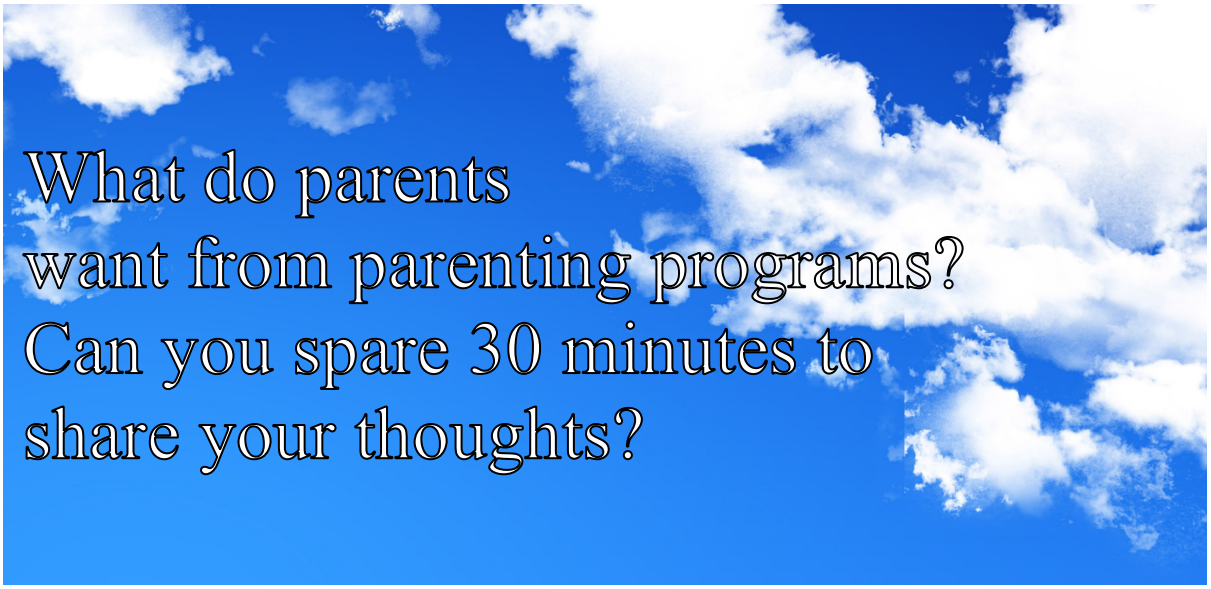
The possible risks and benefits are outlined in an Explanatory Statement, which provides more information to you to help you decide if you wish to participate. Please see contact details below to obtain a copy of this Statement.

Interested?

If you are interested in participating in the interview, please contact Samantha Finan on 9905 1250 or *samantha.finan@monash.edu*

This study is being undertaken by Monash University, led by Dr Marie Yap, and has been approved by the Monash University Human Research Ethics Committee.

TEACHER ADVERTISEMENT



If you are a a teacher at a high school, your views are important to us.
Can you spare 30 minutes to share your thoughts about why parents do or don't attend?

What does the research involve?

You are invited to participate in a research project to explore the reasons why parents do not attend parenting programs. The project hopes to identify how these programs can be changed so that parents are more likely to attend. The knowledge gained in this research ultimately aims to assist the prevention of mental health problems in the community.

Your participation involves a one-on-one interview (face-to-face, or by phone), which will last approximately 30-40 minutes, and be held at a local venue at a time convenient to you. Participants will receive a $20 Coles/Myer card to thank them for their time.

Who can participate?

If you are a teacher at a high school promoting a parenting program we would like to hear your views about why parents choose to decline opportunities to take part in parenting programs for child mental health.

What are the risks and benefits?

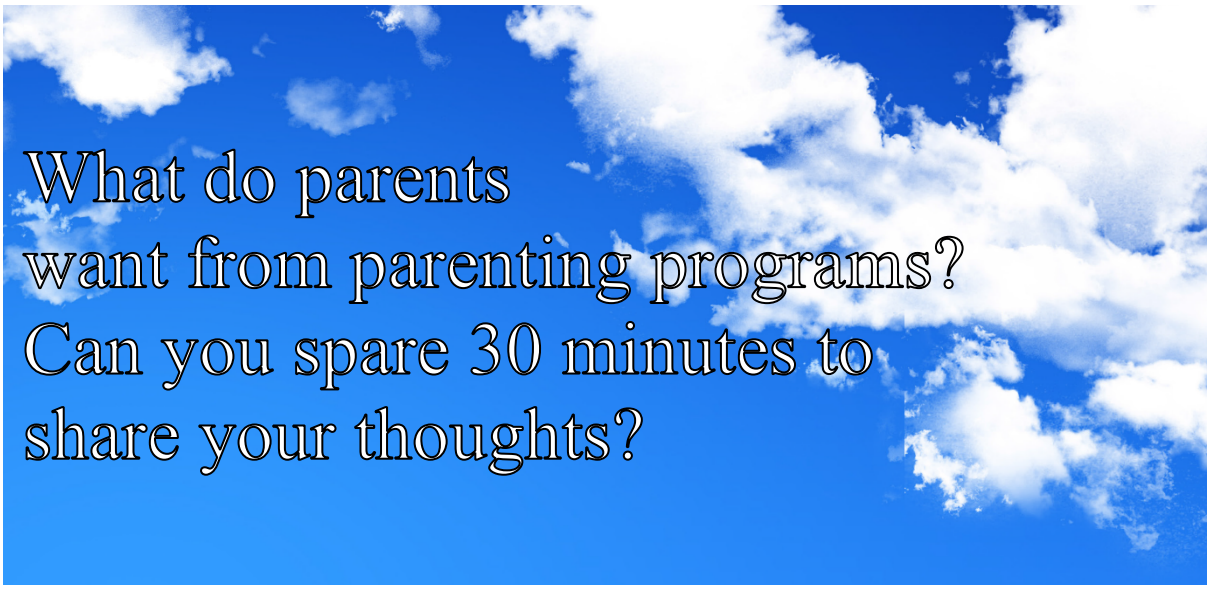
The possible risks and benefits are outlined in an Explanatory Statement, which provides more information to you to help you decide if you wish to participate. Please see contact details below to obtain a copy of this Statement.

Interested?

If you are interested in participating in the interview, please contact Samantha Finan on 9905 1250 or *samantha.finan@monash.edu*

This study is being undertaken by Monash University, led by Dr Marie Yap, and has been approved by the Monash University Human Research Ethics Committee.

FACILITATOR ADVERTISEMENT



If you are a professional that runs parenting programs, your views are important to us.
Can you spare 30 minutes to share your thoughts about why parents do or don't attend?

What does the research involve?

You are invited to participate in a research project to explore the reasons why parents do not attend parenting programs. The project hopes to identify how these programs can be changed so that parents are more likely to attend. The knowledge gained in this research ultimately aims to assist the prevention of mental health problems in the community.

Your participation involves a one-on-one interview (face-to-face, or by phone), which will last approximately 30-40 minutes, and be held at a local venue at a time convenient to you. Participants will receive a $20 Coles/Myer card to thank them for their time.

Who can participate?

If you are facilitator of a parenting program, we would like to hear your views about why parents choose to decline opportunities to take part in parenting programs for child mental health.

What are the risks and benefits?

The possible risks and benefits are outlined in an Explanatory Statement, which provides more information to you to help you decide if you wish to participate. Please see contact details below to obtain a copy of this Statement.

Interested?

If you are interested in participating in the interview, please contact Samantha Finan on 9905 1250 or *samantha.finan@monash.edu*

This study is being undertaken by Monash University, led by Dr Marie Yap, and has been approved by the Monash University Human Research Ethics Committee