

**Universal parenting programmes for parents of adolescents: A systematic review of
adolescent psychosocial outcomes**

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Abstract

Most young people navigate adolescence, a period of great developmental change, successfully. However, a significant minority experience psychosocial difficulty that can have lifelong consequences. The influence of parenting behaviour on how adolescent developmental tasks are resolved and their associated outcomes suggests that parents may be a suitable target for intervention to reduce poor psychosocial outcomes for adolescents. Although there is a strong evidence base for parenting programmes for younger children, less is known about those for parents of adolescents, especially at the universal level. This systematic review sought to appraise and critically evaluate the evidence base for universal parenting programmes for parents of adolescents and their effect on adolescent psychosocial outcomes. Seven databases were searched for quantitative studies that evaluated such programmes, where the programme did not include active participation with the adolescent. Twenty-three studies across 31 publications, evaluating 19 different programmes were identified. Results demonstrated that compared to control groups, adolescents whose parents attended a programme group had lower levels of externalising difficulties and risky behaviour. For adolescent internalising difficulties, the efficacy of programmes was not clearly demonstrated. The quality of research underpinning the programmes was found to be strong in some areas such as use of randomised control trials, and weak in other areas, for example selection bias. There was little replication of trials of specific programmes leading to the conclusion that although there is evidence for the use of parenting programmes for parents at the universal level, one programme cannot be recommended over another.

Chapter One: Introduction

Adolescence is a developmental period characterised by considerable change across biopsychosocial domains and conceptualised as the transition from childhood to adulthood (Steinberg, 2010b). The majority of adolescents, defined as those aged 10-19 years, navigate this development period successfully (Clark et al., 2013); however, some are at risk for socioemotional problems. Mental health conditions account for 16% of the global burden of disease and injury for adolescents, with depression one of the leading causes of illness and disability (World Health Organisation, 2011). Suicide is the third leading cause of death in those aged 15-19 years. In New Zealand 10% of young people (aged 12- 19 years) report having a history of substance abuse, 21% having engaged in self-harm at some point, and 25% having a mental disorder, with these statistics only reflecting moderate to severe cases (Malatest International, 2016). Due to the well documented increase in the onset of mental health challenges during adolescence, parents can feel they are faced with a conundrum. On the one hand, many behaviours such as mood swings, impulsivity, or moderate risk taking are typical of the adolescent period and most young people quickly move past them. On the other hand, for a minority of adolescents these behaviours signal the onset of ongoing internalising and externalising difficulties that need to be addressed early. Trying to make sense of this may prompt some parents to seek more information regarding parenting strategies to assist their child in navigating this pivotal developmental period. In addition, ensuring young people are not on trajectories that result in mental health issues, may prompt the state to establish parenting programmes to not only assist those who ask for it, but also those unaware of their skill and knowledge gaps. In light of the increasing mental health issues young people are experiencing, the World Health Organisation has advocated for the use of

strategies that promote positive adolescent development and prevent problems that have an onset in adolescence (World Health Organisation, 2011).

Areas that raise concerns for parents during adolescence include issues such as breaking family rules, truancy, verbal aggression, sexual and substance experimentation, and refusal to complete schoolwork, as well as more serious externalising and internalising behaviours such as physical assault, theft, school dropout, substance use and addiction, unintended pregnancy, and suicide (Chu, Farruggia, Sanders, & Ralph, 2012; Medlow, Klineberg, Jarrett, & Steinbeck, 2016). Not only do these issues have profound implications for individual functioning, but these issues can have a severe impact on the family, and over a large scale, they also shape society (Chu et al., 2012). However, not all concerns that present in adolescence have their onset in this developmental period. Some may be a continuation from existing emotional or behavioural problems from childhood, or they may have causal mechanisms, such as developmental trauma, earlier than adolescence but manifest in this time period (Ralph et al., 2003). Some concerns that arise in adolescence may be due to the way normative developmental tasks for this age group progress and are either resolved, or left unresolved, and fester. Such issues are the focus of parenting programmes for this age group (Ralph et al., 2003). If parents do not attend to an adolescent's needs in relation to normative developmental tasks, this may develop into, and present as an adolescent onset trajectory of poor functioning (Ralph et al., 2003). Engaging parents before this occurs is a challenge of universal programmes for parents of adolescents.

Adolescent Development

What a parent believes about normative child and adolescent development serves as a baseline from which their parenting practices evolve (Sanders, 2008b). Whilst parents of adolescents may previously have felt confident in their parenting skills, or accessed support with parenting their young offspring, this may be challenged by their understanding of

adolescent development. Adolescents have key developmental tasks to navigate and resolve with the goal of becoming fully functioning independent adults (Philips & Edwards, 2012). Aside from infancy, it is the most intense period of developmental change (Thorslund, Alfredsson, & Axberg, 2019) marked with significant neural, physical, cognitive, emotional, and social changes (Burrus, Leeks, Sipe, Dolina, Soler, Elder, Barrios, Greenspan, Fishbein, Lindegren, Achrekar, Dittus, et al., 2012). Biological maturation outpaces psychosocial development during early adolescence. When adolescents present with physical features congruent with adults, many parents expect more mature behaviour, which may be unrealistic, thus creating tension within the family (D'Angelo & Omar, 2003). This can come at the same time as young people are choosing to confide in their peers more and parents miss the previous dependant relationship they had. This is also coupled with parental concerns regarding the increased exploration and experimentation during the adolescent period that can involve risk-taking behaviours with substances, new peer influences, and romantic relationships (D'Angelo & Omar, 2003).

A full exploration of the vast array of physical and psychosocial development tasks adolescents undertake is beyond the scope of this thesis; however, in addition to the obvious physical developmental changes that take place during adolescence, there is also profound changes in psychosocial outcomes. Adolescents acquire much greater autonomy, their relationships outside the home expand considerably, there is pressure to develop a coherent identity and plan for the future, and higher-order cognitive processes such as logical thinking, abstract thought, and reconsidering value systems all contribute to the dynamic tensions during this stage of life (Philips & Edwards, 2012). In this section I will focus on those developmental changes during adolescence that are often a concern for parents, and in the following section, I explore those theories that further elucidate the influences of parenting on optimal development for adolescents. The final section of the chapter addresses the

implications of these theories and adolescent development changes for effective and adaptive parenting.

Puberty

Puberty refers to the physical changes that a child undergoes in order to become sexually mature and able to reproduce (Gilmore & Meersand, 2013). There is a wide range of individual differences among adolescents in the start and length of puberty, with chronological age a poor marker of puberty (Philips & Edwards, 2012). However, at a population level the average growth spurt for girls begins at age 8.7 years followed by breast budding, whereas the growth spurt and testicular changes for boys begins around 11.5 years. The pubertal period can last from two to five years. In this relatively short period, extensive physical changes take place, including endocrine activity such as the secretion of sex hormones and an increase in the secretion of growth hormones related to the development of both primary sexual characteristics (those relating to the sex organs) and secondary (those relating to visible physical markers of adulthood such as facial hair or rounded hips). Spermatarche, the onset of seminal emission, occurs between the ages of 11 and 15 years (mean age 13.4 years) whilst menarche, the onset of menstruation, occurs between 9 and 17 years (mean age 12.3 years).

Puberty marks the beginning of adolescence but many other psychosocial factors characterise adolescence beyond the biological changes a young person experiences (Philips & Edwards, 2012). The biological changes also interact with many of these psychosocial factors, having implications for family dynamics and adolescent outcomes. For example, studies in different countries found early puberty in girls is associated with internalising and externalising difficulties (Kaltiala-Heino, Marttunen, Rantanen, & Rimpelä, 2003). For boys a study in the United States reported late puberty was associated with internalising difficulties, but this was not replicated in Finland, where outcomes were similar to that of

girls. Different sex role expectations in the two countries may account for the results, although the mechanisms by which early puberty affects mental health are unknown (Yoo, 2016). An adolescent's perception of their body, both physical appearance and potential sexual function, is likely to influence, and be influenced by, the reactions of their peer group, who may or may not be at the same stage of pubertal development as them (Gilmore & Meersand, 2013). The increased salience of peers as a "yardstick" against which these changes are measured, may be coupled with an awkwardness in the parent-adolescent relationship as both adjust to the young person's increase in sexual characteristics (Gilmore & Meersand, 2013). The nature and outcome of these adjustments depend on a myriad of factors relating to parenting as shall be discussed later. However, the physical changes puberty brings are likely to contribute to the finding that many parents believe puberty to be the most challenging period in their offspring's life (Gilmore & Meersand, 2013).

Neurological development

While the brain is fully grown soon after birth and the first five years have been cited as the key sensitive period for brain development, important structural maturation is ongoing in adolescence (Konrad, Firk, & Uhlhaas, 2013). Grey matter matures from the back of the brain to the front, with areas such as the prefrontal cortex, which houses higher cognitive functions, maturing last and into the third decade. In addition, during adolescence pruning of synapses that have not been strengthened through experience is undertaken. This represents an advance rather than a cognitive decline as the process leads to more efficient neural communication (Luciana, 2013).

Previously it has been postulated that deficits in executive function, driven by an immature prefrontal cortex, accounted for risky behaviours, a common concern for adolescents by their parents (Luciana, 2013). Research into risk-taking has had to contend with the salient methodological confound that using hypothetical, individual, and cognitive-

based scenarios as experimental variables does not capture the experience and emotions that are associated with risk-taking in the real world (Steinberg, 2004). In such studies adolescents often score similarly to adults. As these tasks may be incongruent with levels of risk taking outside of the laboratory, these experiments may be measuring decision making rather than risk taking, with the ability to cognitively evaluate decision making options nearly fully developed by age 16 years. This has prompted the dual systems model of adolescent risk taking. Instead of risk taking in adolescents being accounted for by risk perception and appraisal, differences in reward sensitivity and higher order self-regulation have a greater influence on these behaviours (Steinberg, 2004).

The dual systems model proposes that the dopamine system's exponential increase in activity during puberty may result in increases in reward seeking, so that an adolescent needs to engage in higher risk taking in order to achieve an optimal level of arousal or thrill (Steinberg, 2004, 2010a). This occurs before the full development of advanced self-regulation and impulse control, the second part of the model's system, which is managed by the prefrontal cortex. The dorsolateral prefrontal cortex has been linked to impulse control and evaluating the consequences of decisions. This area of the brain is not thought to be fully developed until the early twenties (Giedd, 2004), whereas areas of the brain involved in processing emotions and reward in subcortical regions matures earlier. The time lag between the two systems may represent the period of development where adolescents are the most vulnerable to risk-taking and permits greater subcortical signalling as it is under-regulated by the prefrontal cortex (Mills, Goddings, Clasen, Giedd, & Blakemore, 2014). Differential trajectories in the development of reward seeking and impulse control have been found in an experimental study employing both task measures and self-report (Steinberg, 2010a). It was found that whilst impulse control steadily increased between the ages of 10 and 30 years, reward seeking was at its highest in the middle adolescence group. The implications are that

vulnerability to risk taking is normative, and strategies attempting to prevent or intervene in risk taking that target only cognitive appraisal will not be wholly effective.

With a neural basis, risk taking is seen as normative in adolescence and is likely to serve a function of learning novel behaviours and adopting new attitudes (Burrus, Leeks, Sipe, Dolina, Soler, Elder, Barrios, Greenspan, Fishbein, Lindegren, Achrekar, & Dittus, 2012). This in turn contributes to adolescents' exploring and confirming their identity as well as gaining peer acceptance and respect. However, a fine line needs to be navigated between allowing adolescents freedom to explore novel situations, like exposure to alcohol in social situations, whilst at the same time not undertaking risks that will induce long-term harm to the individual. Navigating this fine line is one of the tasks of parenting that is discussed later in this chapter.

Increasing Autonomy

Autonomy has been conceptualised as either a developmentally salient task involving increasing independence from others (often parents) in decision making, or a life-span function which involves acting on personally selected interests and goals (Fousiani, Van Petegem, Soenens, Vansteenkiste, & Chen, 2014). Research into autonomy in adolescence has used both constructs under the term autonomy, although the former is better described as dependence versus independence and the latter as self-endorsed functioning versus controlled functioning. The conflation of the definitions makes examination of the research complicated, depending on how the research teams define autonomy.

Increasing independence during adolescence is normative. A primary goal of parenting at this time is to raise children to go on to be independent functioning adults in society (Bornstein & Lansford, 2010). However, most parents are less willing to increase their adolescent's independent decision making as quickly as their adolescent desires (Van

Petegem, Beyers, Vansteenkiste, & Soenens, 2012). In addition, whilst increasing independence is desirable during this period in a step towards emerging adulthood, independence granting by parents before an adolescent can meet the demands on effortful control that navigating adolescence requires can have negative consequences (Houtepen, Sijtsema, Klimstra, Van der Lem, & Bogaerts, 2019). Studies into the effects of increasing independence, defined as an adolescent increasingly making decisions or operating without relying on parents, has found mixed results, finding it can both contribute to positive youth development, as well as being associated with externalising difficulties (Fousiani et al., 2014). This may be due to other factors interacting with independence granting. For example, boys with low levels of effortful control and whose parents granted them high independence had higher levels of rule breaking behaviour. Houtepen et al. (2019) hypothesised that for these boys, greater dependence on their parents for emotional and behavioural regulation would result in better psychological outcomes. This illustrates the complex nature of independence granting and boundary setting, that needs to be navigated by parents during this developmental period, as shall be discussed further in the chapter when monitoring is considered.

Autonomy as self-endorsed functioning encompasses being able to behave on one's own, (i.e., independence) but it also involves internalising values and goals that are acted on because of inertial motivation to do so, rather than any external pressure (Steinberg, 2010b; Van Petegem et al., 2012). Thus, a young person may come to accept their parent's values and beliefs and act accordingly or reject them. For young people from collective cultures this may mean not being independent from the group, but still having a degree of autonomy in their decision to support and work within the collective.

So far both independence and self-endorsed functioning have been discussed in relation to behavioural autonomy, (decision making and acting on these) and value autonomy.

In addition to these, adolescents also begin to develop emotional autonomy. The goal of emotional autonomy is for the adolescent to be less reliant on their parents to guide emotional regulation and be able to self-regulate as well as gain emotional support from others, such as their peers (Thorslund, 2019). The processes involved in developing emotional autonomy include the de-idealisation of parents, where adolescents question their parents' values and opinions, seeing these as constructions rather than facts, leading to the formation of their own opinions. This promotes the process of individuation, where adolescents come to see themselves as psychologically distinct from their parents and are able to create a balance in their relationship between increased autonomy and necessary support (Filus et al., 2019). When this process is supported by parents, this can result in a gradual reduction in emotional interdependence of parent and adolescent, whilst maintaining a close reciprocal bond. If psychological control (the use of intrusive and manipulative behaviour) is employed by parents, this process can lead to alienation and hostility. Adolescents in the former group have greater mental well-being than those who are detached and fall into the latter group (Thorslund, 2019). Psychological control is further discussed in relation to parenting styles subsequently in this chapter.

Identity

Erikson (1956) proposed that working out who one is and where they fit in the world is a fundamental task of identity development, predominately undertaken in adolescence. Marcia (1966) postulated that the process of identity formation involves four stages defined by where the individual fits on two orthogonal dimensions, including the degree of exploration of identity constructs and the degree of commitment to those adopted constructs. Identity achievement is characterised by a period exploration and commitment to a coherent sense of identity. Moratorium is a stage where the individual is exploring but not committed. Identity foreclosure is where there is commitment without exploration and identity diffusion

is the absence of exploration or commitment. These can be measured in regards to work, ideologies, and relationships and an individual may be at different stages for each domain.

Research examining identity has wrestled with and continues to navigate a number of challenges (Syed & McLean, 2014). These include assumptions that identity formation takes place in adolescence in a linear fashion through the stages outlined above, what identity encompasses, how the constructs should be operationalised, limited studies into the influences on identity development, and a narrow focus on white middle-class populations based in western affluent countries (Arnett, 2014; Syed & McLean, 2014). Despite the current limitations in the identity research field, there is still evidence that many adolescents are questioning who they are during this developmental period, made all the more salient due to the increased maturation of cognitive processes such as formal operational thought and abstract thinking (Schwartz, Donnellan, Ravert, Luyckx, & Zamboanga, 2013).

Positive identity formation is likely to depend on both internal and external resources (Hofer & Spengler, 2020), ranging from those relating to macrosystems such as culture, gender roles, and history, to individual factors such as personality, motivation, and agency (Schwartz et al., 2013). In addition, macro and individual influences may interact, for example agency is dependent on social structures that allow agency to be expressed (Schwartz et al., 2013). Parents are therefore one factor that will influence positive adolescent identity outcomes and their influence is likely to be related to specific parenting behaviours and family climate, as shall be discussed in relation to parenting style theory. Longitudinal data has indicated that adolescents (mean age 18 years at start of two-year study) who perceived their parents to be controlling were more likely to struggle to commit to choices, identify with the choices they made, or feel confident in their choices (Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007). Schwartz et al., (2009) found family functioning, which included measures of parental involvement and positive parenting,

predicted identity confusion in early adolescence. In late adolescence a bidirectional relationship between identity confusion and family functioning was observed.

The Growing Importance of Peers

A challenge faced by families during this period is the shift of importance for adolescents from the family unit to peer groups. The increase in the salience of peers is likely to be driven by biological and evolutionary processes in order to move away from the natal group to widen the gene pool (Luciana, 2013). Peer relationships form a part of the intricate web of influences on the previously discussed areas of development such as autonomy and identity, as well as parenting behaviours and family climate. Mental well-being and social development are positively associated with strong connections with peers but this is juxtaposed with the increases in risk taking that can take place within peer groups (Allen & Loeb, 2015). As illustrated above, when considering brain development, adolescents are more likely to be sensitive to reward and therefore may take more risks to achieve a highly salient reward such as peer acceptance. Thus, becoming more attached to a peer group is both a healthy developmental task and one that carries some risks. It is also a task influenced by and influences parenting behaviours. For example, Chan and Chan (2013) found adolescents whose mothers used behavioural control (setting limits and/or having clear logical consequences) were less susceptible to peer pressure. In contrast adolescents whose mother used psychological control (indication of guilt/anxiety or infantilisation) were more susceptible to peer pressure. Parent protectiveness has been found to increase the likelihood that an adolescent will be influenced by a prosocial peer (Laursen et al., 2015). Although peers have increased influence for adolescents, this influence is still affected by parenting behaviours.

Cultural influences

Biological and neurological changes in adolescents are likely to be universal, as are some developmental tasks, such as transitioning from a child to a full member of adult society (Blakemore, 2019). In addition, some influences on development are likely to be universal. For example, the importance of the relationship between parents and adolescents and its influence on a variety of outcomes is seen across cultures (D'Angelo & Omar, 2003). However, these changes, tasks, and influences interact with the culture within which they take place resulting in different trajectories for young people (Bornstein & Lansford, 2010). As discussed above, the cultural value placed on early puberty may affect a young person's self-image and influence their psychological adjustment.

The influence of culture is not only seen between cultures but also across time as the culture changes. Meeus (2018) examined the differences between 1950 and 2015 for key transitions for adolescents using aggregated data from the USA, the Netherlands and the EU. For adolescents in 2015, on average, they stayed twice as long in education compared to 1950, transitioned to work at age 21 years compared to age 15 years and initiated sex on average at age 17 years compared to age 21 years. This illustrates that important life decision points taken in adolescence changes with the time period in which adolescents live. This has implications for developmental tasks such as identity, independence or risk taking. Currently an adolescent's work identity does not appear to resolve until early adulthood, although an extended period in education requires important decision making around what courses to take, which is likely an important part of the exploration process. Being in extended education may require financial dependence on their parents, yet they are legally adults at age 18 years in most western countries. Whilst previously sexual exploration may have taken place in emerging adulthood, this is now initiated earlier, when neurological systems are primed to take risks. Thus, the culture and times adolescents live in may interact with many

of the processes outlined above. In turn this has implications for parents of adolescents. Not only do they need to navigate changes in their offspring as they transition from childhood to adolescence through to emerging adulthood, but parents also need to make sense of the changing expectations of society on adolescents. These expectations may be different to their own adolescence. Indeed, parent-adolescent conflict may be further complicated by generation and culture gaps between parents and their children who subscribe to different social norms. Examples of potential gaps are the acceptance of sexual exploration out of wedlock, extensive use of social media, or expectations around putting the needs of the family before individual and peer-affiliation needs (Perez-Brena, Updegraff, & Umaña-Taylor, 2015).

Although there is a growing acknowledgement that research into adolescent development needs to examine culture, the majority of findings are still based on western educated, industrialised rich and democratic societies. Here in Aotearoa (New Zealand) there is limited research into the experiences of Māori adolescents (rangatahi). Simmonds, Harré, and Crengle (2014) address this in their exploration of what contributes to positive development for rangatahi. They identified the importance of collective responsibility, successfully navigating both the Māori and Pākehā worlds, cultural efficacy, health and personal strengths. Differences into world views between Māori and Pākehā need to be acknowledged in relation to adolescent development. For example, the influence of parents on development as examined in Western societies often uses a conventional narrow definition of the nuclear family unit, where as in Māori culture the concept of whānau encompasses a broader definition of family. Whānau as a collective group takes responsibility for navigating young people through their development and research indicates regardless of the makeup of a family unit, for Māori youth it is the quality of relationships that influences well-being (Stuart & Jose, 2014). Differences in world views may be complicated by the finding that Māori

adolescents are likely to have both high levels of idiocentrism (an individualistic orientation) and high levels of allocentrism (attention and actions focused on the collective group) (Jose & Schurer, 2010). Idiocentrism exacerbated poor outcomes associated with maladaptive coping strategies for Māori adolescents. For European-New Zealand adolescents idiocentrism acted as a protective factor. Research into ethnic identity has demonstrated that for Māori youth, strong ethnic identification predicted positive well-being over and above family connectedness, a finding consistent with research into other minority cultures (Stuart & Jose, 2014). In addition, ethnic engagement, indirectly through positive feelings towards one's own cultural group, was found to contribute to well-being, suggesting this may be a key task for Māori adolescents in their development.

Socioemotional problems

Normative changes in adolescents such as hormonal changes are highly unlikely to cause socioemotional problems on their own with an adolescent onset nor is the development of such problems part of normative development (Steinberg, 2010b). However, it is important to consider these problems in the context of adolescent development, given a significant minority of adolescents experience difficulties and the significant impact these problems can have on longer term outcomes. Three broad categories are generally used when examining socioemotional problems during adolescence (Steinberg, 2010b) and these will be discussed in turn below.

Internalising difficulties. Internalising symptoms include those that are considered internally focussed such as sadness, fear, worry, anxiety, social withdrawal and somatic complaints (Willner, Gatzke-Kopp, & Bray, 2016). Once they impair functioning, they can be conceptualised as internalising disorders such as anxiety and depression. In addition, internalising disorders are a risk factor for suicide attempts and ideation as well as self-harm (Rihmer & Dome, 2016). The prevalence of depressive disorders rises steadily in the

adolescent development period, with rates rising from 4.5% at age 13 years to 10% at age 17 years (Brincks et al., 2018). Internalising disorders affect only a minority of adolescents. However, in their systematic review of the prevalence of mental health difficulties for young people under 18 years over time, Bor, Dean, Najman, and Hayatbakhsh (2014) found there has been an increase in adolescent internalising difficulties. This suggests this may be a developmentally sensitive period in which intervention may alter trajectories for those that may otherwise experience internalising disorders. The presence of internalising symptoms, prior to a diagnosis of a full disorder, constitutes a risk factor for adolescents for their functioning being impaired and developing depression and anxiety (Brent et al., 2013).

Externalising Difficulties. Externalising symptoms reflect observable problem behaviour where a person is negatively acting on the external environment (Liu, 2004). Examples include aggression towards people or objects, hyperactivity, breaking of rules and social norms, disruptive behaviour and truancy. If they impair functioning, they can manifest and be conceptualised as externalising disorders such as oppositional defiant disorder or conduct disorder. Rule breaking behaviour as measured by the Child Behaviour Checklist (Achenbach & Rescorla, 2001) in adolescence has been found to be a predictor of poor adult employment outcomes (Narusyte, Ropponen, Alexanderson, & Svedberg, 2017), and a diagnosis of externalising disorders is associated with deleterious consequences such as later crime and imprisonment, subsequent diagnosis of an internalising disorder, substance abuse, and poor physical health (Fergusson, Boden, & Hayne, 2011).

Although externalising difficulties do not appear to have increased over recent generations (Bor et al., 2014), the seriousness of the sequelae from externalising behaviour during adolescence indicates that reducing externalising difficulties still warrants attention. Many of the consequences of externalising behaviours during this developmental period are intertwined. This has prompted the argument for a single problem behaviour construct that

accounts for a large proportion of the variance in adolescent difficult behaviour (Ary, Duncan, Duncan, & Hops, 1999). This encompasses antisocial behaviour, school dropout, high-risk sexual behaviour, academic failure, and substance use. Problems are likely to cascade, as some conduct disorder symptoms may encompass being truant from school which leads to time and opportunity to engage in other risky behaviour such as substance use.

Risky Behaviour. As discussed above, risk taking appears to have a neurodevelopment basis and a developmentally appropriate function to explore new environments and experiences. Risk taking can be considered as any behaviour engaged in where the outcomes are uncertain (Killianova, 2013). It may encompass socially acceptable risk taking such as extreme sports or attempting an assignment in a novel way, as well as socially unacceptable risk taking such as substance use, unprotected sex or unsafe driving behaviours. It is this latter group that defines risky behaviour for the purposes of this thesis, as it is a behaviour that is likely to result in negative outcomes related to harm or loss (Hurrelmann & Richter, 2006). Certain risky behaviours can have far reaching consequences for adolescents with adverse outcomes that can last long into adulthood. Adolescents are faced with health risk choices, for example, to experiment with substances such as tobacco, alcohol and illegal drugs (Burrus, Leeks, Sipe, Dolina, Soler, Elder, Barrios, Greenspan, Fishbein, Lindegren, Achrekar, & Dittus, 2012). While many adolescents experiment with alcohol without issue, a large subgroup develop problematic drinking habits with 35% of Australian adolescents aged 14-17 years reporting drinking to dangerous levels (Hayes, Smart, Toumbourou, & Sanson, 2004). Intoxication can lead to further negative outcomes including motor vehicle accidents, and antisocial behaviour. Alcohol and drug use have been significantly associated with a large proportion of suicide attempts, and their use increases the likelihood more lethal methods of suicide attempts such as fire arms (Brent et al., 2013). Sexual experimentation can also become riskier if adolescents engage in unprotected sex,

which has been a significant concern in many Western countries. For example, in the United States, research suggests that up to one in four adolescent girls are infected with a sexually transmitted disease and teenage pregnancy rates are still high at 39 births per 1000 women (Burrus, et al., 2015).

Parenting Adolescents

In light of adolescent development discussed above, parents may need to adapt their parenting practices to meet the needs of their adolescents. For the purpose of this thesis the term parent refers to any primary caregiver of a child or adolescent, who holds responsibility for the child, regardless of biological relationship. Parenting involves the wide range of functions undertaken by parents to ensure adaptive and culturally acceptable development of their children (Sandler, Schoenfelder, Wolchik, & MacKinnon, 2011). Effective parenting can be defined as encompassing a loving positive parent-child relationship, the effective use of non-punitive discipline practices, giving sound advice and guidance, scaffolding skills to adapt to environmental demands, and establishing boundaries that restrict risky behaviour (Sandler, Ingram, Wolchik, Tein, & Winslow, 2015). Specific effective parenting behaviours will change over time as children move through different developmental stages. This is why understanding the developmental challenges of adolescents outlined in the section above is important. These challenges will dictate what parenting behaviours are effective for positive outcomes.

The physical changes that characterise puberty signal the start of the transition period of a child moving towards adulthood and signal that a change in parenting is required. As discussed above, how a child navigates and subjectively experiences these changes depend on many factors, including parents' adjustment to their child's developmental changes and their adjustment to their parenting behaviour. There is a need to consider the bidirectional nature of how changes in a child can affect changes in parenting, which in turn influence outcomes

for the child. System theories assist in explaining these interactions between not only parents and children/adolescents, but how other members of the system also interact with the young person and how members interact with each other. System theories incorporate changing dynamics such as the increased salience of peers as well as overarching influences such as culture or the time period in which the adolescent is experiencing their development. Because system theories such as the bioecological theory of development and positive youth development illuminate the influences on adolescent development, they warrant further discussion.

The previous section highlighted that increasing autonomy and identity are influenced by parenting behaviours such as psychological control or support. Theories of parenting assist in elucidating how parenting behaviours promote or hinder healthy development and as such are included below. Parenting programmes, which target parenting behaviour, have been broadly categorised according to their theoretical foundation, which tends to come from social learning theory or attachment theory (Al Falahi, Glazebrook, & Shokraneh, 2019). Utilising the former, programmes concentrate on providing parents with effective skills to respond to adolescent behaviour; whereas those subscribing to attachment theory emphasise building significant positive relationships in order to support adaptive emotional regulation and the development of social skills. The inclusion of these theories in relation to parenting adolescents means further examination of how parenting influences adolescent development can take place. In addition, parenting styles and self-determination theory are predominant in the research into parenting influence on increasing autonomy and identity. This is why these theories are discussed below.

System Theories

Parenting has a key role in the bioecological theory of development (Bronfenbrenner & Morris, 2006). According to this framework's first proposition, development throughout

the life span is driven by increasingly complex bidirectional transactions between an active participant and the people, objects and symbols in their proximal environment (microsystem). These reciprocal interactions are referred as proximal processes and if occur regularly over time are considered to be the “engines of development” (p. 798, Brofenbrenner & Morris, 2006). The developmental tasks of adolescence such as navigating puberty, increasing autonomy, exploring identity or taking risks prompt increasingly more complex interactions between parents and adolescent, especially as the adolescent becomes progressively more active in their own development whilst simultaneously relying on support from their parents. The second proposition of bioecological theory postulates proximal processes will vary in their form, power, content, and direction depending on the context in which they take place. This has implications for parenting as the processes that might drive optimal development of the young child, may not be effective in the context of adolescence. It also assists in explaining why culture and the historical period may have an effect on developmental tasks and outcomes. For example, although Brofenbrenner and Morris indicate two -parent families are preferred, proposition two allows the incorporation of context in that for Māori adolescents, family makeup is less important than connectedness with member of a broad family group (whānau).

During adolescence not only do more complex interactions take place between youth and parent in terms of their content, such as requests for and granting of increasing autonomy, but an increase in interactions occurs both in the number of interactions and in the number of members in a youth’s microsystem take place. Members may be peers or other key adults such as high school teachers, and in late adolescence work colleagues. Thus, the power of proximal processes between parents and adolescents may reduce whilst this increases for peers. However, this is likely to be coupled with an increase in interactions between members of systems, referred to as the mesosystem, for example interactions

between parents and peers. Additionally, adolescents may become more aware of other influences such as those in the exo and macro systems. Examples include the communities in which they live, the cultural value of puberty starting early or late, or one's own ethnic identity in relation to the dominant ethnic group in society. Examples of this are seen in research that has examined the interplay between peers, parents, and risky behaviour in relation to alcohol use. Hayes et al., (2003) found that peer attitudes to alcohol are highly influential for adolescents, an effect that is stronger when the adolescent-parent relationship is poor. However, parent monitoring of adolescent alcohol use still had an effect on the quantity of use, even when peer influence was controlled for.

Positive youth development [PYD] is based on the bioecological model but with a specific focus on adolescence. Whilst there is no single definition, PYD theory can be considered as a system and practice of understanding the developmental processes in relation to youth, specifically using a strength-based approach (Benson et al., 2007). Within PYD there are specific models that aim to examine the conditions that promote optimal development, for example Lerner's 5 Cs model (Lerner et al., 2013). This model incorporates five key elements of development for adolescents: competence, confidence, character, caring and connection. The 5 Cs model not only seeks to explain preventive effects from risk factors, but examine the transactions that promote thriving. Thriving is considered to be a time when youth are "doing well in all areas of their lives" (Alberts et al., 2006, p. 26). PYD emphasises that all adolescents have the capacity to thrive and that these capacities and strengths need to be nurtured by the transactional relationships between the young person and their contexts.

PYD emphasises parenting as a vital antecedent for positive outcomes and for adolescents to thrive (Kaniušonytė & Žukauskienė, 2017). Affirming, sensitive, and supportive parent-adolescent relationships promote the conditions in which young people can

develop their assets and capabilities. To be developmentally appropriate this incorporates boundary setting with autonomy supportive parenting, or in other words, behavioural control but not psychological control (see below). The concentration of PYD theories on the social contexts and relationships leads to the acknowledgement that specific interactions between parents and adolescents are key.

Both bioecological theory and PYD theory conceptualise developmental change from a systems perspective and both highlight the central nature of parent-child relationships for positive and adaptive adolescent development. Through bioecological theory it is possible to anticipate the many different contextual influences across ecological systems that shape development and how the proximal processes may evolve as both parents and children adjust to the profound changes taking place during this time. PYD theory compliments the explanations from bioecological theory by focusing on adolescents' strengths (both internal and external), opportunities, and potential areas of support necessary to help young people thrive. Here too, parents are key as they work to adjust behavioural control, negotiate boundaries, monitor activities, and maintain open communication. Although PYD could be criticised for being prescriptive in its models, individual differences in adolescents' personalities (the *Person* construct in bioecological theory), the relationship dynamics with their parents, and the influence of diverse contextual systems means there will be many pathways to positive development for adolescents.

Social Learning Theory

According to social learning theory, children and adolescents imitate behaviour modelled by significant others in their environment. This theory was expanded in relation to parenting by Gerald Patterson and colleagues at the Oregon Social Learning Center when they researched factors that maintain disruptive behaviour in children (Fisher & Skowron, 2017). They found ineffective responses to non-compliant behaviour were associated with an

increase in aggression by a young person which can escalate the use of ineffective responses on the part of the parent, so that youth and parent operate in a coercive cycle (Patterson & Fisher, 2002). Crucially these findings suggest parenting strategies present a modifiable factor that can promote positive adolescent development (Sanders, 2008b, 2012).

Coercive cycles may serve as a template in other contexts such as at school or with peers, resulting in multiple systems being affected (Masten et al., 2005). In regards to problematic adolescent relationships, Patterson, Dishion, and Yoerger (2000) proposed that influence from deviant peers in adolescence has foundations based on earlier family interactions. In childhood the maintaining factors for oppositional and defiant behaviours are likely to be parenting practices. These include harsh and/or inconsistent discipline, lack of supervision, and the development of negative reinforcement (coercive) cycles. As the child develops, they continue on a trajectory of antisocial behaviour due to these maintaining factors. Patterson et al. (2000) suggest transference of oppositional behaviour from home to classroom can then lead to rejection by their peers. As the child ages into adolescence, they are then more likely to gravitate to other rejected, oppositional peers, setting themselves up to be influenced by each other. The antisocial behaviour is then maintained within this peer group. Empirical research has supported this theory and also demonstrated that the poor parental monitoring continued to predict antisocial behaviour in adolescence in addition to association with deviant peer groups (Patterson et al., 2000).

Attachment Theory

Attachment theory is most primarily researched with infants, as it is postulated that this represents a sensitive time in which secure and insecure attachment is established (Steinberg, 2010b). Attachment style represents a dynamic pattern of thoughts feelings and behaviours that form a template of how to approach relationships. It is also activated under stress with the concept of a secure base, normally a primary caregiver, who provides both the

opportunity to explore safely and the resource to return to when in need of comfort (Green, Myrick, & Crenshaw, 2013). Adolescents may increase their time with peers and access more peer support as they grow older, but most still consider their parents a secure base (Green et al., 2013). Thus, attachment continues to play a pivotal role in development during adolescence with exploration of identity, a push for autonomy and risk taking whilst remaining safe and benefiting from a warm empathic safe attachment figure (Allen & Tan, 2016). This may require negotiation between parent and adolescent as both need to recognise a drive by the adolescent to follow their own path whilst still maintaining a positive relationship. Severing the relationship too early and attaching quickly to peers has been correlated with a number of poor outcomes (Allen & Tan, 2016). Maintenance of the secure relationship is likely to be based on effective communication, parent understanding of their adolescent's state of mind, and effective conflict resolution.

Parenting Styles

Parenting style (the general strategies employed by parents when interacting with their children) may affect the development of an adolescent, similar to effects seen with younger children (Morris, Cui, & Steinberg, 2013). For many decades parenting styles have been defined as neglectful, permissive, authoritative, or authoritarian, (Baumrind, 1971, 2013; Maccoby & Martin, 1983). Positive outcomes for development are associated with an authoritative parenting style. This style results from high scores on responsiveness and demandingness. For adolescents, having nurturing responsive parents makes it more likely that they will be influenced by their parents and accept the boundaries set (Morris et al., 2013). A structured approach coupled with supportive relationships lends itself to reduced family conflict and fosters the development of autonomy, confidence and social competence for the adolescent. This results in parents being viewed as a guide rather than exerting control (Gauvain, Perez, & Beebe, 2013). For example, overly permissive parental attitudes

towards drinking and harsh punitive discipline used in response to alcohol use have been found to be associated with early and high alcohol use (Hayes et al., 2004). In contrast having clear family standards and rules, rewards for good behaviour, and good negotiation skills over boundaries were correlated with a lower alcohol initiation age and fewer problematic drinking behaviours in late adolescence (Hayes et al., 2004).

An adolescent's strive for autonomy has been conceptualised as an incompatible goal with a parent's need to retain authority and ensure social norms are maintained. However, this does not differentiate between psychological control and behavioural control (Barber & Xia, 2013; Sorkhabi, 2013). Psychological control utilises intrusive and manipulative behaviour such as shame and is associated with authoritarian parenting styles (coercion, demands of obedience) or permissive parenting styles (withdrawal of love). Psychological control can undermine an adolescent's strive for autonomy over their personal lives. However, behavioural control, practiced by parents with an authoritarian style, places limits on what behaviours are culturally acceptable and implement sanctions when expectations are violated. In addition to family conflict, these approaches to control/autonomy may also contribute to the connections between parents and adolescents and the acceptance an adolescent feels from their parent (Sorkhabi, 2013).

Parenting style and family climate contribute to the length of exploration and level of commitment during the development of a coherent identity. Luyckx et al., (2007) found adolescents with psychologically controlling parents were more likely to explore their identity for longer in breadth, but not in depth. This exploration in breadth predicted psychological control, which may suggest parents put in more control when faced with their young person experimenting with many identities without exploring them in detail. This illustrates the bidirectional influence of adolescent identity on parenting practices and the influence of parenting on identity formation. Hofer and Spengler (2020) found that high

levels of negative parenting, defined as use of corporal punishment and inconsistent parenting, predicted low levels of identity achievement, longer identity exploration and an increase in identity diffusion. This was mediated by spontaneous aggression. The authors hypothesise that repeated negative experiences with parents and peers due to increased spontaneous aggression resulted in the adolescents having little support to explore their identities in a meaningful way, leading to rumination and worry during the exploration phase. This in turn resulted in less commitment to an identity.

More recently parenting style has been conceptualised as an emotional climate (Henry & Hubbs-Tait, 2013). Influencing this climate are higher order constructs such as demandingness, responsiveness, parental authority, control, ongoing parent-child relationships and mindfulness, which are held within wider contexts such as culture (Henry & Hubbs-Tait, 2013). Thus, an individual act of parenting is viewed within the context of the parenting style employed. For example, a rule regarding social media use may be either over controlling or appropriate boundary setting, depending on the emotional climate. Research is also shifting from examining global parenting styles to looking at the specific higher order constructs or dimensions of parenting as well as concrete behaviours (Maljaars, Boonen, Lambrechts, Van Leeuwen, & Noens, 2014).

Self Determination Theory

Self Determination Theory (SDT) posits that humans can be intrinsically motivated, agents in their own development, and driven to internalise and integrate social norms (Deci & Ryan, 2008). For this to occur and achieve healthy functioning, basic psychological needs must be met: relatedness (the connections we have with others), competence (the ability to influence and achieve our goals), and autonomy (our actions are our own) (Chawla, Neighbors, Logan, Lewis, & Fossos, 2009). These needs are met through social interactions. A central focus for SDT is the need for autonomy (Joussemet, Landry, & Koestner, 2008).

SDT proposes four levels of increasing autonomous motivation: external motivation where the acceptance of values is dependent on the acquisition of external rewards or avoidance of punishment; introjection, where values are internalised to reduce feelings of guilt and shame or to feel pride; identified motivation, where the values are personally salient and held in high regard; and lastly integration, when values are adopted as they are wholly and truthfully incorporated into the self and assimilated with other values, goals and motives (Barni, Russo, Zagrean, Di Fabio, & Danioni, 2020).

SDT has significant links with research into autonomy development as outlined above and further delineates between autonomy as independence from parents as opposed volitional functioning (Joussemet et al., 2008). It makes clear the differences between imposed values and those that are fully self-endorsed. In addition, parents are likely to be the most important source of autonomy support (Emery, Heath, & Rogers, 2017) and so a SDT lens can be used when considering the research into psychological control by parents. For example, a longitudinal study found mothers' undermining autonomy behaviour as coded during an observation when adolescents were age 13 years, predicted a greater preference to make peer connections online and poorer quality of online relationships at age 20 years (Szwedo, Mikami, & Allen, 2011). Conversely, adolescents who were rated as having high autonomy support from their mothers at age 13 years were less likely to match their peer's level of substance use at age 15 years, compared to those who had low autonomy support (Allen, Chango, Szwedo, Schad, & Marston, 2012). This suggests that having autonomy at home may provide a template for having autonomy within the peer group, enabling adolescents to make their own independent choices.

Summary

A growing evidence base utilising the theories discussed above points to the pivotal role parents have in both providing protective factors (for example being responsive and

accepting) or contributing to risk factors (for example poor levels of supervision) in an adolescent's developmental trajectory (Chu et al., 2012; Sandler et al., 2011). System theories highlight the driving force of development being reciprocal interactions with key people in young people's lives. These processes need to happen regularly over a sustained period of time, and given parents are often the most significant adult present daily in an adolescent's life, it is not surprising that the most consistent predictor of adolescent mental health is their relationship with their caregiver (Thorslund et al., 2019). System theories establish that parents and their parenting behaviours are important in shaping trajectories of young people.

The examination of social learning theory, attachment theory, self-determination theory and parenting styles has elucidated that specific parenting behaviours and approaches, which contribute to family climate, affect adolescent outcomes. This is also supported by longitudinal neural imaging studies which have demonstrated that higher frequency of positive maternal behaviour in early adolescence is associated with the structural development of the brain (Whittle et al., 2014). From the discussion of the research in relation to the theories above, positive parenting for this age group includes providing a balance between monitoring, involvement and boundary setting, and maintaining a strong nurturing relationship and supporting autonomy development (Chu et al., 2012; Ralph et al., 2003; Sanders, 2012; Steinberg, 2010b). In contrast, parenting that is severely restrictive, permissive, lacking in warmth and support, or uninvolved is consistently linked with poorer adolescent outcomes (Chu et al., 2012; Sanders, 2008b, 2012; Steinberg, 2010b). Parental warmth and contingent responses are positively associated with youth beliefs about their sense of agency (Sandler et al., 2011). In light of this, the next section will concentrate on three important areas of parenting practices that have both support from the theoretical base from which they have grown and the research into adolescent development.

Parenting Practices and Adolescent Outcomes

Given the time of great change families experience when their child transitions into adolescence, it begs the question of how parents can positively parent their adolescent to navigate these changes and arrive at an optimal outcome. The discussion above of adolescent development and parenting adolescents points to key practices that are particularly important for parents of adolescents. This will now be examined below.

Supporting Autonomy and Identity Exploration

Parental support of autonomy and identity exploration has been operationalised across four behaviours, including; providing an explanation for any boundaries or requests, reflect understanding of the adolescent's feelings and perspective, limited use of controlling strategies, and offering choice where ever possible (Emery et al., 2017). This is based on Haim Ginott's empathic limit-setting method (Ginott, 1969) and applied to autonomy support research. Evidence from empirical research indicates these parenting behaviours produce positive adolescent outcomes (Joussemet et al., 2008). They also map onto the positive emotional climate that is associated with an authoritative parenting style and emphasises the ongoing need of attachment in adolescence. For example, data from 470 adolescents aged 14 to 17 years, indicated that parental involvement, autonomy support and parental warmth were positively correlated with adolescents' sense of autonomy and their mental well-being (Kocayörük, Altintas, & İçbay, 2015).

Supporting autonomy and encouraging identity exploration does not equate to parents being permissive or not being involved in their adolescent's life (Joussemet et al., 2008). As discussed earlier, although risk taking appears normative and likely to have a neural basis, risk taking becomes a concern due to the nature of some risks leading to long-term negative outcomes, such as contracting a sexually transmitted disease, or having an accident when driving under the influence of alcohol or drugs (Burrus, Leeks, Sipe, Dolina, Soler, Elder,

Barrios, Greenspan, Fishbein, Lindegren, Achrekar, & Dittus, 2012). Parents need to take an active role in navigating their adolescent through this normative period of increased risk.

This can be achieved through not only autonomy supportive strategies as discussed, but also the use of parental monitoring and ongoing warm empathetic relationships which will now be explored.

Monitoring

Monitoring refers to the act of acquiring knowledge in regards to the whereabouts of a young person, what they are doing and who they are doing it with. It encompasses active supervision, information gathering from an adolescent, their friends or other parents, and the communication from parent to adolescent that the parent is concerned and aware of their activities (D'Angelo & Omar, 2003; Hayes et al., 2003). When parenting young children, monitoring involves close adult supervision. In adolescence, when young people are gaining more autonomy, monitoring becomes more complex with boundaries and limits employed when adolescents are away from their parents, and communication between adolescents and parents, so parents know what their adolescent has been doing (Hayes et al., 2003).

Monitoring in adolescence becomes a bidirectional process, with parents seeking information from their adolescent and adolescents honestly disclosing (Darling & Tilton-Weaver, 2019).

Monitoring can appear to conflict with the need to grant increasing independence. However, across genders, ethnicities, and multiple cultural contexts, cross-sectional and longitudinal studies have found high parental awareness of adolescent activities is associated with a reduction in adolescent risk taking and positive adolescent mental health outcomes (Bornstein & Lansford, 2010). A lack of parental monitoring has been found to be a predictive factor for this age group engaging in risky behaviours (Yap et al, 2017). For example, Hayes, Smart, Toumbourou, and Sanson (2004) found in their review of parental influence on alcohol use, that adolescents who are poorly monitored start consuming alcohol

at an earlier age, drink more compared to their peers, and are at risk for developing problematic drinking patterns. The reviewers found that parents were likely to underestimate their adolescents' alcohol consumption levels or not know what they were. Possible reasons for low monitoring of alcohol use were that parents might be influenced by their adolescent that underage drinking is normal, a perception that drug use is a riskier behaviour which requires monitoring, or a lack of parental confidence and knowledge of what is the "right" age to start drinking.

Hayes et al. (2003) propose that monitoring has to be considered in the context of the quality of the emotional relationship in general. A controlling negative and intrusive parenting style is correlated with less adolescent information sharing, leading to reduced parental knowledge (Darling & Tilton-Weaver, 2019). Adolescent disclosure is associated with parental warmth, trust, acceptance, attempts to understand when problem behaviour occurs, and a close parent-adolescent relationship (Darling & Tilton-Weaver, 2019). Monitoring has been associated with positive outcomes such as academic achievement, and may operate as a protective factor against internalising and externalising disorders as well as substance misuse (D'Angelo & Omar, 2003). However, when monitoring is perceived as controlling and threatens an adolescent's sense of autonomy, outcomes were not as positive. When monitoring moves towards attempts at control by parents, particularly coercive control, it may trigger defiance, induce the adolescent to conceal their activities, and/or damage the parent-child relationship. These adolescent reactions can then lead to the parent being negatively reinforced when attempting to monitor and result in less monitoring (Darling & Tilton-Weaver, 2019). This means advice to parents to question their adolescent more may only be effective if the relationship is warm and loving and there is a mutual sense of trust.

Maintaining a Positive Relationship

Balancing autonomy support, allowing exploration of identity, and monitoring risk taking behaviour, presents unique challenges for parents of adolescents. It requires a renegotiation of the relationship between parents and adolescents whilst maintaining a strong reciprocal bond (Lionetti et al., 2019). The discussion of autonomy support, identity exploration and monitoring all highlight the need for these parenting practices to take place in a context of a warm empathic relationship. In families where the communication style includes the voice of an adolescent being heard, as well as parents modelling positive expression of their rationale, feelings, and opinions, adolescents are likely to adopt prosocial behaviour (Hollmann, Gorges, & Wild, 2016). These communication skills by parents relate to the importance of a positive emotional climate as discussed above.

Communication skills by parents are particularly important given that more discussions take place when their offspring are in adolescence compared to any other developmental period (Hollmann et al., 2016). Even in families with a supportive environment, some low-level opposition to adults by adolescents is normative (Medlow et al., 2016). However low-level daily conflict appears to be the source of much parental concern, often with parents being more affected by these occurrences and ruminating longer about them compared to the young person (D'Angelo & Omar, 2003). Despite this, for many families these conflicts do not affect the overall relationship quality between parents and their adolescent and it has been argued that these low-level conflicts can bring viewpoints between parents and adolescents closer together (D'Angelo & Omar, 2003). In addition, conflict between parents and adolescents provides the opportunity for adolescent to learn and practice constructive conflict resolution skills (Dost-Gözkan, 2019).

Opposition to parents does not necessarily equate to a rejection of family values, which may realign as an adolescent explores a variety of possibilities (D'Angelo & Omar,

2003). Only ten percent of families report enduring serious family conflict in relation to adolescent behaviour (D'Angelo & Omar, 2003). Often conflicts arise due to parents seeing certain issues, even mundane ones, such as keeping the house tidy, as part of a moral code or important convention. Adolescents, on the other hand, perceive the issue as one of personal control and individual preference (Thorslund, 2019). Thus, adolescents are unlikely to be rebelling against parent rules for the sake of it, they are more likely to be exercising autonomy. This is born out in research that finds many adolescents accept rules in relation to their safety, but not those they think are a matter of personal control (Thorslund, 2019). Thus, if conflicts are dealt with in a supportive manner with effective communication from parent to adolescent, the needs of the whole family can be met. These needs encompass the developmental tasks of the adolescent such as increasing autonomy and exploring identity as well as parental needs of monitoring behaviour and maintaining a positive relationship (Hollmann et al., 2016).

Chapter conclusions

This chapter has concentrated on the developmental tasks of adolescents and the ensuing implications for parenting practices. Whilst this transition period is normal, parents can feel frustration when parenting their adolescent, at the very time a nurturing stable relationship is key (D'Angelo & Omar, 2003). Some conflict appears inevitable as adolescents strive for increasing autonomy and a sense of their own identity as parents learn to adjust how they monitor their child's behaviour and minimize unnecessary risk. In addition, early adolescence represents a time where conflict can be the most frequent and intense. This coincides with changing family dynamics, with adolescents aged 13 years spending half the amount of time with their parents compared to when they were aged 10 years (D'Angelo & Omar, 2003). Thus, helping parents gradually adjust their expectations and their parenting strategies while children are in early adolescence may not only assist in

short-term gains to relationship quality and family life, but may provide longer term adaptive benefits. Guiding parents is one of the purposes of parenting programmes, which is the focus of the next chapter.

Chapter Two: Parenting Programmes

The impact of parenting on child development has a wide and strong evidence base across fields that include behaviour genetics, epidemiological, correlational, and experimental studies (Cicchetti & Rogosch, 2002; Sanders, 2008b, 2012). Parenting plays a pivotal role in reducing and preventing child behaviour problems (Nowak & Heinrichs, 2008). Supportive and consistent parenting with appropriate boundaries has been linked to effective emotional management skills in children. In addition, parenting self-efficacy is correlated with positive child and adolescent outcomes (Jones & Prinz, 2005; Sandler et al., 2011). This evidence that parenting practices influence child and adolescent development has led to the growth of parenting programmes. As such, parenting programmes form an ecological approach to intervention where it is proposed that by educating and working with parents, change can cascade from the parents into family life and have an impact on child and adolescent functioning (Dishion & Stormshak, 2007). Definitions of parenting programmes have subtle differences but common to all is the promotion of effective parenting through activities and educational information that help parents acquire skills, knowledge, and new perspectives (Kaminski, Valle, Filene, & Boyle, 2008; Kane, Wood, & Barlow, 2007; Sandler et al., 2011). For the purpose of this systematic review, the definition of a parenting programme will be an intervention where parents receive knowledge and/or skills in relation to their parenting behaviour and/or family functioning.

Parenting programmes can be categorised as universal, selected, or indicated. Universal interventions are delivered to the general population, regardless of risk status. In contrast, selective programmes are delivered to high-risk populations and indicated/treatment interventions are delivered to populations experiencing difficulties (Johnstone, Kemps, & Chen, 2018). Sanders (2010) and Chu et al. (2012) argue that to have a comprehensive public health approach to parenting support, programmes need to be delivered at all three levels,

thus increasing its reach (the percentage of individuals in a target population that participate). Reach is one of the five components that contribute to the public health benefit of an intervention (Glasgow, Vogt, & Boles, 1999). In addition, including universal low intensity parenting programmes for parents of adolescents subscribes to the minimal sufficiency principle, where the minimal level of intervention is offered that results in positive outcomes. Offering more than this reduces cost effectiveness as well as parents own self-efficacy (Chu et al., 2012; Sanders, 2008a). If supported by a strong evidence base, parenting programmes for parents of adolescents as opposed to multi component interventions may be both effective and minimally sufficient to promote adolescent well-being (Chu, Bullen, Farruggia, Dittman, & Sanders, 2015). Effective early intervention has been found to be economically desirable (Stevens, 2014). Universal interventions also help reduce stigma and establish social norms regarding the value for parents of accessing support (Sanders, 2008b). In addition, worry relating to their children, is not restricted to parents of children who are experiencing problems. Parental concerns are likely to be a normative part of the parenting experience (Windhorst et al., 2019). Chu et al. (2015) propose there is a research gap in evaluating parenting programmes for parents of adolescents that operate at a universal level, a contention that requires a systematic appraisal.

Parenting programmes based on behavioural and social learning theories assume that problematic behaviours of the child are caused and maintained through interactions with others, modelling, and reinforcement contingencies (Chu et al., 2012). These programmes have been influenced by Patterson's coercion theory (Patterson & Fisher, 2002) and the evidence of negative reinforcement contingency behaviour patterns that maintains and escalates difficulties in families. Not only does this theory aim to explain why problematic behaviours occur, it offers a clear malleable target for change – the parent response in the coercive behavioural pattern (Fisher & Skowron, 2017). Skills are taught to parents that aim

to increase desirable behaviour and positive interactions with their child by providing positive reinforcement, whilst undesirable behaviours are ignored. Parents are also instructed how to limit inconsistent parenting and inadvertent reinforcement of problematic behaviours which can develop into the cycles of mutual reinforcement between parent and child (Sanders, 2008a, 2012). In addition, communication between parent and child is targeted so requests and potential consequences are clear (Chu et al., 2012; Sanders, 2012). These parenting programmes may include video presentations of effective and ineffective parenting strategies, short didactic teaching components, interactive exercises, discussions, role play and homework which is then reviewed (Chu et al., 2012; Sanders, 2012). They can vary from brief self-directed interventions to those delivered by trained and skilled facilitators for several months (Sanders, 2012). Established programmes include the Parent Management Training—Oregon Model [PMTO] (Forgatch & Kjøbli, 2016), Triple P - Positive Parenting Programme [Triple P] (Sanders, 2012), and the Incredible Years Parent Training [IYPT] (Menting, Orobio de Castro, & Matthys, 2013).

Attachment parenting programmes aim to promote components of secure attachment such as parental self-reflection, parent sensitivity, and collaboration with their child to solve problems and encourage dyadic emotional regulation (Moretti, Obsuth, Craig, & Bartolo, 2015). Using discussion, experience-based exercises, and role plays, these programmes encourage parents to identify and regulate their own emotions in relation to any problem behaviour, consider the attachment needs of their child in relation to their behaviour and state of mind, and utilise strategies that attend to the needs of their child sensitively whilst maintaining boundaries and expectations. Although setting limits is included in these programmes, foci are on understanding the mental state of their child and the need for the child to have a secure and safe base. An example of this type of programme is the Circle of

Security Program [COS] (Yaholkoski, Hurl, & Theule, 2016) and to a lesser extent, Tuning into Kids (Havighurst, Wilson, Harley, Prior, & Kehoe, 2010).

Coming from two distinct theoretical backgrounds, previously there has been a sense that practitioners and parents need to choose between parenting programmes based on a behaviourist external approach (social learning theory) or those that are internal and relationship focussed (attachment-based). However, more recently the two programme types have been viewed as complementary (Fisher & Skowron, 2017). Both require awareness of moment-by-moment interactions between child/adolescent and parents. Promoting positive parenting and minimising harsh and inconsistent parenting are shared aims of nearly all programmes regardless of theoretical framework (Fisher & Skowron, 2017). Social learning based programmes have been found to impact the attachment relationship, whilst attachment programmes will utilise some behaviour management techniques. The focus of any particular programme is most likely to shift between theoretical lens depending on the planned target of the intervention and developmental stage of the young person. Instead of viewing these as competing theories, the concept of relational interventions in regards to parenting programmes may have more utility, rather than assessing if one paradigm is superior to another (Fisher & Skowron, 2017).

Research over the past fifty years has provided evidence that structured parenting programmes are effective in promoting adaptive parenting practices and positive mental health for children (Sanders & Calam, 2012). Parenting programmes are low cost (especially when completed in a group format), and with positive outcomes, are likely to be cost effective in the long term (Stevens, 2014). In a meta-analysis of 14 randomised controlled trials of parenting interventions across different countries for children up to age 10 years, aggregated data revealed a strong effect of the interventions on child conduct problems (Gardner, Montgomery, & Knerr, 2016). Similarly, in a meta-analysis on programmes for

younger children, there were greater significant improvements in child externalising behaviour, parental self-efficacy, and parenting behaviour post intervention when compared to waitlist controls or comparison groups (Tully & Hunt, 2016). Implementation of parenting programmes is supported by the New Zealand Government through its identification and now delivery of parent programmes as part of the wider Positive Behaviour for Learning strategy (Ministry of Education, 2011).

The mechanisms by which parenting programmes work is as yet unknown (Al Falahi et al., 2019). It is likely that their effectiveness for younger children is in part due the family system and parents in particular being the primary socialisation agents for children (Coatsworth, Pantin, & Szapocznik, 2002). It is likely that repeated daily interactions between children and parents will result in a large influence on children's emotional and behavioural functioning, and thus if parents' approaches to these interactions change as a result of a parenting programme, changes will be seen in child functioning. Sandler et al. (2011) proposed that trajectories of young people may be altered by parents attending parenting programmes in one of three possible ways (see Figure 1).

Figure 1

Possible Models of Mechanism of Change Due to Parenting Programmes

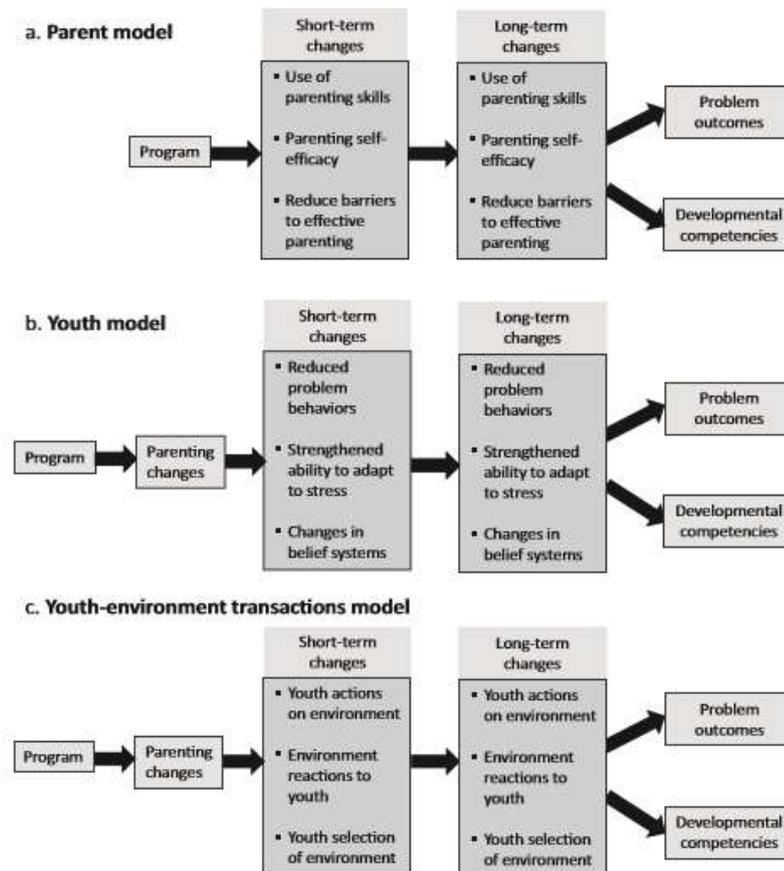


Figure 1

Alternative conceptual models of processes by which parenting affects long-term program impact on child competencies and problems.

Note. Reprinted from “Long-Term Impact of Prevention Programs to Promote Effective Parenting: Lasting Effects but Uncertain Processes.” by I. Sandler et al., (2011), *Annual Review of Psychology*, 62, p. 304. Copyright 2011 by Annual Reviews.

In the parent model, the most parsimonious of the three models, parents’ skills and self-efficacy in the short-term lead to lasting changes in the long term for parenting skills and self-efficacy, leading to improved outcomes for their children in terms of resolving problems and achieving developmental competency. In the youth model, the changes in parenting reduce problem behaviours and strengthen abilities to adapt to stress in the short term which are maintained in the long term. In the youth-environment transactions model, changes in

parenting alters the youth's actions on, reactions to, and selection of environments, which leads to improved outcomes. The three models explain possible processes by which parenting programmes affect change: within parents, within youth, or via transactions between youth and environments. Evaluation of parenting programmes may involve measurement of change at any of these steps, for example a change in parental self-efficacy or a change in problem youth behaviour. Evaluation of the models themselves would require measurement of each process and mediation analysis, which is not a focus of this systematic review. Instead, the model is presented as an indication that the parenting programmes reviewed may be defined as effective or efficacious at different stages of possible processes. These processes lead to the ultimate goal of a young person developing competently and/or reducing problems they are experiencing or are at risk of experiencing.

Programmes for Parents of Adolescents

A considerable size of the evidence base for parenting programmes has focused on the early years, targeting parents with children under 5 years old. Sanders (2012) has advocated for parenting programmes to be delivered across childhood and adolescence. The need for comprehensive delivery of programmes for parents of adolescents was identified nearly twenty years ago in Steinberg's presidential address to the Society for Research in Adolescence (Steinberg, 2001). While interventions produce greater effects when delivered to children who are younger, it has also been found that interventions that are designed to target specific developmental periods can produce clear behavioural outcomes for that age group (Bjerre, Lillefjell, Magnus, & Anthun, 2020). Chapter One demonstrated that there are key developmental tasks that are challenging for adolescents and their families. The exploration of these tasks illustrated the pivotal role parents play in the outcomes of these tasks. This points to a rationale for parenting programmes for parents of adolescence which may serve several purposes.

Common problems in families may not come from highly dysfunctional families where multiple services are involved long term, but from families where parenting skill levels are not adequate to address developmentally challenging periods (Oetting & Donnermeyer, 1998). Even with problems that may have origins in childhood, the additional pressure of adolescent development tasks may exacerbate these difficulties. Thus, intervention during adolescence is warranted. In addition, the portrayal of adolescents in the media may also contribute to parenting uncertainty during this time (Chu et al., 2012). Parenting confidence can dip due to the expectation that this period is going to be challenging (Coleman, 2014). Simultaneously parents can miss cues that an adolescent requires help due to messages that this is “just raging hormones” and developmentally normal (Steinberg, 2010b). Whilst parents may have successfully navigated their parenting experience prior to their child reaching adolescence, there are less resources aimed at parenting adolescents compared to younger children. Parents may feel they need extra information/knowledge and to “up skill”.

Parenting programmes for adolescents have the potential to increase parental knowledge and efficacy regarding specific adolescent issues, for example what age is it acceptable to experiment with alcohol, or how best should a parent monitor behaviour whilst maintaining a close relationship (Hayes et al., 2004). Parents may seek help in resolving conflicts that arise when adolescents are navigating normative developmental tasks in order to maintain family relationships. For some parents this may require knowledge regarding what is normative (Chu et al., 2012). For others a new skill set, different to what may have previously worked with younger children, may be required. Examples of skills include negotiation, operating as a partnership whilst still maintaining age-appropriate boundaries, and managing different expectations (Medlow et al., 2016; Stallman & Ralph, 2007). Alternatively, parents may have never received any parent training up to this point (Chu et al., 2012). Parents may be also be navigating their own developmental changes as they enter

middle adulthood, which also may affect family dynamics during this time (Steinberg, 2010b).

Parenting programmes were deemed to be most important for parents of adolescents by 82% of parents surveyed in Sweden (Thorslund, 2019). In this study it was also found that parents wanted to have programmes in which they could discuss common problems they experienced with their adolescent, and form support networks with other parents of adolescents. An Australian survey of parents with adolescents found that arguments between themselves and their adolescent concerning moodiness, sibling conflicts, and engaging in undesirable behaviour (for example, excessive screen time or not completing homework) were the most common problematic concerns. Skills relating to emotional management were the most requested foci of parenting programmes for parents of adolescents (Ralph et al., 2003). Interestingly skills relating to monitoring were not requested by families, although this was identified in Chapter One as a key parenting task for this age group. Parenting programmes for parents of adolescents may therefore need to draw parents' attention to risk factors established in the research.

Although there has been an increase in evidence of the role of parents in supporting adolescent development, and an established evidence base for parenting programmes for younger children, it is uncertain what the evidence base is for the effectiveness and efficacy of interventions supporting parents of adolescents, particularly those interventions delivered at a universal level (Chu et al., 2012). The goal of this thesis is to systematically explore the evidence base relating to parenting programmes for parents of adolescents. This can be achieved by conducting a systematic review, but first I will examine previous reviews in this domain to establish a rationale of the need for such a review and the gaps to be filled in the current literature.

Previous Reviews

The purpose of this literature search was to establish what had already been reviewed in relation to parenting programmes for parents of adolescents. This helps to place the current review in context and demonstrate the need for an updated systematic review. Inclusion criteria were that the review had to have a focus on adolescents. This was operationalised via the inclusion criterion in the database search method and further expanded so that all studies in an individual review included participants that fell into the age range of 10-19 years, or the review separated studies by age and reviewed adolescent studies as a subgroup. Reviews also needed to include interventions that involved parents and were published in English in a peer reviewed journal. Only reviews from 2010 onwards were included as any future review needs to capture where the current state of the literature is now, thus including studies in the past 10 years. Three databases were searched in February 2020 (PsychINFO, Scopus, and the Cochrane Library), using the following search terms¹: “program*” AND “parent OR parents OR parenting OR mother* OR father*” AND “adolesc* OR teen* OR youth OR young person” AND “review OR systematic review OR meta-analysis”.

After duplicates were removed, 16 reviews and meta-analyses in regards to parenting programmes that included adolescents met the criteria. These are summarised in Table 1.

¹ The use of the wildcard * allows the search to find multiple variations of the word.

Table 1*Reviews of Parenting Programmes for Parents of Adolescents*

Review	Review focus	Type of review	Type of interventions of included studies	Number of studies	Programmes described parent only/combined parent-adolescent/multiple intervention types
Carr, Hartnett, Brosnan, and Sharry (2017)	Parent Plus suite of parenting programmes	Meta-analysis	Universal, Selected and Indicated	4/17 relating to adolescent version	2 parenting only 2 combined parent-adolescent
Curry, Peek-Asa, Hamann, and Mirman (2015)	Teen driving	Systematic	Indicated and Universal	15	Parent only
de Vicente, Brage, del Carmen Orte Socías, and Amer Fernández (2017)	Substance use	Meta-analysis	Selected	9	Multiple intervention types
Foxcroft and Tsertsvadze (2011)	Alcohol misuse	Systematic	Universal	12	Multiple intervention types
Hurley, Dietrich, and Rundle-Thiele (2019)	Alcohol consumption	Systematic	Universal	17	Concurrent student and parent programmes
Jackson, Geddes, Haw, and Frank (2012)	Substance use & sexual behaviour	Systematic	Universal	3/13 parenting	Multiple intervention types
Kuntsche and Kuntsche (2016)	Substance use	Systematic	Universal and selected	39 ^a	Parent only except 1 included school delivered curriculum to students
Medlow et al. (2016)	Challenging behaviour	Systematic	Selected and indicated	9	8 parenting only 1 combined parent-adolescent
Meiklejohn, Ryan, and Palermo (2016)	Healthy eating	Systematic	Universal, selected and indicated	13	Multiple intervention types
Newton et al. (2017)	Alcohol and drug use prevention	Systematic	Universal	13	Multiple intervention types

Ruiz-Casares, Drummond, Beeman, and Lach (2017)	Indigenous/ethnic minority parenting programmes	Scoping	Universal and selected	18	4 parenting only 14 combined parent-adolescent
Santa Maria et al. (2015)	Risky sexual behaviour	Meta-analysis	Universal	28	20 parent only 8 combined parent-adolescent
Sandler et al. (2011)	Long term outcomes from preventative parenting programmes	Narrative; non systematic	Universal and Selected	6/46 relating to adolescents	Parent only Parent-adolescent
Torok, Calcar, Smart, Nicolopoulos, and Wong (2019)	Prevention of suicide	Systematic	Universal	2/13 for parents	Multiple intervention types
Van Ryzin, Roseth, Fosco, Lee, and Chen (2016)	Substance use	Meta-analysis	Universal and selected	116	Multiple intervention types
Vermeulen-Smit, Verdurmen, and Engels (2015)	Substance use	Meta-analysis	Universal, selected, and indicated	39	Multiple intervention types

^aThe review identified 39 studies but many used data from the same samples, although the exact number of samples is not clear from the reporting within the review without going back to the original studies

Reviews of Parenting Programmes Across Childhood and Adolescence

Two reviews examined parenting programmes across infancy, childhood, and adolescence but contained specific analysis of programmes for parents of adolescents. Sandler et al. (2011)'s review identified six trials relating to adolescents, which all addressed preventing drug use or risky sexual behaviour. The reviewers gave a narration of study findings but did not appear to offer their own analysis of the studies they reviewed. This review was not systematic, in that a scientific method was not detailed in how studies were selected for inclusion. In addition, there was not enough information given regarding size of effects or how these were measured and analysed in the original studies.

Carr et al. (2017) evaluated the Parent Plus suite of programmes which includes the Parenting Plus Adolescent programme. They identified four studies that evaluated this variant out of the 17 studies evaluating all programmes in the suite. Two of the four studies included interventions where adolescents concurrently attended the Working Things Out programme while their parents attended the parenting programme. Two programmes in the studies targeted clinical populations whilst two operated at the universal level in schools. The review authors recalculated three effect sizes (Cohens *d*; programme effect baseline to immediately post programme, programme effect baseline to later follow up and programme effect between programme group and control over time) for each study from the available data reported. Across studies, effect sizes ranged from 0.12 to 1.47 for adolescent problem behaviour, as measured by the Strengths and Difficulties Questionnaire. For parental stress, effect sizes ranged from 0.19 to 0.84. The mean effect sizes were calculated by the review authors for the adolescent programmes, however given the wide range of effect sizes, and there were only four studies, two of which included adolescent programmes, the utility of these is limited. The meta-analysis of the ten RCT studies of the programme indicated an average effect size of 0.57.

Reviews with Multiple Intervention Types

Eight reviews included multiple intervention types, not just parenting programmes. Three of these concluded the programmes they reviewed, including those with parenting components, had positive effects for adolescents (Foxcroft & Tsertsvadze, 2011; Meiklejohn et al., 2016; Newton et al., 2017). However, conclusions of the review authors were in reference to all interventions, limiting the possibility of evaluating the parenting programmes specifically.

Three reviews provided limited evidence for the use of family programmes (de Vicente et al., 2017; Jackson et al., 2012; Vermeulen-Smit et al., 2015). Reviewer conclusions were limited due to programmes having an impact on some behaviours but not others. In addition, there were inconsistent differences in outcomes of the same behaviour depending on the measure used. Differences in outcomes were also sensitive to timing of measurement after the intervention, gender, and other factors (Jackson et al., 2012). A meta-analysis of the programmes relating to adolescent alcohol and substance use cautioned against conclusions due to heterogeneity in outcome measures (de Vicente et al., 2017). Vermeulen-Smit et al. (2015) found in their review that meta-analysis could only be performed for universal programmes examining marijuana use and other illicit drug use due to having insufficient data for other levels of intervention and targeted substances. The authors found that universal programmes were effective in reducing adolescent marijuana use (OR 0.72; 95% CI 0.56, 0.94) but not in preventing other illicit drugs use (OR 0.90; 95% CI 0.60, 1.34).

A review of gatekeeper training programmes to address adolescent suicide included those aimed at both teachers and parents (Torok et al., 2019). Gatekeepers are individuals who have frequent contact with those at risk of a mental health difficulty, but are not a mental health professional. They are trained to recognise signs of distress, access support, and

intervene when the at-risk person needs help. The two studies aimed at parents did not result in statistically significant differences in identifying suicidal behaviour. The reviewers concluded that there is a lack of evaluation studies for gatekeeper programmes that target parents of adolescents.

A meta-analysis examining adolescent substance use and family programmes conducted a components analysis to illuminate what part of a family intervention contributes to effects seen post programme (Van Ryzin et al., 2016). The initial search was conducted in 2012 and clearly detailed in the review. The review team sourced information from manuals or original authors in order to code components. Significant predictors in the model were related to youth domains rather than parent domains, although the authors caution against concluding that parent factors such as monitoring do not contribute to the significance of the youth domains.

Reviews of Parent Programmes Examining Risky Behaviour

Four reviews had a focus on parenting programmes that aimed to address adolescent risky behaviour. Curry et al. (2015) reviewed 15 parent programmes aimed to improve teen driving and reduce risky driving behaviour, including both indicated and universal programmes. Programmes that included active parent participation as opposed to passive involvement through dissemination of published materials were more effective. The exception was the Checkpoints intervention, which provides persuasive materials to parents and a parent-teen driving agreement. This programme had a medium effect on teen reported risky driving practices but did not have a statistically significant effect on number of crashes. The review authors identified its point of difference from other passive programmes was that it was theoretically grounded. This review reported a detailed method for the search, which included the grey literature and as such appears to be of high quality. Results were succinctly

and comprehensively reported for the studies reviewed and clear reviewer summaries given, synthesising the data.

Kuntsche and Kuntsche (2016) provided an overview of the research base for parenting programmes that address alcohol and substance use. The review identified 13 programmes with a parent focus, although some also incorporated a concurrent adolescent component. The most common programmes were the Örebro Prevention Program (Bodin & Strandberg, 2011) and Parent-Based Intervention program (Cleveland et al., 2013). Thirty-nine studies were identified but many used data from the same samples, although the exact number of samples is not clear from the reporting within the review without going back to the original studies. The reviewers summarised the findings published by the original authors, with detailed descriptions of programs. They concluded that there is some effectiveness of parenting programmes on alcohol and substance use. They found that whilst there was great heterogeneity in mode of delivery of programmes, there was homogeneity in content, including setting strict rules regarding alcohol and substance use, promoting the parent-adolescent relationship, and ensuring monitoring of adolescents.

A more recent review concentrating on minimising adolescent alcohol use via parenting programmes concluded that only a narrative review of the literature was possible (Hurley et al., 2019). This was due to the inconsistency in evaluation methods and outcome measures utilised in the identified studies. The review included studies that provided parent self-report data on parenting outcomes as well as the extent to which programmes were informed by theory and had stakeholder input at the design stage. The review identified 17 studies evaluating 13 programmes, with the reviewers concluding that parental attitudes and rule setting behaviour changed in the desired direction, but not parental monitoring. They also stated that stakeholder involvement was lacking and theory limited in programme design. Although the search method was clear, brief reporting of original authors' findings

hampered the review. The reviewers used the Effective Public Health Practice Project [EPHPP] Quality Assessment Tool for Quantitative Studies (Evans, Lasen, & Tsey, 2015) to evaluate the quality of studies. This tool was effective in highlighting the strengths and weaknesses of individual studies as well as identifying common strengths and weaknesses across studies. Ten of the 13 studies were identified as being weak and three were deemed to be moderate. Selection bias, blinding, and providing descriptions of randomisation were key limitations across the studies.

Santa Maria et al. (2015) conducted a meta-analysis of communication outcomes after parents of adolescents attended a parenting programme regarding adolescent sexual behaviour. In a clearly described method, 62 articles were retrieved detailing evaluations of 28 programmes. Within these, 20 different theoretical models were utilised. Most programmes targeted minority youth. All 28 programmes resulted in positive effects on communication by at least one measure. Parent-adolescent communication was significantly more likely to change compared to a control, with a pooled effect size of Cohen's $d = 0.50$. However, there was a wide range of effect sizes across studies. Effect sizes for adolescent behaviour were not subject to meta-analysis as measured outcomes did not have sufficient homogeneity. The review was limited by being restricted to only including programmes that had been evaluated in the USA as well as being peer reviewed articles published in English.

Reviews of Parent Programmes Examining Multiple Outcomes

Ruiz-Casares et al. (2017)'s scoping review concentrated on programmes for parents of adolescents that had been adapted for ethno-cultural groups. The focus of the research question was to examine the quality of studies in relation to these programmes and what unique components of programmes are present for this subgroup of families. This formed a sub analysis of a wider review into programmes for parents of adolescents; however, this

wider review was not written up for publication or dissemination (Mónica Ruiz-Casares, personal communication, February 6th 2020). From the search information in the published review, it appears that 107 articles met the original broad criteria of programmes for parents of adolescents that aimed to prevent mental health difficulties and promote well-being of adolescents. However only 18 of these met the criterion of meeting the needs of ethno-cultural communities. The reviewers used Downs and Black (1998) quality appraisal tool which offers a quantitative measure of quality in a wide range of areas. The reviewers offered both the results of this measure and an interpretation of what this indicates across the literature. However, given that the tool is biased towards RCTs and there is no indication that RCTs were an inclusion criterion, it may be a limited measure for this review. The reviewers concluded that overall, the studies were hampered by low external validity, lack of reporting of randomisation, lack of control for confounding variables, and a lack of statistical power. In addition, the review found that half of the adapted programmes targeted Hispanic populations living in the United States and most focussed on substance use.

Medlow et al.'s (2016) systematic review on parenting interventions for challenging behaviours focused on treatment programmes as opposed to preventative or universal delivery. Including only randomised controlled trials [RCTs] in a community setting, outcome measures were left purposely broad in order to capture as many parenting programmes for parents of adolescents as possible that met the criteria that they were structured and replicable. The authors identified nine studies, which collectively included 959 families with an adolescent age range of 9-18 years old (mean age 12.7). Seven studies utilised behavioural parent training (BPT) principles, largely stemming from the Parent Management Training Oregon Model (PMTO) (Patterson, 2005), which focuses on skill training in relation to boundary setting and reinforcement of positive behaviours. Most studies also incorporated relationship enhancement content focusing on communication; for

example, active listening, non-contingent praise, or neutral requests. The two remaining studies had interventions whose core components aimed to increase parental empowerment. For many parenting outcomes (e.g., relational engagement, expectation setting, monitoring, and supervision) and youth outcomes (e.g., aggression, substance use, and depression), there was greater change in the desired direction for those that participated in a parenting programme in a community setting compared to waitlist controls. However, within and across studies there was heterogeneity in what outcomes showed improvements from the same intervention, such as improved knowledge by parents but not improved behaviour. A systematic review of parenting programmes therefore needs careful reporting of outcome measures to establish what outcomes are and are not affected by the intervention under investigation. Other reviews (focussed on parents with young children) suggest parent variables such as acquisition of knowledge, parental self-efficacy, or attitudes have higher effect sizes than those relating to parenting behaviours (Kaminski et al., 2008).

The review by Medlow et al. (2016) had a number of strengths including clear reporting of the search methods used and comprehensive reporting of the programme characteristics the included studies evaluated as well as study characteristics and results. There were some limitations of this review. Whilst the search terms had an externalising behaviour focus, it appears studies were not restricted to externalising symptoms as results for depressive symptoms and risky behaviours were also reported. It does not appear independent calculations of effect sizes were undertaken and instead original study results were reported individually for the six of the nine studies that provided them. There was no clear interpretation of effect sizes across studies. Most effect sizes for studies were reported as Cohens d which ranged for positive parenting outcomes from 0.02 to 1.2, and adolescent problem behaviours ranged from 0.02 to 0.80. Two studies used eta squared, which ranged 0.05 – 1.09 for positive parenting outcomes and 0.06 – 0.10 for adolescent problem

behaviours. The reviewers did not comment on the wide disparity of effect sizes and the reported characteristics of the studies and programmes did not reveal any patterns to explain this disparity.

Summary

Sixteen reviews of programmes that included parents of adolescents were identified. These reviews have generally found that programmes that predominately target parents are able to have a positive effect on parenting behaviour such as parent-adolescent communication and monitoring. In addition, these parent programmes are mostly able to reduce adolescent problem behaviour, risky driving practices, and substance and alcohol use. However, there was little evidence for the effectiveness of parent gatekeeping training for identifying suicidal behaviour. Meta-analysis was precluded in a number of reviews due to the inconsistency of how adolescent behaviour was operationalised and the measures used.

There are some gaps and limitations in the reviews that need addressing. Eight reviews looked at family programmes. Whilst parenting programmes were subsumed under their definition, and some included studies within the reviews evaluated parent focused programmes, firm conclusions of parenting programmes specifically as opposed to family interventions cannot be made. When parenting programmes were the focus, the definition of a parent programme varied, with some reviews including programmes that were parent focussed but included active intervention with the adolescent (Hurley et al., 2019; Kuntsche & Kuntsche, 2016; Santa Maria et al., 2015). It may be that for this developmental stage, some inclusion of a young person in the intervention is common, although it would be insightful to evaluate programmes that only had contact with parents to assess if this minimal sufficient programme could produce positive outcomes.

Eight reviews looked only at parenting programmes but each of these had some limitations. Of these, one was not a systematic review (Sandler et al., 2011) and so it is not possible to ascertain if the search was comprehensive or unbiased. One review, although of high quality, looked at only one type of programme (Carr et al., 2017). Two reviews did not report on adolescent outcomes from the studies they reviewed (Hurley et al., 2019; Ruiz-Casares et al., 2017). Three reviews examined risky behaviour only (Curry et al., 2015; Kuntsche & Kuntsche, 2016; Santa Maria et al., 2015). These reviews set inclusion criteria around the outcome variable being measured to provide insight into the effects of programmes on these specific areas. However, they do not give a sense of the breadth of research into parenting programmes for parents of adolescents in general, or if these programmes are likely to be more or less effective depending on the type of outcome behaviour being measured. The review of Medlow et al. (2016) does explore the evidence base for parenting programmes for parents of adolescents using a broad inclusion criterion for outcomes. They narrowed their review to indicated and selected levels of interventions only. It therefore appears there is a gap in published reviews for additional work that (a) includes programmes that deliver to parents only, (b) does not focus on only adolescent risky behaviour, and (c) includes programmes delivered at a universal level. This review therefore will concentrate on addressing these gaps as delivering programmes to parents only meets the minimal sufficiency principle; in addition to risky behaviour, adolescents can experience externalising and internalising difficulties; and for comprehensive public health reach, programmes should be targeted at all levels of intervention.

In addition, this review of reviews has also highlighted some methodological limitation of the previous reviews. Taking these into consideration, this current review aims to address these by ensuring this review (a) is systematic in its method with clear reporting of the process; (b) clearly identifies where multiple articles report on the same sample sets; (c)

utilises an appropriate quality appraisal tool so findings of studies can be discussed in light of the quality of the research that supports them; (d) analyses study findings rather than report author conclusions.

Rationale for the Present Review

Chapter One demonstrated that adolescence is a period of great developmental change, with a number of key tasks for young people to resolve. It is also a time period during which adolescents may be at risk of internalising and externalising difficulties as well as the long-term effects of risky behaviour. Parents influence both the navigation of adolescent development as well as their adolescent's mental health. This is coupled with parenting needing to change and adapt from when their offspring were children to when they are adolescents. The implication of this is that the challenges parents may face in parenting their adolescent may be different to those undertaken before. Parents may need extra support and knowledge to navigate this time to ensure their adolescent successfully resolves developmental tasks without putting themselves at risk of internalising, externalising disorders or suffer negative long-term outcomes by engaging in risky behaviour. Prevalence rates indicate these are real concerns for the adolescent population. One intervention to address parenting and its influence on child and adolescent development is through parenting programmes. These have long been established for parents of younger children to address gaps in skills and knowledge in parenting. However, less is known about parenting programmes for parents of adolescents.

Systematic reviews help identify what works and for who (Evans, 2003) and the answer to the question of the efficacy of parenting programmes for parent of adolescents has yet to be fully answered. Chapter Two showed that although there are a number of reviews that have been conducted that include parenting programmes for parents of adolescents, no review was identified that explores the evidence base in relation to parenting programmes for

parents of adolescents at the universal level and is inclusive of a wide range of adolescent outcomes. Restricting a review to parenting programmes as opposed to family programmes or those that include interventions also delivered with adolescents means conclusions drawn are specific to this type of programme which subscribes to a minimal sufficiency principle. Examining universal programmes is also important, as although there is a comprehensive review of selected/indicated programmes, the results from these cannot be transferred to being applicable to a universal population, even if the same programmes are being examined (McCart, Priester, Davies, & Azen, 2006). Finally, by including adolescent outcomes, the programmes are being assessed on their ability to have an effect that is transmitted through the family system (i.e., changes do not occur just for parent participants) and shape adolescent behaviour by way of changes in parenting. It is hoped that by being broad in the inclusion criteria of adolescent outcomes, a comprehensive exploration of the evidence base for a wide variety of parenting programmes for parents of adolescents can be undertaken and to see what is the nature of the evidence base and how it may vary across internalising and externalising difficulties as well as risky behaviour.

A summary is provided in Table 2 of evidence presented thus far for the current need for a systematic review of universal parenting programmes for parents of adolescents. The criteria for selection have been nominated and described by the Agency for Healthcare Research and Quality's Effective Health Care programmes in order to ensure topics selected for systematic reviews address knowledge gaps and inform the field in a meaningful way (Whitlock et al., 2010).

Table 2

Evidence for the Need of the Current Systematic Review

Appropriateness	Universal parenting programmes for parents of adolescents are available in New Zealand and in other countries worldwide. Adolescent health and well-being represents one of the identified health concerns by the World health Organisation
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Importance	<p>Poor development trajectories of adolescents can have high individual, family, society, and economic cost and represents a potential significant societal burden.</p> <p>Parents of adolescents are currently underserved by parenting programmes, in particular at the universal level.</p> <p>Effective public health reach requires programmes to be targeted at multiple levels including universal.</p> <p>Current uncertainty regarding the strength of the evidence base for universal parenting programmes for parents of adolescents.</p>
Duplicity	<p>Previous systematic reviews have included family programmes or parenting programmes with adolescent delivered component.</p> <p>Most reviews limited to risky behaviour</p> <p>No recent reviews have examined universal parenting programmes for parents of adolescents on adolescent outcomes that include internalising and externalising difficulties as well as risky behaviour.</p>
Feasibility	<p>Growing number of parenting programmes for parents of adolescents are being delivered</p>
Potential value	<p>Decisions by practitioners, funding agencies, or programme developers on what universal parenting programmes for parents of adolescents to be offered can be based on the evidence available that has been critically appraised in the current review.</p> <p>Programme users (parents of adolescences) can be secure in knowledge programmes are evidence based</p> <p>Gaps and limitations in current research base can be identified to inform future research</p>

Note. Adapted from “Identifying, Selecting and Refining Topics for Comparative Effectiveness Systematic Reviews” by E.P. Whitlock et al., (2010), *Journal of Clinical Epidemiology*, 63, p. 498. Copyright 2010 by Elsevier Inc.

The current systematic review therefore aims to establish the extent of the evidence base for the efficacy of universal parenting programmes for parents of adolescents on adolescent psychosocial outcomes. The objectives of this review are to:

1. provide a narrative review of the research evaluating the effect of universal parenting programmes for parents of adolescents on adolescent internalising, and externalising difficulties as well as adolescent risky behaviour

2. examine the quality of the research base in relation to evaluations of parenting programmes for parents of adolescents that have measured adolescent internalising and externalising difficulties as well as adolescent risky behaviour
3. explore the direction and magnitude of the effects of universal parenting programmes for parents of adolescents on adolescent internalising and externalising difficulties as well as risky behaviour.

Chapter Three: Method

Eligibility criteria

Table 3 summarises the inclusion criteria for this review based on the PICOTS framework (Butler et al., 2017). Studies were included if they (a) had an outcome measure that had been administered before programme delivery and at any time point after programme delivery so intervention change could be assessed; (b) the sample recruitment was intended to be universal, in that elevated adolescent internalising and externalising baseline scores were not a prerequisite for their parents to participate in the programme; (c) studies were available in English (due to limited translation services); (d) the programme being evaluated was primarily focussed on parents, in that it is intended parents attend all sessions. If adolescents did attend parts of the programme, this was for data collection purposes and/or to offer parents an opportunity to practise skills they have learned during the programme; (e) studies also needed to report on programmes that were replicable, in that it was structured and manualised to a degree that future providers would be able to repeat the programme; (f) the programme had a trained facilitator to support parents either through face to face contact or monitoring progress by telephone consultation or checking online answers if delivered remotely; (g) the study was published from 1st January 2000 onwards (in order to obtain results most applicable to parents who are parenting now, given that parenting in the 21st century has changed from previous generations (Brown, Gourdine, Waites, & Owens, 2013); and (h) the study included at least one outcome measure to assess adolescent general mental health, adolescent internalising difficulties, adolescent externalising behaviour, or adolescent risky behaviour.

Studies were excluded if (a) the primary focus was on a selected or indicated population (i.e., an intervention due to pre-identified emotional or behavioural problems exhibited by the parent or adolescent); (b) the programme being evaluated included skills

training/psychoeducation delivered directly to adolescents either independent of the parent sessions or part of a parent/adolescent dyad; (c) the programme only involved self-directed parent learning, for example through published material provided to parents; (d) the programme only had a single session.

The review included all quantitative studies, irrespective of design. Although RCTs can reduce methodological bias and are considered by many as a gold standard in the evidence, Murad, Asi, Alsawas, and Alahdab (2016) question this in light of poorly conducted RCTs needing to be graded down in any hierarchy and other methods, for example observational studies being graded up when they are well conducted and replicated. For this reason, and to capture as many existing parenting programmes for parents of adolescents as possible, the current review was not restricted in searching for studies only using RCTs. Instead, the quality appraisal process addressed differences between studies, such as the use of a control group.

The review placed no limitations upon the theoretical background or mode of delivery of the parenting programme. There was no prerequisite that studies had to be published in a peer reviewed journal, however grey literature was not actively searched.

Table 3

PICOTS Parameters for Selection Criteria for Current Review

PICOTS parameters	
Population	Parents (primary caregiver who holds responsibility of a minor) of adolescents (aged 10 – 19 years). Sample in study considered universal if a prerequisite of elevated baseline scores was not applied for eligibility into the study.
Intervention	Programme that is adequately described to ascertain that it is primarily directed at parents, in that parents are invited to all sessions and adolescents are only invited to sessions if it is for data collection and/or skills practice for their parent.
Comparator	Any or none

Outcome	Quantitative measure of adolescent general mental health, adolescent internalising difficulties, adolescent externalising behaviours or adolescent risky behaviour
Timing	Outcome must be measured at both pre intervention and at least once time point after participants have received the intervention
Setting	Any

Note. Adapted from “AHRQ series on complex intervention systematic reviews—paper 3: adapting frameworks to develop protocols”, by E.P. Butler et al., (2017), *Journal of Clinical Epidemiology*, 63, p. 21. Copyright 2017 by Elsevier Inc.

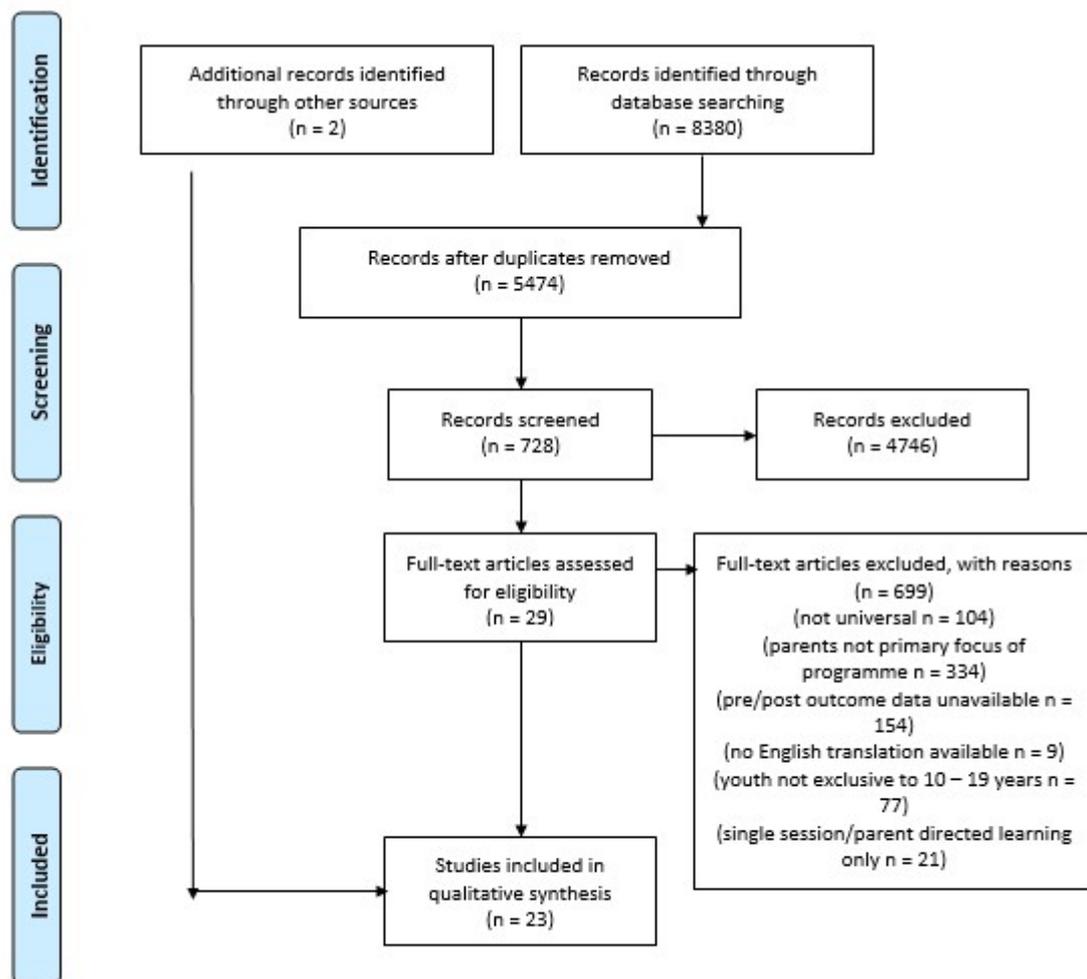
Search strategy

The review employed a systematic search strategy congruent with Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009). The following electronic databases were searched: PsychINFO, SCOPUS, The Cochrane Library, PubMed, Embase, Cinahl, and Google Scholar (date of search of all databases 5th June 2020). The following search terms and Boolean operators were used²: “program*” AND “universal OR prevent*” AND “parent OR parents OR parenting OR mother* OR father*” AND “efficacy OR effective* OR outcome*” AND “adolesc* OR teen* OR youth OR young person”. A subject librarian at the University of Canterbury reviewed and endorsed the search strategy. Full details of searches for each database can be found in Appendix A.

As summarised in Figure 2, the initial searches generated 8380 citations which were exported to EndNote X9, a standard reference management software package. Removal of duplicates resulted in 5474 citations remaining. I screened articles according to the study inclusion criteria by examining titles and abstracts. Those not meeting the criteria as defined above were deleted. I retrieved full articles for the remaining 728 citations and assessed these for eligibility. Those deemed not eligible were removed from the list, with reasons documented (see Figure 2). This resulted in 29 articles reporting on 21 studies meeting the

² The use of the wildcard * allows the search to find multiple variations of the word.

eligibility criteria. I conducted a forward and backward citation search of the eligible articles and relevant reviews obtained in the search (23 review articles, see Appendix B). This resulted in a further two articles that met eligibility criteria being added, with the final number of studies included in this review being 23 across 31 publications.

Figure 2*Process of Article Selection*

Note. Adapted from “Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement.” by D Moher et al., (2009), *Physical Therapy*, 89(9), p. 877. Copyright 2009 by D Moher et al.

Data collection process and assessment

I extracted data from studies using an abstraction form based on one designed for the Guide to Community Preventative Services: Systematic Reviews and Evidence-based Recommendations [the Guide] (Zaza et al., 2000). A copy can be found in the Appendix C. Data recorded for each study included: publication details (e.g., author, year, source), design, intervention details (for example: mode of delivery, facilitators, techniques used e.g., role play, content e.g., monitoring, theoretical basis, session frequency, use of booster sessions/homework), fidelity, participant characteristic (e.g., gender, age, education level, eligibility criteria), recruitment and screening procedure, attrition, attendance, and analysis method. In addition, I extracted data on dependant variables related to adolescent outcomes, regardless of informant, for example measurement used, reliability of the measure and the results of the outcome variables at each time point measured by the researchers.

Whilst it is recognised that quality is a difficult concept to define when assessing studies (Higgins et al., 2011), it is still important to review the studies in the context of whether they use appropriate design, analytic methods, and reporting to answer the research question it aims to elucidate. To achieve this, I used the Effective Public Health Practice Project [EPHPP] Quality Assessment Tool for Quantitative Studies (Evans et al., 2015). Without a consensus in the literature on what method should be used to assess bias (Viswanathan et al., 2008), this tool was chosen as it allows for comparison across methodologies. This tool has also been used in previous reviews of parenting programmes for parents of adolescents (Hurley et al., 2019; Jackson et al., 2012). I assessed all 23 studies using the EPHPP tool. Six areas (selection bias, study design, confounders, blinding, data collection method, and withdrawals/dropouts) were evaluated using standard closed questions (e.g., what percentage of selected individuals agreed to participate; was the study described as randomised; was the consistency of the intervention measured). Each area is given a rating of

weak, moderate, or strong based on the question responses. The EPHPP tool includes domains pertinent to assessing study findings in the context of the study's quality.

Establishing the level of selection bias of study participants allows inferences to be made of how representative the study sample is in relation to the population the programme will be offered to in real world settings. Study design assessment allows for RCTs to be afforded a strong rating, without excluding other designs which are then rated accordingly. The control of confounders ensures results can be attributed to the independent variable rather than other factors. Blinding is evaluated to establish if results may be due to expectations of either the researchers or participants. Rating the data collection method allows results to be interpreted in the context of how reliable and valid the measurement tools are that measure the dependant variables. Retention is assessed to ascertain how many participants completed the study. In addition, to these items I added a question relating to the power of the study to determine if the study's authors had conducted a power analysis prior to data collection, and if the study met the defined standard of power. If no power analysis was reported for a RCT, a pot-hoc power analysis took place using data from the study. The following formula was used via an online calculator with the probability of a type I error set at .05 and the probability of a type II error set at .2 (Kane, 2018):

$$Power = \Phi \left\{ -Z_{1-\alpha/2} + \frac{\Delta}{\sqrt{\sigma_1^2/n_1 + \sigma_2^2/n_2}} \right\}$$

n_1 = sample size for group #1
 n_2 = sample size for group #2
 $\Delta = |\mu_2 - \mu_1|$ = absolute difference between two means
 σ_1, σ_2 = variance of mean #1 and #2
 α = probability of type I error (usually 0.05)
 β = probability of type II error (usually 0.2)
 z = critical Z value for a given α
 $\Phi()$ = function converting a critical Z value to power

To assess inter-rater reliability of the EPHPP tool for this study, an independent rater (Masters level psychology student), who was unaware of the aims of this systematic review, evaluated a random selection of six studies of varying quality. Initial agreement between myself and independent reviewer across these six studies was 78%. The discrepancies were mostly regarding interpretation of selection bias (should the definition of “typical population” be one that would self-select into a universal parenting programme offered in the community or be all parents of adolescents) and intent to treat analysis affecting the way retention is calculated. Discussion resolved discrepancies. Reassessment of the ratings in relation to these areas for all 23 studies did not result in reclassification of any other ratings.

For each outcome, the criteria for the presence of an effect was that the differences between baseline and post programme scores was statistically significant at the $p < .05$ level. In addition, for RCTs differences between the programme condition and the control condition needed to be statistically significant at the $p < .05$ level. To establish the size of effects found of parenting programmes for parents of adolescents, only those evaluated using an RCT were included for this part of the analysis. This is in line with standards outlined by the Society of Prevention Research [SPR], requiring efficacy studies to have a control group to which the intervention can be compared (Gottfredson et al., 2015). Authors also needed to randomly allocate participants to the experimental or control conditions. The descriptive results section detailed the effect sizes reported by the authors. For the analysis of the size of an effect for each outcome, effect sizes were recalculated using reported means, standard deviations and sample sizes. The effect size calculation for a pre-test post-test control design used was

$$d_{ppe2} = c_p \left[\frac{(M_{post,T} - M_{pre,T}) - (M_{post,C} - M_{pre,C})}{SD_{pre}} \right]$$

where the pooled standard deviation is defined as

$$SD_{pre} = \sqrt{\frac{(n_T - 1)SD_{pre,T}^2 + (n_C - 1)SD_{pre,C}^2}{n_T + n_C - 2}}$$

and

$$c_p = 1 - \frac{3}{4(n_T + n_C - 2) - 1}.$$

(Morris, 2008, p. 369).

This was chosen due to its favourable outcomes compared with alternative effect size computations in terms of bias, precision and robustness to heterogeneity of variance (Lenhard & Lenhard, 2016; Morris, 2008). Effect sizes are reported in terms of their value and in line with common practice, interpreted as being large ($d > 0.08$), medium ($d > 0.05$) or small ($d > 0.02$) (Bakker et al., 2019). To obtain missing data from studies in order to conduct power and effect size calculations, I contacted studies' authors via email to request this data. As of 1st February 2021, no original authors had returned data to be included in this review.

Chapter Four: Results

Study Characteristics

The 31 articles for this review included analyses of 19 different parenting programmes. Eight of these articles examined parenting programmes for parents of adolescents that came from extensions of previously validated programmes for younger children such as Triple P (Chu et al., 2015), Parents Plus (Nitsch, Hannon, Rickard, Houghton, & Sharry, 2015), Community Parent Education Programme (Alfredsson, Thorvaldsson, Axberg, & Broberg, 2018), Common Sense Parenting (Mason et al., 2016; Mason et al., 2015), Active Parenting (Alfredsson et al., 2018), and Tuning into Kids (Havighurst, Kehoe, & Harley, 2015; Kehoe, Havighurst, & Harley, 2014, 2020). The remaining articles evaluated programmes specifically focusing on adolescents, and often to address specific adolescent developmental issues (e.g., Familias Unidas to address substance use and conduct problems (Estrada et al., 2015; Lee et al., 2019; Vidot et al., 2016); Partners in Parenting Programme to address depression and anxiety difficulties (Yap et al., 2019; Yap et al., 2018)). Because some parenting programmes have been evaluated using multiple studies (i.e., distinct samples and data sets) and some studies can have multiple articles that report on different outcomes (but rely on one sample and large data set), in the remainder of the results and in the tables below, it is necessary to make distinctions across these various terms. Thus, I will refer to a *programme/s* as the intervention(s) under evaluation. Whereas a *study* refers to the entire data set generated from a particular sample. Finally, I will describe follow-up publications from a single study as *follow-up articles*. These follow up articles use the same sample across the publications, each with its own reference, but report on different outcomes in each.

Descriptive characteristics and main findings from the 23 studies identified in the literature search can be seen in Table 4. In the first left column of Table 4 (labelled *Study*), studies are numbered with any follow-up articles included in an additional row with its own citation, but referring to the same study data set. Where the same programme has been evaluated using a different data set, this is detailed in the table as separate studies, with each having their own number. In the analysis of studies, the first article citation is given when referring to content consistent across all articles, both the original and the follow up articles. Where content differs, for example the reporting of different time points in a study across articles, the relevant article is cited.

Half the studies were conducted with populations from the United States, ($n = 12$) with the remaining studies taking place in Australia ($n = 4$), Italy ($n = 2$), and one each from Sweden, New Zealand, Ecuador, Ireland, and Estonia. The total number of families retained at the final data collection point across all studies was 5508, with final sample sizes ranging from 43 to 985 ($M = 239$). The majority of parents who took part in the programme were mothers and constituted 70% to 100% of the sample across the 23 studies. Parents' mean ages ranged from 36 to 45 years. Adolescent mean ages ranged from 10 to 16 years, with 12 years being the mode mean age. Of the 17 studies that provided data, six recruited parents from Latino/Hispanic populations (Allen et al., 2013; Estrada et al., 2017; Estrada et al., 2015; Marsiglia, Ayers, Han, & Weide, 2019; Martinez & Eddy, 2005; Pantin et al., 2003) and one targeted a Native American population (Kulis, Ayers, & Baker, 2015). Within the remaining 10 studies, five had samples described as predominately white/English speaking (Kehoe et al., 2014; Mason et al., 2016; Peek-Asa et al., 2014; Scull, Malik, Keefe, & Schoemann, 2019; Yap et al., 2018), one had a majority of participants identifying as African American (Stalker, Rose, Bacallao, & Smokowski, 2018), one with an ethnically diverse sample (in contrast to White Non-Hispanic being the racial majority in the USA) (Cotter,

Bacallao, Smokowski, & Robertson, 2013), and two clearly expressed their sample was commensurate with the local population (Burke, Brennan, & Cann, 2012; Chu et al., 2015). Compared to the study's country population, eight studies reported families had average incomes, eight had lower than average incomes, and two studies reported families having above average incomes. Most parents were married or in de facto relationships. Parents' education levels were mostly at the average level compared to the study's general population (n = 8) with four studies reporting them to be below average and three higher than average.

All studies used self-selected samples. Parents were recruited via their adolescent's school (n = 14), and/or advertising within the community (n = 7). One study used samples from parenting programmes planned for community delivery independent of the research team, and one did not report on recruitment procedures. Inclusion criteria given by the authors of the study included the age of the adolescent, consent by both adolescent and parent to participate, intention to remain in the area/school for duration of the study and English speaking. For studies targeting specific populations (Allen et al., 2013; Estrada et al., 2017; Estrada et al., 2015; Kulis et al., 2015; Marsiglia, Ayers, Han, et al., 2019; Martinez & Eddy, 2005; Pantin et al., 2003), English fluency was also part of the study's inclusion criteria. One study required the adolescent needed to be sitting for an unsupervised driving licence (Peek-Asa et al., 2014). Studies using technology required that parents were able to access a computer and internet (Scull et al., 2019; Yap et al., 2018). Five studies stated exclusion criteria based on adolescent prior or current engagement with mental health services, having an intellectual disability, or neurodevelopmental disorder (Burke et al., 2012; Chu et al., 2015; Martinez & Eddy, 2005; Molleda et al., 2017; Pantin et al., 2003). Over half the studies offered participants an incentive (gift or money), mostly given for each assessment package completed.

Table 4*Overview of Included Studies*

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependent variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
1.	Alfredsson et al. (2018)	Active Parenting, Connect, COPE ^a	Non-randomised trial	With each other and 2 targeted programmes: LFT ^b , Comet	Sweden	Mental health (SDQ ^c total score, parent report)	Immediately post programme; Follow up: 1 year	269 (85)	<p>Statistically significant reduction in SDQ scores in all programmes except COPE post programme.</p> <p>Standardised effect size of proportion of total average change within intervention: Active Parenting: 0.23 Connect: 0.17 COPE: 0.01 LFT: 0.31 Comet: 0.35 Active Parenting and COPE scores remained stable at 1 year but a n.s^d further reduction in score observed for Connect.</p> <p>Standardised effect size of proportion of total average change within study period: Active Parenting: 0.16 Connect: 0.35 COPE: 0.08 LFT: 0.25 Comet: 0.47</p>
2.	Allen et al. (2013)	Padres Informados/Jóvenes Preparados: Parenting component	Non-comparative study	None	USA	Internalising, Externalising Substance problems (ASEBA ^e , parent report)	Immediately post programme	83 (67)	<p>Pre-programme ($M = 0.43, SD = 0.32$) and post-programme ($M = 0.32, SD = 0.24$) internalising problem scores indicated that the programme resulted in an improvement in internalising problems, $t(82)$ [actual t score not reported] $p < .001$.</p> <p>Pre-programme ($M = 0.32, SD = 0.31$) and post-programme ($M = 0.26, SD = 0.26$) externalising problem scores indicated that the programme marginally resulted in an improvement in externalising problems, $t(82)$ [actual t score not reported] $p = .0054$.</p> <p>Pre-programme ($M = 0.05, SD = 0.25$) and post-programme ($M = 0.03, SD = 0.16$) substance problem scores indicate that</p>

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependent variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
									the programme did not result in an improvement in substance problems, $t(82)$ [actual t score not reported] $p = .532$.
3.	Burke et al. (2012)	ABCD Parenting Young Adolescents	RCT ^h	Waitlist control	Australia	Emotional symptoms Conduct problems Inattention/Hyperactivity Total difficulties (SDQ ^c , parent report)	Immediately post programme	115 (28) Analysis = intention to treat	No statistically significant differences post programme were detected between groups for emotional symptoms, $F(1, 144) = .70$, $p = .406$, partial $h^2 = .01$, hyperactivity $F(1, 144) = 1.37$, $p = .245$, partial $h^2 = .01$, conduct problems ($F(1, 143) = 3.54$, $p = 0.062$, partial $h^2 = .02$) or total difficulties, $F(1, 141) = 3.59$, $p = .06$, partial $h^2 = .03$
4.	Chu et al. (2015)	Teen Triple P	RCT ^h	Control = CAU ^g - No intervention or support from intervention team, but family could access other services (no guidance for this given).	New Zealand	Mental health (SDQ ^c total score, parent and adolescent report) Problem behaviours (PBC ^f , adolescent report)	Immediately post programme; Follow up: 6 months	58 (81)	Statistically significant differences immediately post programme were detected between groups for total difficulties (parent report), $F(2, 67) = 12.93$, $p = .001$, $d = 0.90$, but not total difficulties adolescent report $F(2, 67) = 1.02$, $p = .367$ or PBC: $F(3, 65) = 1.93$, $p = .133$. Statistically significant differences 6 months post programme were detected between groups for total difficulties (parent report), $F(2, 67) = 4.45$, $p = .039$, $d = 0.50$, total difficulties adolescent report $F(2, 67) = 15.09$, $p = .000$, $d = 0.92$ and PBC: $F(3, 65) = 11.97$, $p = .001$, $d = 0.82$.
5.	Cotter et al. (2013)	Parenting Wisely	Non randomised trial	Programme group divided into parent only 2days/5week small group, parent and adolescent group, parent and adolescent online	USA	Adolescent violent behaviour (Violent Behaviour Checklist, parent report) Externalising behaviour (ASEBA ^e , parent report)	Immediately post programme	144 (99)	For violent behaviour pre/post programme effects were n.s. ^d for parent only modes but were when adolescent included. For externalising behaviour, a pre/post small significant effect was seen for the 5-week parent group, $t(24) = 3.066$, $p = .003$, $d = 0.18$ as well as adolescent groups. This was in the expected direction in that externalising scores decreased post intervention.

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependent variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
6.	Estrada et al. (2017)	Familias Unidas	RCT ^h	Control = CAU ^g : education delivered to adolescents within their school curriculum (parent permission required)	USA	Substance use (single items for alcohol and drugs, adolescent report) Risky sexual behaviour (single items for engaging in sex and condom use, adolescent report)	Follow up: 6 months; 18 months; 30 months	474 (63) Analysis = Intent to treat	The trajectories over 30 months were not statistically significantly different between groups for alcohol use: $b = 0.075$; 95% confidence interval [CI] = $-0.142, 0.291$; $p = .499$; $d = 0.24$. For drug use there was a significant difference: $b = -0.20$; 95% CI = $-0.298, -0.105$; $p < .001$; $d = 0.27$. Programme group's use remained stable over time whereas control group's use increased over time. For sex without a condom this increased for both groups but statistically significantly more for CAU ^g : $b = 0.093$; 95% CI = $0.024, 0.162$; $p < .01$; $d = 0.98$
	Vidot et al. (2016)	As above	As above	As above	As above	Suicide risk (two items, adolescent report)	As above	As above	For suicide risk there was no significant difference between groups $b = -.129$, $p = .130$ but programme had significant impact on suicide attempts for adolescents reporting low levels of parent/adolescent communication
	Lee et al. (2019)	As above	As above	As above	As above	As above	As above	As above	When parents showed higher reported rates of positive parenting compared to their adolescent, those in programme condition reduced the discrepancies between reports at follow up. This in turn predicted lower substance use.
7.	Estrada et al. (2015)	Familias Unidas	RCT ^h	Control = CAU ^g : education delivered to adolescents within their school curriculum (parent permission required)	USA	Substance use (single items, adolescent report) Risky sexual behaviour (single items for engaging in sex and condom use, adolescent report)	Follow up: 6 months; 12 months; 24 months	148 (67)	Using growth curve analysis $n.s^d$ differences for substance use $b = .24$; $p = .37$ or inconsistent condom use $b = .26$, $p = .25$ over time between groups but for girls there was a significant effect of group for alcohol use initiation 30.4% vs. 64.0% for Familias Unidas and CAU, respectively; $p = .02$ and for those under 15 a significant effect of group for reducing unsafe sex practices $b = .85$; $p < .001$; $n = 70$.

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependent variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
8.	Giannotta, Ortega, and Stattin (2013)	Connect	Non randomised trial	Control group randomly recruited from parents at participating schools but were not taking part in programme	Italy	Behaviour problems (Eyberg Child Behaviour Inventory, parent report) Alcohol and cigarette use (single items, adolescent report)	Immediately post programme	110 (75)	n.s ^d differences between groups for behaviour problems, cigarette use, alcohol use. A medium statistically significant group effect on reducing use for wine $F(2,95) = 4.39, p < .05, ES = -.44, CI = -.85/- .03$, level of confidence = 95 and beer $F(2,97) = 5.21, p = .05, ES = -.55, CI = -.95/- .14$, level of confidence = 95 was found with both groups increasing use but this was higher for the control group.
9.	Kehoe et al. (2014)	Tuning into Teens [TINT]	RCT ^h	Parents at control schools not offered intervention	Australia	Internalising difficulties (SCAS ^h parent and adolescent report; CDI ⁱ parent and adolescent report)	Follow up: 10 months	213 (45) Analysis = intention to treat	A significant effect of the programme, reducing scores, was seen for anxiety parent report $t(215.42) = -4.92 p < .001 d = 0.46$ and anxiety youth report $t(217.36) = -2.17 p = .031 d = 0.26$. For depression there was an effect of the programme, reducing scores, on parent report $t(215.46) = -4.06 p < .001 d = 0.46$ but not youth report $t(206.97) = -1.17 p = .244 d = 0.14$.
	Havighurst et al. (2015)	As above	As above	As above	As above	Externalising difficulties (SDQ ^c conduct and Hyperactive/Inattentive subscales, parent and adolescent report)	As above	As above	For externalising problems both parent $t(215.57) = -3.04 p = .003 d = 0.31$ and adolescent report $t(214.90) = -2.18 p = .030 d = 0.28$ indicated a programme effect in that scores were reduced.
	Kehoe et al. (2020)	As above	As above	As above	As above	Internalising difficulties (SCAS ^h parent and adolescent report; CDI ⁱ parent and adolescent report)	As above	As above	Lower depression scores (adolescent report) at 10 month follow up for the programme group were driven by adolescents whose self-report anxiety scores were higher at baseline
10	Kulis et al. (2015)	Parenting in 2 Worlds	Non - comparative study	None	USA	Antisocial behaviour (items from ASEBA ^e , parent report)	Immediately post programme	75 (82)	There was a statistically significant reduction in scores of anti-social behaviours $t(62) = -3.22, p = .002$
11.	Marsiglia, Ayers, Han, et al. (2019)	Families Preparing the New Generation [FPNG]	RCT ^h	Active control: Standard substance use programme for adolescent and parent information	USA	Substance use (single items, adolescent report)	Immediately post programme; Follow up: 8 months; 20 months	252 (50)	Control group had a significant higher probability of substance use 20 months post programme compared to programme groups (contrast = 0.097; 9.7% increase; Cohen's $h = 0.265 p < .05$).

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependent variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
				on academic success; Additional programme group: A combined adolescent and parent programme: Keeping it Real					For the parent only group there was a significant increase in use at 4 months (contrast = .072; 7.2% increase; Cohen's h = .232) but then a significant decrease at 8 months and 20 months (contrast = -0.066; 6.6% decrease; Cohen's h = 0.210). There was no increase or decrease in use in the parent adolescent group.
	Marsiglia, Ayers, and Kiehne (2019)	As above	As above	As above	As above	Inhalant use, (single item, adolescent report)	As above	As above	Significant group differences in inhalant use at 8 months $F(2, 454) = 3.85, p = .022$, the parent only group and control had a significantly higher mean of inhalant use at 8 months than the parent and youth group.
	Marsiglia, Wu, Ayers, and Weide (2019)	As above	As above	As above	As above	Anti-drug attitude (3 questions, adolescent report)	As above	As above	There were no significant differences in changing personal anti-drug attitudes between groups at any time point.
12	Martinez and Eddy (2005)	Nuestras Familias Andando Entre Culturas	RCT ^h	No intervention from research team for control group	USA	Externalising Behaviour and Aggression (ASEBA ^e , parent report) Depression (CDI ⁱ , adolescent report) Substance use (Likert scale, adolescent report)	Immediately post programme	63 (83)	Statistically significant group x time interaction for aggression $F(1, 50) = 5.40, p = .05, h^2 = .10$; externalising behaviour $F(1, 50) = 5.30, p = .05, h^2 = .10$; and smoking $F(1, 50) = 2.85, p = .05, h^2 = .06$ with the programme group showing reductions. This trend was seen for marijuana and other drugs but was n.s. ^d . A three-way interaction group x time x nativity status for depression was statistically significant with programme showing improvement in scores for those born in the USA $F(1, 50) = 8.32, p = .01, h^2 = .16$.
13	Mason et al. (2015)	Common Sense Parenting [CSP]	RCT ^h	Minimal contact control (received general newsletters) Additional programme group: CSP with two extra	USA	Emotional regulation (social competence scale, parent and adolescent report) Conduct problems (SDQ ^c parent and adolescent report)	Immediately post programme	299 (93) Analysis = intent to treat	For both adolescent and parent reports there were no statistically significant differences between groups.

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependant variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
				sessions that included adolescent.		Substance use School discipline School suspension (items from Seattle Social Development Project questionnaire, adolescent report)			
	Mason et al. (2016)	As above	As above	As above	As above	As above	Follow up: 1 year; 2 years.	303 (93) Analysis = intent to treat	For both adolescent and parent reports there were no statistically significant differences between groups for any measure at any time point.
14	Molleda et al. (2017)	Familias Unidas	RCT ^h	CAU: families encouraged to continue with regular prevention activities available in the community	Ecuador	Conduct problems (Revised Behavioural Problem Checklist, parent report)	Immediately post programme	212 (89) Analysis = intent to treat	There was a significant direct effect of programme on conduct problems post programme standardized $\beta = -.101$, $p = .001$, effect size = .262.
15	Nitsch et al. (2015)	Parents Plus Adolescents Programme [PAPP]	RCT ^h	Waitlist control	Ireland	Total difficulties Hyperactivity Conduct problems Emotional problems (SDQ ^c , parent report)	Immediately post programme; Follow up: 6 months for programme group only	109 (86)	Effects were found for group x time interaction for total difficulties $F(1, 107) = 64.07$ $p < .001$, conduct problems $F(1, 107) = 19.98$ $p < .001$ and emotional problems $F(1, 107) = 62.76$ $p < .001$ with reductions for the programme group only. A similar but n.s. ^d effect was seen for hyperactivity $F(1, 107) = 1.91$ $p = .170$. Effect sizes h^2 for the programme group at 6 months were total difficulties 0.63, conduct problems 0.46 and emotional problems 0.61.
16	Ozturk, Moretti, and Barone (2019)	Connect	RCT ^h	Waitlist control	Italy	Internalising Problems Externalising problems (SDQ ^c , parent report)	Immediately post programme	42 (95) Analysis= intent to treat	A statistically significant effect was found for group x time interaction for externalising problems $F(1, 40) = 17.47$, $p < .001$. $h^2 = .18$ with reductions for the programme group only. A similar but n.s. ^d effect was seen for internalising problems $F(1, 40) = .120$, $p = .72$. $h^2 = .003$.

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependant variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
17	Pantin et al. (2003)	Familias Unidas	RCT ^h	No contact with control group except for data collection	USA	Behaviour problems (composite of a number of scales, parent and adolescent report)	Immediately post programme; Follow Up: 3 months	167 (98) Analysis = intent to treat	A statistically significant effect was found for group x time with reductions for the programme group only at time 3 $F(3, 424) = 4.25, p = .006$. Both groups demonstrated reductions immediately post programme.
18	Peek-Asa et al. (2014)	Steering Teens Safe	RCT ^h	CAU, standard safety booklet sent out	USA	Risky Driving (adapted version Risky Driving Inventory, adolescent report)	1 month; 6 months post licensure	145 (89)	Generalised linear model showed programme group had 21% lower mean score than control group (Estimated mean ratio = 0.79, 95% CI = 0.55, 1.15)
19	Scull et al. (2019)	Media Aware Parent	RCT ^h	Active control: received online access to accurate sexual health brochures	USA	Range of items assessing attitudes and intent to engage in risky and safe media and sexual practices, for example abstinence, using a condom, and unwanted hook ups (specifically designed measure, adolescent report)	Immediately post programme	322 (91) Analysis = intent to treat	A statistically significant effect was found with reductions for the programme group only for willingness to hook up even though it is unwanted $b = -0.14, SE = 0.06, p = .03, d = -0.20$ (CI: -0.44 to 0.04; increases in intentions to seek medical consultation $b = 0.29, SE = 0.11, p = .008, d = -0.30$ (CI: 0.06 to 0.55, self-efficacy to use protection $b = -0.15, SE = 0.08, p = .05, d = -0.20$ (CI: -0.04 to 0.45. Effects for self-efficacy to abstain, intention to have sex, attitudes to contraception, willingness to have unprotected sex and risky online behaviour were n.s. ^d .
20	Stalker et al. (2018)	Parenting Wisely	Non randomised trial	Waitlist control Programme group divided into parent only 2days/5week small group, parent and adolescent group, parent and adolescent online	USA	Adolescent violent behaviour (Violent Behaviour Checklist, parent report) Externalising behaviour (ASEBA ^e , parent report)	Immediately post programme; Follow up: 6 months	364 (unable to ascertain)	For both measures all programme groups except the 2 days' workshop condition differed significantly from control group in that scores were reduced. Apart from the 2-day workshop group, differences were not found between formats.
21	Tael-Oeren, Naughton, and Sutton (2019)	Effekt	RCT ^h	School not allocated to intervention	Estonia	Alcohol use (3 items, adolescent report)	Follow up: 18 months; 30 months	985 (79.9) Analysis = intent to treat	For those with no alcohol use at baseline, there was no effect of the programme on alcohol use at either time point T2 – $OR=1.21, 95\% CI=0.81-1.81$; T3 – $OR=0.87, 95\% CI=0.59-1.29$. At 30 months there was a programme effect for alcohol use mediated through parent

<u>Study</u>	<u>Article Citation(s)</u>	<u>Programme Evaluated</u>	<u>Study design</u>	<u>Control/Comparison</u>	<u>Location of Delivery</u>	<u>Adolescent Dependant variables measured (measurement tool)</u>	<u>Timing of measurement after completion of programme</u>	<u>Sample size final numbers (% retained)</u>	<u>Main Findings</u>
									attitudes at 18 months $\beta = -0.60$, SE = 0.26, $p \leq .05$.
22	Toumbourou and Gregg (2002)	Parenting Adolescents: A Creative Experience [PACE]	RCT ^h	School not allocated to intervention	Australia	Delinquent behaviour Substance use Self-harm Suicide Ideation Depressive symptoms (designed measure for study, adolescent report)	Mid and end of school year	572 (unable to ascertain)	A statistically significant effect for the programme was seen for delinquent behaviour with reductions in the programme group and increases in the control OR 0.3: CI, 0.2–0.7. For substance use the scores remained stable for programme group but increased in control group (significant effect) AOR 0.49: CI, 0.24–0.98, Of those who have never used a n.s ^d lower initiation was seen in programme group compared to control. No significant effects were seen for self-harm suicide ideation and depressive symptoms.
23	Yap et al. (2018)	Partners in Parenting Programme	RCT ^h	Active control: received online access to accurate factsheets on adolescent development and well-being	Australia	Depression (Short Moods and Feelings Questionnaire, parent and adolescent report) Anxiety (SCAS ^h , parent and adolescent report)	Immediately post programme;	308 (93) Intent to treat analysis	For both groups, post programme parents reported significantly decreased symptoms of depression and anxiety. No significant differences between groups were noted.
	Yap et al. (2019)	As above	As above	As above	As above	As above	Follow up: 12 months	287 (80) Intent to treat analysis	At 12m the only significant effect was for parent report of depression, $t(324.98) = -2.04$; $p = .04$; $d = -0.21$ (95% CI -0.42 to -0.01). This remained stable for programme group but increased for control.

^aCommunity Parent Education Programme ^bLeadership Training for Parents of Teenagers ^cStrengths and Difficulties Questionnaire. ^dnon-significant. ^eAchenbach System of Empirically Based Assessment ^fProblem Behaviour Checklist ^gcare as usual ^hSpence Children's Anxiety Scale ⁱChild Depression Inventory ^hrandomised control trial

Study Design

Seventeen of the studies were RCTs. Four were trials, but groups were not randomised and two did not have a comparison group. Twelve RCTs randomised at the individual level and compared the programme group with waitlist control, care as usual control group or an active control (n = 12). Five studies randomised at the group level by allocating schools (Kehoe et al., 2014; Marsiglia, Ayers, Han, et al., 2019; Mason et al., 2016; Tael-Oeren et al., 2019; Toumbourou & Gregg, 2002). This was to minimise contamination between groups within the communities that were being tested. Five studies compared the programme of interest to another parenting programme (Alfredsson et al., 2018) or compared variants of the programme to each other (Cotter et al., 2013; Marsiglia, Ayers, Han, et al., 2019; Mason et al., 2016; Stalker et al., 2018). Reasons for trials not being randomised were the authors studying effects of already operating programmes (Alfredsson et al., 2018), wanting parents to self-select into their preferred format of programme (Cotter et al., 2013; Stalker et al., 2018), and difficulties in recruitment (Giannotta et al., 2013). The two studies without a control were piloting a new programme (Allen et al., 2013; Kulis et al., 2015).

The Programmes

Table 6 provides an overview of the programmes evaluated in the 23 studies. A more detailed description of the individual programmes is provided in Appendix D.

As mentioned above, across the 23 studies, 19 different programmes were evaluated. The predominant theoretical framework was social learning theory, with nine studies using these principles as part of their behavioural parent training approach. Three programmes used an ecological development approach (Familias Unidas, Families Preparing the New Generation [FPNG] and Parenting 2 Worlds). The other theoretical orientations included attachment (Connect), emotional socialisation (Tuning into Teens [TINT]), Adlerian (Active

Parenting of Teens), reasoned action (Media Aware Parent), community participation (Padres Informados/Jóvenes Preparados), persuasive systems design model (Partners in Parenting Programme [PiPP]), and motivational interviewing (Steering Teens Safe). Six programmes were part of a suite of interventions that also had younger child versions (Teen Triple P, TINT, Parents Plus Adolescent's Programme [PAPP], Community Parent Education Programme [COPE], Common Sense Parenting [CSP], Active Parenting), and five of these also had variants that could be used with selected or indicated populations (CSP, PAPP, Triple P, TINT and COPE). The teen only programmes Connect and Parenting Wisely, also had variants that could be used with indicated or selected populations. Although individual studies examined a range of outcomes, the central foci of the programmes were general parenting/family functioning (n = 7), substance/alcohol use (n = 6), adolescent development (n = 2) media and risky sexual behaviour (n = 1), high school transition (n = 1), adolescent depression and anxiety (n = 1), and risky driving (n = 1).

In terms of delivery, programmes used a face-to-face group format (n = 15), telephone consultation (n = 1; Steering Teens Safe) or individual online (n = 2; Media Aware Parent and Partners in Parenting Programme [PiPP]). The remaining programme (Parenting Wisely) had two group formats and one online format that were being compared to each other and the adolescent inclusive versions. Sessions varied in length from 1 to 3 hours with most delivered weekly. The number of sessions/modules ranged from 4 to 12. Exceptions to these trends included one variant of Parenting Wisely that was delivered over two days (10 hours total), and the Effekt programme, consisting of six sessions and delivered over a school year. Three programmes offered support outside of sessions (Teen Triple P, COPE and Steering Teens Safe). For COPE this was described as “optional follow up” but no further details were given as to how, when or if this opportunity was taken up by participants. For Teen Triple P and Steering Teens Safe, support was offered as three phone calls outside of the main teaching

sessions to check on progress and problem solve issues. For all programmes, facilitators were psychologists, therapists, teachers, social workers, mental health professionals, or community workers, with seventeen of the twenty-three studies reporting they had been trained in the specific programme. Only three programmes did not state that parents were given home activities or have access to a workbook between sessions (ABCD Parenting, Effekt, and Padres Informados/Jóvenes Preparados).

All the programmes involved psychoeducation for parents, and all the group programmes referred to group discussion as a teaching method. All programmes except Steering Teens Safe encouraged parents to practice the content being taught. Eleven of the 19 programmes explicitly mentioned role play as a practice tool within sessions. Seven programmes used reflection exercises on parenting. Six programmes included observations of others using recorded content played to the parents. Three programmes included demonstrations by the facilitators for the parents to observe. Steering Teens Safe taught motivational interviewing for parents to then deliver the safety lessons to their adolescents. There was no mention of practicing this beforehand but parents did observe a DVD of communication techniques with adolescents.

In terms of content, 15 of the 19 programmes referenced teaching positive parenting strategies or behaviour management. Of the four that did not, Steering Teens Safe's focus was communicating information and one had solely an attachment perspective (Connect). Parenting Wisely required parents to select a parental response to common scenarios and view the consequences of the response. PiPP referenced providing specific strategies as identified in evidence-based parenting guidelines. Seventeen programmes explicitly mentioned content related to the parent adolescent relationship or communication. The two that did not were CSP and COPE, possibly because the reporting of these programmes emphasised their focus on behaviour modification based on social learning theory. Ten

programmes included topics related to adolescent risky behaviour, four of which were general parenting programmes. Three programmes included content specifically on adolescent development with an additional two programmes including topics on autonomy (a key developmental task).

Only three programmes were evaluated more than once: Connect, with three studies (Alfredsson et al., 2018; Giannotta et al., 2013; Ozturk et al., 2019), Familias Unidas, with four studies (Estrada et al., 2017; Estrada et al., 2015; Molleda et al., 2017; Pantin et al., 2003) and Parenting Wisely, with two studies (Cotter et al., 2013; Stalker et al., 2018). For Connect, all three studies were rated weak for selection bias and blinding. In addition, one study (Alfredsson et al., 2018) had a weak design. The studies evaluating Parenting Wisely were hampered by poor control of confounding variables as well as one study having a non RCT design (Cotter et al., 2013). For Familias Unidas, two studies (Estrada et al., 2015; Molleda et al., 2017) were only rated as weak in one domain, blinding, an area of limitation across many of the studies. This suggests that for adolescent outcomes, in a universal population, only Familias Unidas has the potential meet the APA task force criteria for a well-established or probably efficacious intervention (Lonigan, Elbert, & Johnson, 1998). To meet these criteria at least two well conducted trials need to take place.

Table 5*Overview of Content and Delivery of Programmes Identified in the Review*

Programme Name	Evaluation Study reference	Format	Number length and frequency of sessions	Facilitators	Homework Tasks given	Teaching methods	Focus of content
ABCD Parenting Young Adolescents Program	Burke et al. (2012)	Group 8-12 parents	6x 2-hours weekly	Psychologists (lead author trained in programme and co facilitated all delivery)	None stated	Psychoeducation Group Discussion Skills teaching Practice and feedback Problem solving	Maintaining the parent/adolescent relationship Parental acceptance of adolescent Positive parenting strategies Risky behaviour Autonomy with boundaries Parent well-being
Active Parenting of Teens	Alfredsson et al. (2018)	Group 8-12 parents	6x 3-hour sessions fortnightly	Trained leaders	Yes, and materials given to take home	Psychoeducation Role plays Group discussion Reflection exercises	Communication with adolescent Understanding adolescent's goals Responsibility Risky behaviour Behaviour management
Common Sense Parenting [CSP]	Mason et al. (2016); Mason et al. (2015)	Group 6-10 parents	6x 2-hour weekly sessions	Not reported	Yes	Psychoeducation Skills teaching Discussion Role play	Positive parenting strategies Self-control Problem solving
Community Parent Education Programme [COPE]	Alfredsson et al. (2018)	Group 20-30 parents	10x 2-hour weekly sessions with optional follow up	Trained leaders	Yes	Psychoeducation Role plays Modelling Group discussion Self-monitoring	Solution generation of problems experienced by parents
Connect	Alfredsson et al. (2018);	Group 12-14 parents	10x 1-hour weekly sessions	Trained leaders/ Psychologists	No but materials	Psychoeducation Role plays (by group leaders)	Each session a principle of: attachment sensitivity

	Giannotta et al. (2013); Ozturk et al. (2019)			trained by creator of programme	given to take home	Group discussion Reflection exercises	mindfulness parental reflective function dyadic emotional regulation shared partnership/mutuality
Effekt	Tael-Oeren et al. (2019)	Group	6 meetings throughout the school year; information emailed to all parents after each session	Trained psychologists, family therapists, educational scientists, teachers, public health specialists.	No	Psychoeducation Observation Discussion Role play Problem solving	Parent/adolescent relationship Positive parenting strategies Risky behaviour Make agreements with other parents
Familias Unidas	Estrada et al. (2017); Estrada et al. (2015); Lee et al. (2019); Molleda et al. (2017); Pantin et al. (2003); Vidot et al. (2016)	Group 10-15 parents	12x 2-hour weekly sessions Brief version: 5 parent sessions and 1 family visit	Trained Masters level social workers, mental health workers fluent in Spanish	Yes - 6 modules; 3 for brief version	Psychoeducation Skills teaching Practice Role play (with adolescent present)	Parent/adolescent relationship Monitoring Positive parenting strategies Risky behaviours Peers Own attitudes and modelling Communication School/parent relationship
Families Preparing the New Generation [FPNG]	Marsiglia, Ayers, Han, et al. (2019); Marsiglia, Ayers, and	Group	8 sessions weekly	Trained bilingual facilitators	Yes	Psychoeducation Discussion Role play Reflection	Parent/adolescent relationship Family functioning and communication Identifying social support Positive parenting strategies Risky behaviour

	Kiehne (2019); Marsiglia, Wu, et al. (2019)						Development
Media Aware Parent	Scull et al. (2019)	Individual online	Five interactive modules	Not reported	Yes – activities to do with adolescent	Psychoeducation Skills teaching Practice Planning	Parent/adolescent relationship Communication Monitoring Positive parenting strategies Risky behaviour
Nuestras Familias: Andando Entre Culturas [Our Families: Moving Between Cultures]	Martinez and Eddy (2005)	Group 12-15 parents	12x 2.5-hour weekly sessions including 1 hour for social interaction over a meal	“Entrendares” [coaches]. Training not reported.	Yes	Psychoeducation Role play	Parent empowerment Parent self-efficacy Family acculturation Discrimination Communication Family problem solving Monitoring Positive parenting strategies
Padres Informados/Jóvenes Preparados: Parenting component	Allen et al. (2013)	Group	8x 2.5-hour sessions	3 Masters level parent educators. Training not reported	Not stated	Psychoeducation Role plays Group discussion Skills practice	Maintaining a connection with your adolescent Communication Discipline Conflict resolution Parenting across cultures Risky behaviours
Parenting Adolescents: A Creative experience [PACE]	Toumbourou and Gregg (2002)	Group	8 sessions	Trained community facilitators	Yes, with booklets	Psychoeducation Discussion Practice	Listening Assertiveness Conflict Resolution Communication Development

Parenting in 2 Worlds	Kulis et al. (2015)	Group	10 sessions over 5 weeks	Trained facilitators recruited from Community	Yes	Psychoeducation Observation Discussion Role play Group activities	Identifying family traditions norms and values Communication Positive parenting strategies
Parenting Wisely	Cotter et al. (2013); Stalker et al. (2018)	Group or Individual online	10 hours over 2 days Or 5 weekly sessions Or 10 online video modules	Facilitator support for groups only. Training not reported.	Yes, with parent's workbook.	Psychoeducation Observation Discussion Role plays (group only) Interactive activities (group only) Skills teaching	Looks at specific common areas of family conflict: housework, loud music, perform well at school, sharing screen time, curfews, sibling conflict, step parenting, getting up in time, peer relationships, drugs.
Parents Plus Adolescents Programme	Nitsch et al. (2015)	Group	8 weekly sessions	Locally trained community facilitators	Yes	Psychoeducation Observation Practice Reflection	Parent/adolescent relationship Positive parenting strategies Parent self-care Problem solving
Partners in Parenting Programme	Yap et al. (2019); Yap et al. (2018)	Individual online	One module weekly up to 9; number of modules dependant on assessment data collected for each parent	Tailored feedback messages written into programme	Yes	Psychoeducation Observation Practice Goal setting Quizzes	Role of parents in relation to: mental health connecting adolescents staying involved whilst balancing autonomy social skills development having boundaries conflict management risky behaviour problem solving stress management parental guilt/self-blame

Steering Teens Safe	Peek-Asa et al. (2014)	Individual via telephone	1x 45 min session, DVD, 3x 30 minutes follow up phone calls	Not reported	Workbook given	Psychoeducation Observation Motivational Interviewing	Communication Risky behaviour
Teen Triple P	Chu et al. (2015)	Group 3-12 parents	4x 2-hour sessions with one final session. 3x 15-30 min support phone calls	Trained and accredited facilitators with diverse family experience	Yes Workbook to keep	Psychoeducation Skills Teaching Observation Discussion Practice with feedback Problem solving	Positive parenting strategies Risky behaviour Autonomy Independence
Tuning into Teens [TINT]	Havighurst et al. (2015); Kehoe et al. (2014, 2020)	Group 6-13 parents	6x 2-hour sessions weekly	Trained mental health professionals or psychology graduates	Yes	Psychoeducation Skills teaching Discussion Reflection Practice Problem solving	Parent/adolescent relationship Ability to respond to rejection Positive parenting strategies Emotional development Emotion coaching Normalisation of experiences Self-care for parent

Study Quality

An overview of the quality ratings for each area defined by the EPHPP quality assessment tool for each study is provided in Table 5. The strengths of the research across studies included measurement, reporting, and controlling for confounding variables, with nearly three quarters of the studies strong in this area. In addition, sixteen studies used psychometrically sound assessment tools, indicating the data collection methods were mostly valid and reliable. Fourteen studies reported that more than 80% received the intervention and included reports of fidelity of delivery. Seven studies did not report this information. Withdrawal and dropout rates were mixed across studies, with nine reporting less than 20% and a further ten reporting less than 40%. Approximately half the studies used intent to treat in their analysis. Authors for seven of the seventeen RCTs reported power analysis. Nine of the seventeen RCTs were suitably powered to detect effects, three did not have enough power and no power analysis was available for five of the RCTs.

Areas of weakness across the studies included selection bias and blinding. No study obtained a strong rating for selection bias; just over half obtained a moderate rating on the assumption that the sample self-selecting into the studies would be representative of parents who would self-select into a parenting programme. However, as the samples were self-selected, they were not necessarily representative of a parent of adolescent population. For sixteen of the twenty-three studies, it was not possible to determine external validity due to self-selection and poor reporting. Over half of the studies (60%) did not report blinding. Where blinding was reported, it was commonly in reference to participants not knowing the research question.

Table 6*Quality Ratings for Each Domain Area for Each Study*

Study	Citation(s) of articles	Selection Bias	Study Design	Confounders	Blinding	Data Collection Method	Withdrawals and Dropouts	Power analysis
1	Alfredsson, Thorvaldsson, Axberg, and Broberg (2018)	Weak	Weak	Strong	Weak	Strong	Strong	Not reported by author; non RCT
2	Allen et al. (2013)	Moderate	Moderate	Weak	Weak	Moderate	Moderate	Not reported by author; non RCT
3	Burke, Brennan, & Cann, (2012)	Weak	Strong	Strong	Weak	Moderate	Moderate	Author: $\beta = 0.8$ $\alpha = 0.01$ $d = 0.5$ for N(per group) = 50. Actual N (lowest group) = 55
4	Chu, Bullen, Farruggia, Dittman, & Sanders, (2015)	Moderate	Strong	Strong	Moderate	Strong	Moderate	Author: $\beta = n.r^a$ $\alpha = n.r^a$ $d = 0.8$ for N(per group) = 26. Actual N (lowest group) = 35
5	Cotter, Bacallao, Smokowski, & Robertson, (2013)	Moderate	Weak	Weak	Weak	Strong	Moderate	Not reported by author; non RCT
6	Estrada et al., (2017); Lee et al., (2019); Vidot et al., (2016)	Moderate	Strong	Moderate	Weak	Weak	Moderate	Author: 96% power to detect $d = 0.34$ with N = 746
7	Estrada et al., (2015)	Moderate	Strong	Strong	Weak	Strong	Moderate	Unable to be calculated
8	Giannotta, Ortega, & Stattin, (2013)	Weak	Moderate	Moderate	Weak	Moderate	Moderate	Not reported by author; non RCT
9	Havighurst, Kehoe, & Harley, (2015); Kehoe, Havighurst, & Harley, (2014, 2020)	Moderate	Strong	Strong	Moderate	Strong	Moderate	By reviewer: 81.4% power to detect difference between means $\alpha = 0.05$
10	(Kulis, Ayers, & Baker, 2015)	Weak	Moderate	Strong	Weak	Strong	Strong	Not reported by author; non RCT
11	Marsiglia, Ayers, Han, & Weide, (2019); Marsiglia, Ayers, &	Moderate	Strong	Moderate	Weak	Weak	Moderate	Author: $\beta = n.r^a$ $\alpha = 0.05$ $d = 0.8$ for N(per group) = 180. Actual N (lowest group) = 184

Study	Citation(s) of articles	Selection Bias	Study Design	Confounders	Blinding	Data Collection Method	Withdrawals and Dropouts	Power analysis
	Kiehne, (2019); Marsiglia, Wu, Ayers, & Weide, (2019)							
12	Martinez Jr & Eddy, (2005)	Weak	Strong	Strong	Moderate	Strong	Strong	By reviewer: 7% power to detect difference between means $\alpha= 0.05$
13	Mason et al., (2016); Mason et al., (2015)	Moderate	Strong	Strong	Moderate	Moderate	Strong	By reviewer: 24% power to detect difference between means $\alpha= 0.05$
14	Molleda et al., (2017)	Moderate	Strong	Strong	Weak	Strong	Strong	Unable to be calculated
15	Nitsch, Hannon, Rickard, Houghton, & Sharry, (2015)	Moderate	Strong	Strong	Weak	Strong	Weak	By reviewer: 99% power to detect difference between means $\alpha= 0.05$
16	Ozturk, Moretti, Barone, & therapy, (2019)	Weak	Strong	Strong	Weak	Strong	Strong	By reviewer: 14.7% power to detect difference between means $\alpha= 0.05$
17	Pantin et al., (2003)	Weak	Strong	Strong	Weak	Strong	Strong	Unable to be calculated
18	Peek-Asa et al., (2014)	Weak	Strong	Strong	Weak	Strong	Strong	Author: 90% power detect 20% difference in scores N (per group) = 88. Actual N(lowest group) = 70.
19	Scull, Malik, Keefe, & Schoemann, (2019)	Moderate	Strong	Strong	Moderate	Strong	Strong	Author: $\beta = n.r^a$ $\alpha= 0.05$ $d = 0.3$ for N(total) = 328. Actual N (total) = 322
20	Stalker, Rose, Bacallao, & Smokowski, (2018)	Moderate	Moderate	Weak	Moderate	Strong	Weak	Not reported by author; non RCT
21	Tael-Oeren, Naughton, & Sutton, (2019)	Weak	Strong	Strong	Moderate	Weak	Weak	Unable to be calculated
22	Toumbourou & Gregg, (2002)	Moderate	Strong	Strong	Moderate	Strong	Weak	Unable to be calculated
23	Yap et al., (2019); Yap et al., (2018)	Moderate	Strong	Strong	Moderate	Strong	Moderate	Author: $\beta = n.r^a$ $\alpha= 0.05$ $d = 0.2$ power 80% for N(per group) = 147. Actual N (lowest group) = 158

^anot reported by authors

Effects on adolescent psychosocial outcomes

The sections above have provided an overview of the descriptive characteristics of the studies identified in this review and the programmes that have been evaluated by these studies. In addition, an analysis of the quality of the studies was found to be moderately strong apart from broad issues with sample bias and blinding. This section will now turn to exploring the nature of the effects of the parenting programmes for adolescents on adolescent internalising and externalising difficulties as well as risky behaviour. Each of these outcomes will be addressed in turn, discussing whether an effect on the outcome was present and if programme characteristics or the quality of the study had a bearing on this. If effects were found, the size of effects after recalculation are examined. As some studies evaluated internalising and externalising difficulties as one single construct, this is discussed first, after which each domain is discussed separately.

Combined and Internalising and Externalising Difficulties

Four studies used the Strengths and Difficulties Questionnaire [SDQ] total score as a dependant measure with Alfredsson et al. (2018); Burke et al. (2012); and Nitsch et al. (2015) employing parent reports and Chu et al. (2015) employing both parent report and adolescent self-report. This brief behavioural questionnaire combines subscales that include both internalising and externalising symptoms and behaviours.

Presence of an Effect. The studies evaluating ABCD Parenting (Burke et al., 2012), PAPP (Nitsch et al., 2015) and Teen Triple P (Chu et al., 2015) reported reductions in total parent-reported difficulties immediately post programme in contrast to a control group that showed a small increase in SDQ total score. The group x time interactions were statistically significant. However, for ABCD Parenting, this became non-significant when an intent to treat analysis was applied (Burke et al., 2012). Losing the effect when intent to treat analysis was applied indicates that programme effectiveness may be not as robust as first indicated, as

the intent to treat analysis is more likely to replicate what happens in the ‘real world’ as parents do drop out of programmes. Of the parents allocated to the programme group, 73% completed the programme. The other studies did not employ this statistical method.

Alfredsson et al. (2018) utilised the SDQ total score as the only dependant variable in their evaluation of three universal programmes: Active Parenting, Connect, and COPE in their single study. These programmes were already being offered in Sweden within the community, independent of the research team. Immediately after programme delivery, parents in the Active Parenting and Connect programmes reported significantly reduced adolescent total difficulties SDQ scores. At one-year post programme, further reductions were observed for Connect but these were non-significant. No changes from post programme to one year were observed for COPE or Active Parenting. Whilst not an RCT, this study had high external validity as it tested the programmes that were being delivered in the community, independent of the research team.

The studies evaluating ABCD Parenting and PAPP both had two areas that received weak ratings, but had two and three respectively strong ratings. Chu et al. (2015)’s study of Teen Triple P received no weak ratings (one of four studies to do so). In addition, the researchers utilised adolescent report as well as parent report of the SDQ, measured immediately post intervention as well as six months later. The researchers did not find statistically significant effects for adolescent report immediately post intervention. At six months the programme effects, as measured by parent report, increased (i.e., total difficulties scores continued to decrease). For adolescent report the trend for reduction in total difficulties score observed post programme continued and became statistically significant. For the control group, adolescent self-report of total difficulties increased above baseline after six months. This finding may point to a lag in the effect of behaviour change as reported by adolescents compared to parents.

Size of effect. Immediately post programme for parent report of total difficulties (completer analysis), the recalculated effect sizes of the programmes were medium ($d = 0.509$) (Teen Triple P; Chu et al., 2015) and large ($d = 1.011$) (PAPP; Nitsch et al., 2015). The standard deviations for completer analysis for total difficulties were not provided by Burke et al. (2012) for ABCD Parenting but full data was available for intent to treat. This resulted in a recalculated very small effect size of $d = 0.189$. For Teen Triple P whose study included 6 months follow up and adolescent report, effect sizes were recalculated for these data sets. The medium effect size for parent report was maintained ($d = 0.517$). For adolescent report of total difficulties at six months, the effect size was large ($d = 0.822$).

Summary. Tentatively, the evidence shows that programmes for parents of adolescents can result in reduced parent reported SDQ total difficulties scores when compared against control groups. The evidence is variable across the studies and programmes. The much smaller non-significant effect size for ABCD Parenting may be in part due the intent to treat analysis as the effect of the programme may be an underestimate of the effect of those who did not withdraw (McCoy, 2017). Retention was an issue for the study evaluating PAPP (Nitsch et al., 2015) and the high attrition may have contributed to an inflation of the effect size, especially as intent to treat analysis was not undertaken. The more robust study evaluating the Triple P programme (Chu et al., 2015) found an effect size between these extremes. For parent report of total difficulties, this was maintained over time and a stronger effect for adolescent report at the later time point was seen. Reductions in total scores was replicated in the community setting for two of the three programmes being evaluated, suggesting results from the RCTs may be generalisable to real world settings.

Internalising Difficulties

Ten of the 23 studies included measures of internalising difficulties, including broad measures of symptoms across specific disorders (Allen et al., 2013; Ozturk et al., 2019) or

emotional symptoms (Burke et al., 2012; Mason et al., 2016; Nitsch et al., 2015), self-harm and/or suicide risk/ideation, (Toumbourou & Gregg, 2002; Vidot et al., 2016), depression (Kehoe et al., 2014; Martinez & Eddy, 2005; Toumbourou & Gregg, 2002; Yap et al., 2018), and anxiety (Kehoe et al., 2014; Yap et al., 2018).

Presence of an effect. Five of the ten studies (ABCD Parenting; Burke et al., 2012; CSP; Mason et al., 2016; Connect; Ozturk et al., 2019; PACE; Toumbourou & Gregg, 2002; PiPP; Yap et al., 2018) reported limited or no programme effects for measures of internalising difficulties with an additional two only finding effects when subgroup analysis was employed (Nuestras Familias Andando Entre Culturas; Martinez & Eddy, 2005; Familias Unidas; Vidot et al., 2016).

Parents in the TINT (Kehoe et al., 2014) programme reported a reduction of adolescent depressive symptoms at 10 month follow up compared to the control group who reported their adolescents showed on average an increase in depressive scores. This was not replicated for adolescent self-report. However, subgroup analyses comparing parents in the programme and control group with elevated baseline anxiety scores revealed that adolescent self-report depression scores decreased for parents in TINT compared to an increase in scores for those in the control group (Kehoe et al., 2020). When examining anxiety, both self- and parent-report scores were significantly lowered in the TINT group 10 months after the programme compared to the control group whose scores increased (Kehoe et al., 2014). Findings from the PAPP programme showed a significant two-way interaction when including group assignment (intervention vs. control) and time (pre-intervention vs. post-intervention) factors to compare parent reported adolescent emotional problems post intervention (Nitsch et al., 2015). The emotional problems score for the intervention group decreased over time whereas this score remained the same for the control. Further analysis of

the intervention group only at 6 months demonstrated the reduction in score was maintained. Both these studies were strong in multiple quality rating domains.

The Padres Informados/Jóvenes Preparados programme (Allen et al., 2013) was written to address perceived disadvantages of existing curricula to prevent substance use of young Latinos, thus testing its effectiveness for this specific population. Allen and colleagues did not include a control group in their outcome evaluation. Immediately post programme, internalising scores were significantly lower compared to the scores at baseline. However, conclusions are limited as natural improvement over time could account for the findings.

Toumbourou and Gregg (2002) and Vidot et al. (2016), the only studies that measured self-harm and/or suicide risk, did not find a direct effect for these constructs, although Vidot et al. (2016) found that for families with low levels of baseline parent-adolescent communication, Familias Unidas reduced the number of suicide attempts. This was in comparison to no reduction of suicide attempts observed in the care as usual group, who received adolescent education in school, but their parents did not participate in Familias Unidas. Vidot et al. (2016) highlighted that this effect for the sub group was seen despite there being no component in the programme that referenced suicide. These findings do have to be treated with caution as one study did not report validity and reliability data regarding the measurement tools, resulting in a weak quality rating for data collection (Vidot et al., 2016) and one had a high attrition rate (Toumbourou & Gregg, 2002).

Similar to Familias Unidas, Nuestras Familias Andando Entre Culturas, was written for a specific cultural group (Martinez & Eddy, 2005). Effects were also only seen in subgroup analysis. When the sample was examined using country of birth as a factor, adolescents born in the United States whose parents participated in the intervention reported reduced depression scores which was not evident in the control group. From these results it

seems possible that parenting programmes are more likely to achieve a significant effect only in certain subgroups of families (possibly due to unexplored cultural factors) and this effect is missed when the whole group is analysed.

Results from the PiPP programme did not reveal any statically significant differences between programme and control group immediately post programme, with both groups demonstrating reductions in internalising difficulties as measured by both parent and adolescent report (Yap et al., 2018). At 12 months follow up scores were maintained with the exception of parent reports of adolescent depression for the control group, who reported an increase in depression symptoms. In addition to this study, three other studies reported no statistically significant differences between programme groups and control groups (Burke et al., 2012; Mason et al., 2016; Ozturk et al., 2019).

Possible explanations of a lack of statistically significant effects are floor effects, using an active control, and poor research quality. Scores of internalising difficulties at baseline were low for many studies, suggesting that floor effects may have contributed to some of the null findings. Whilst one study cited the use of an active control as a possible reason for a lack of effects (Yap et al., 2018), other studies without effects used a waitlist control. Of the five studies that did not show statistically significant results, two were under powered (Mason et al., 2016; Ozturk et al., 2019). Most studies had limitations regarding selection bias and blinding, which may lead to difficulties in detecting differences between groups as those that self-selected into the study but were allocated to the control group may be proactive parents who will seek support elsewhere.

A mixture of measurement strategies was employed with both parent and adolescent reports used in studies that did and did not find statistically significant effects. In addition, there was no consistent pattern of differences in regards to fidelity to programme, theoretical

basis for programme or content. These factors are unlikely to account for the relative lack of evidence that parenting programmes for parents of adolescents have a statistically significant impact on adolescent internalising difficulties in a universal sample. A more likely explanation is that whilst three programmes did have an effect on adolescent internalising difficulties, generally parenting programme for parents of adolescents are less effective for internalising difficulties, given that the five programmes that did not find statistically significant effects for this construct, did so for other domains such as externalising difficulties and risky behaviour as will be demonstrated below.

Size of effect. For the TINT (Kehoe et al., 2014) programme, the recalculated effect sizes were small for anxiety (parent report: $d = 0.215$; adolescent report: $d = 0.395$) and medium for depression (parent report: $d = 0.562$). For emotional symptoms as measured by Nitsch et al. (2015) for PAPP, the recalculated effect size was large ($d = 1.294$). The large effect size is comparable to the one obtained by the same authors for the same sample for combined internalising and externalising difficulties.

Summary. Overall, the current evidence does not support the efficacy of parenting programmes for parents of adolescents to address adolescent internalising difficulties. Two programmes (PAPP, Tuning into Teens) did appear to have an effect which appeared to be small/medium. A third programme had an effect, but the study lacked a control group. There appears to be no clear indicators why these programmes found an effect in contrast to the others that did not or found effects only in post hoc analyses.

Externalising Difficulties

Fifteen studies measured externalising difficulties, including broad measures, such as the Achenbach System of Empirically Based Assessment [ASEBA], SDQ, Eyberg Child Behaviour Inventory, or Problem Behaviour Checklist (Allen et al., 2013; Chu et al., 2015;

Cotter et al., 2013; Giannotta et al., 2013; Havighurst et al., 2015; Kulis et al., 2015; Martinez & Eddy, 2005; Ozturk et al., 2019; Pantin et al., 2003), along with conduct problems (Burke et al., 2012; Mason et al., 2016; Molleda et al., 2017; Nitsch et al., 2015), hyperactivity (Burke et al., 2012; Nitsch et al., 2015) and delinquent behaviour (Toumbourou & Gregg, 2002).

Presence of an effect. Thirteen studies reported statistically significant effects of reduced externalising difficulties for adolescents whose parents participated in the intervention and two studies (Connect; Giannotta et al., 2013; CSP; Mason et al., 2016) did not find an effect. Mason et al. (2016)'s study had good reporting and a sound method, as indicated by no weak ratings in the quality appraisal. However, a power calculation was not reported by the authors. The post hoc power calculation undertaken for this review indicated that it was underpowered (24%). The lack of effects for externalising difficulties mirrors that lack of effects for internalising difficulties in this programme, as reported above. Given the low statistical power to detect effects it is not possible to ascertain if the CSP programme is ineffective or if it is this methodological flaw.

Giannotta et al. (2013) evaluated Connect with no randomisation. No effect was found for behavioural problems. This study was conducted in Italy and Giannotta et al. (2013) reported that Italian parents are not accustomed to attending parenting programmes. It is possible the six-year gap between this study and the later RCT that found programme effects for externalising behaviour (Ozturk et al., 2019) could explain the discrepancy between results if attitudes to parent programmes had changed during this time. No other significant differences were found between the two studies.

The remaining studies all found an effect on externalising difficulties on at least one measure at one time point. The non-RCTs reported significant reductions in externalising

scores compared to baseline scores (Padres Informados/Jóvenes Preparados; Allen et al., 2013; Parenting Wisely; Cotter et al., 2013; Stalker et al., 2018; Parenting in 2 Worlds; Kulis et al., 2015;). Immediately post programme, results from the Familias Unidas (Molleda et al., 2017), Connect (Ozturk et al., 2019), PAPP (Nitsch et al., 2015), and Nuestras Familias Andando Entre Culturas (Martinez & Eddy, 2005) programmes showed a reduction of externalising symptoms for at least one measure, compared to the control group whose scores remained the same. All of these studies used parent reports. For the ABCD Parenting Young Adolescents (Burke et al., 2012) programme, there was a reduction in externalising difficulties reported for both groups, but these were significantly greater for the programme group. In the studies that measured hyperactivity, there was no significant reduction in these symptoms for participants in the programmes, but the same studies did find significant reductions on conduct problems (Burke et al., 2012; Nitsch et al., 2015). Burke et al. (2012) only found statistically significant effects when completer analysis was used, whereas the effects became non-significant in the intent to treat analysis, replicating the pattern seen in the combined measure scores reported above. For externalising difficulties, two other studies did use intent to treat analysis and found statistically significant reductions in externalising difficulty scores (Familias Unidas, Molleda et al., 2017; Connet, Ozturk et al., 2019). The quality of these studies evaluating externalising difficulties immediately post programme were good, with selection bias and blinding being weaknesses, but other areas were generally strong.

Five studies measured externalising difficulties at longer term follow ups beyond immediate post programme. Both parents and adolescents reported lower externalising difficulties at 10 months after parents participated in the TINT programme, but scores remained the same for the control group (Havighurst et al., 2015). For participants in the PACE study, Toumbourou and Gregg (2002) measured externalising symptoms at two time

points during the year with the programme being offered between these time points at schools allocated to the experimental group. Adolescent self-report from the control group indicated increased delinquent behaviour but there was a decrease in adolescent self-report of delinquent behaviour for those allocated to the PACE programme.

Adolescents whose parents attended the Teen Triple P programme (Chu et al., 2015) reported a reduction in externalising difficulties but scores were not significantly different to those of the control group, even though this group saw a slight increase in adolescent self-report scores. At six months follow up the same trend occurred and the difference between the two groups reached statistical significance. For Familias Unidas (Pantin et al., 2003), externalising difficulties (a composite measure based on both parent and self-report) reduced in a linear fashion over 12 months, whilst scores for the control group also reduced at three months but sharply increased at six months and then decreased, so at 12 months were at a similar level to those of the Familias Unidas group. The difference in scores at the six-month point drove the significant interaction of group x time. The authors commented that this difference at this particular time point is correlated with the long summer holidays, where many adolescents may have been unsupervised for large proportions of the day. Pantin et al. (2003) suggested that a potential sharp increase in behaviour problems during this time was ameliorated by the programme.

The studies of Chu et al. (2015); Havighurst et al. (2015); Pantin et al. (2003) were particularly robust with multiple strong ratings, reductions in externalising difficulties seen in both parents and adolescent reports and two used intent to treat analysis (Havighurst et al., 2015; Pantin et al., 2003). In addition to these robust studies, which had high internal validity, those evaluating Parenting Wisely also found reductions in externalising difficulties whilst maintaining high external validity. The research teams evaluating Parenting Wisely wanted parents to self-select into their preferred variant of the programme, as would be the case if

choosing to attend a parenting programme in the community. All variants of Parenting Wisely except the two-day parent only format resulted in reductions of parent reported violent and externalising behaviour as measured six months after programme completion (Stalker et al., 2018). Whilst this evaluation of Parenting Wisely found programme effects, a previous study found mixed results immediately post programme (Cotter et al., 2013). Differences in the Violent Behaviour Checklist (parent report) scores pre and post programme were not statistically significant for the parent only versions of Parenting Wisely. However, for the ASEBA measure of externalising problems, a reduction in parent reported scores from pre to post programme was observed in the five-week parenting group and this reduction was statistically significant. This effect was also observed for adolescent groups and these effects were not significantly different from the 5-week parenting group. The adolescent groups did report reductions in Violent Behaviour Checklist scores pre to post programme and these reductions were statistically significant. It may be that the longer-term follow-up is required to detect reductions in violent behaviour when a parent only format is used. The two-day parent format was significantly different from all other groups in that its effects were minimal.

Size of effect. Effect sizes for externalising difficulties based on broad measures only were recalculated to facilitate comparison across studies. For immediate post intervention effects, the studies with statically significant results resulted in small effect sizes of $d = 0.295$ (Connect, Ozturk et al., 2019) and $d = 0.391$ (Nuestras Familias Andando Entre Culturas, Martinez & Eddy, 2005). The effect size of adolescent report, six months post intervention was larger than these but still remained small ($d = 0.471$) (Teen Triple P, Chu et al., 2015). At ten months effect size for parent report was large ($d = 1.285$) but for adolescent report was small $d = (0.279)$ (Tuning into Teens, Havighurst et al., 2015). The variability in effect sizes across studies, measurement time points and informants for externalising difficulties echoes

what has been found for combined difficulties and internalising difficulties. Effect sizes were unable to be recalculated for the Familias Unidas study (Pantin et al., 2003) due to a lack of data reported.

Summary. The findings reported above indicate that parenting programmes for parents of adolescents reduced adolescent externalising difficulties. One study that did not support this was under powered (Mason et al., 2016), one was a non-randomised trial (Giannotta et al., 2013), and one became marginally statistically insignificant ($p = 0.062$) when intent to treat analysis was used (Burke et al., 2012). This may indicate a possible type 1 error in the results. However, four of the studies that established a reduction in adolescent externalising difficulties for the programme groups used intent to treat analysis (Havighurst et al., 2015; Molleda et al., 2017; Ozturk et al., 2019; Pantin et al., 2003) giving confidence the observed effect of parenting programmes is not a false positive. Most effect sizes were small. One larger effect size was observed for parent report only, and the very low mean score from parents ten months after the programme may be a result of reporter bias, given it is an outlier compared to the adolescent report and to other effect sizes (Havighurst et al., 2015). There was support for parenting programmes reducing adolescent externalising difficulties with the exception of hyperactivity, regardless of measurement used, programme theoretical foundation, programme content or sample characteristics.

Risky Behaviours

Eleven studies measured risky behaviour, which included substance use (illegal drugs, alcohol or tobacco) (Allen et al., 2013; Estrada et al., 2017; Estrada et al., 2015; Giannotta et al., 2013; Marsiglia, Ayers, Han, et al., 2019; Martinez & Eddy, 2005; Mason et al., 2016; Tael-Oeren et al., 2019; Toumbourou & Gregg, 2002), risky driving (Peek-Asa et al., 2014), and risky sexual behaviour (Estrada et al., 2017; Estrada et al., 2015; Scull et al., 2019).

Some of these programmes were specifically designed to address the risky behaviour being measured.

Presence of an effect. Steering Teens Safe (Peek-Asa et al., 2014) addressed adolescent risky driving by teaching parents communication strategies in order to motivate their adolescent to make safe driving choices. The programme resulted in a 21% lower mean score of the risky behaviour inventory six months post licensure compared to the control group. The study was rated weak for selection bias and blinding but strong in all other areas.

Media Aware Parent (Scull et al., 2019), a parent-education programme designed to ameliorate risky media and sexual behaviours by adolescents, had very mixed results across the multitude of measures employed. The authors wrote the programme based on research that parents continue to shape beliefs and behaviours regarding media use and adolescent sexual behaviour, but many parents do not have the confidence in their skills to communicate with their adolescents about these topics. The study utilised an active control with parents being directed to professionally produced information that mapped onto the topics of the programme. The magnitude of change in measures pre - to post - programme were compared between the programme group and the active control group. For adolescents whose parents participated in Media Aware Parent, there was a statistically significant larger decrease in willingness to hook up post programme, larger increase to seek medical help, and a larger increase in self-efficacy to use protection compared to adolescents whose parents were in the active control group. The magnitude of the change in score for self-efficacy to abstain, intention to have sex and willingness to have unprotected sex was not statistically significantly different between the programme group and control group. The control group may have received adequate information from the provided resources in relation to certain topics in order to effect a change in their adolescent's attitudes and behaviour. It may also be possible that floor and ceiling effects occurred as measures where effects were found had a

greater range of scores compared to those that did not find effects, as these scores clustered at one end of the scales at baseline. The study was one of the four studies in this review that had no weak ratings in terms of quality.

Two studies evaluating Familias Unidas also measured changes in risky sexual behaviour (Estrada et al., 2017; Estrada et al., 2015). Estrada et al. (2017) measured adolescent report of sex without a condom and found whilst both groups reported increases over time, this was statistically significantly higher for the control group. In contrast, a shortened version of Familias Unidas did not find statistically significant differences for inconsistent condom use over twenty-four months when using growth curve analysis (Estrada et al., 2015). Data was further analysed by examining age as a variable. Adolescents of parents in the intervention group who were under 15 years old reported reduced unsafe sex, whereas the control group reported increased unsafe sex practices. However, an intervention group effect did not occur for adolescents older than 15 years of age. It may be that age of the adolescent is an important factor as all adolescent participants in the Estrada et al. (2017) study and the Scull et al. (2019) study were under 15 years old. The studies for Familias Unidas had multiple strong and moderate ratings for quality but both were hampered by a lack of blinding.

Nine of the eleven studies measured the programmes effect on variables relating to adolescent substance use. Of these, two found programme effects on the purposely designed measure of general substance use (FPNG, Marsiglia, Ayers, Han, et al., 2019; PACE, Toumbourou & Gregg, 2002), three found mixed effects depending on what substance use was being measured (Familias Unidas, Estrada et al., 2017; Connect, Giannotta et al., 2013; Nuestras Familias Andando Entre Culturas, Martinez & Eddy, 2005), two found effects only with post hoc analysis (Familias Unidas, Estrada et al., 2015; Effekt, Tael-Oeren et al., 2019),

and two did not find any significant programme effects (Padres Informados/Jóvenes Preparados, Allen et al., 2013; CSP, Mason et al., 2016).

Adolescents who had never tried alcohol and whose parents participated in Effekt (Tael-Oeren et al., 2019), a programme designed to lower alcohol use in adolescents, increased their alcohol use over 30 months, as did the control group. However, parents who attended the programme had higher restrictive attitudes towards their teen's alcohol use compared to the control group at 18 months post intervention and at 30 months post intervention this predicted lower alcohol use by adolescents at 30 months. The Effekt programme set in Estonia (Tael-Oeren et al., 2019) appeared to be able to have an effect on attitudes but not directly on adolescent behaviour. The study was hampered by low participation rates, high attrition, and single item data collection tools, for which reliability data was not reported. It may be possible, given previous positive findings from similar programmes that include student participation, this programme is effective only in its combined variant.

A shortened version of Familias Unidas also did not find statistically significant differences for substance use over twenty-four months when using growth curve analysis (Estrada et al., 2015). Data was further analysed by examining potential gender differences. Compared to the control group, girls whose parents attended the programme had lower alcohol and substance use initiation. This effect was not present for boys. Fifty percent of the sample of adolescents in the Estonian study (Tael-Oeren et al., 2019) were female but analysis of gender effects was not reported. Given the influence of gender reported in earlier studies, this seems to be a conspicuous omission in this study.

A challenge for research addressing substance use is that the results may be sensitive to what and how substance use is measured. Estrada et al. (2015); Mason et al. (2016); Tael-

Oeren et al. (2019) all used adolescent self-report of past use, 90 days, past year and ever used respectively. Tael-Oeren et al. (2019) only asked about alcohol use, whereas the other studies asked about multiple substances, and then aggregated these measures into one dichotomous variable of used/not used. Studies that found mixed results were careful to separate the analyses according to type of substance. For example, Martinez and Eddy (2005) compared *Nuestras Familias Andando Entre Culturas* to a control group and also reported no significant results for marijuana use and other drugs. However, there was a small significant group x time interaction effect for likelihood of tobacco use. Adolescents whose parents attended the programme indicated they were less likely to use tobacco post-programme compared to their pre-programme responses. The control group indicated they were more likely to use tobacco at time two compared to time one. This study differed in its measurement as adolescents were asked the likelihood of using a substance if offered, as opposed to actual use during a past time period. Whilst the programme group's drug use remained stable; the control group's use increased. The authors used the same measurement tools as Estrada et al. (2015) but in the analysis separated alcohol use and illicit drug use. The non-significant reduction on alcohol use replicates the non-significant effect found by Tael-Oeren et al. (2019). The full version of *Familias Unidas* (Estrada et al., 2017) also resulted in a non-significant reduction on alcohol use but adolescents whose parents attended the programme had stable substance use over thirty months, compared to the control group whose substance use increased. For *Familias Unidas*, it may be that the omission of content and/or less practice time affected the efficacy of this programme when delivered in its shortened version (Estrada et al., 2015) compared to the results obtained when the full programme was evaluated.

Similar to *Familias Unidas*, *Families Preparing the New Generation [FPNG]* is based on ecodevelopment theory and focuses on a specific culture group in the United States

(Latino) in order to reduce adolescent substance use (Marsiglia, Ayers, Han, et al., 2019). Compared to the brief version of Familias Unidas (Estrada et al., 2015) and Effekt (Tael-Oeren et al., 2019), FPNG involved a greater number of parent sessions delivered weekly. Adolescents in the FPNG, FPNG combined with adolescent education, and control groups had an increase in substance use scores at four months but at eight months, follow up scores for the FPNG group reduced whilst the scores for the FPNG combined and control groups increased. At 20 months the probability an adolescent would use any substance was significantly higher in the control group compared to the programme groups, with the FPNG continuing to demonstrate reductions in scores, scores for the combined FPNG group reducing and the control group scores continuing to increase. This may suggest a sleeper effect for programmes, with a longer effect for the combined variant. Effects were seen for FPNG even when compared to an active control. On analysis of each substance, it appeared that alcohol and inhalant use drove the overall effect. The effect of the parenting programme on adolescent alcohol use is in contrast to Familias Unidas and Effekt. This study and all those discussed so far, with the exception of Common-Sense Parenting (Mason et al., 2016), were designed to address substance use of adolescents. Common Sense Parenting was a general parenting programme, as is Parenting Adolescents: A Creative Experience [PACE] (Toumbourou & Gregg, 2002). PACE resulted in stable substance use scores across the school year for the experimental group but these scores increased for the control group. However, for those who had never used at baseline, there was no significant difference in the odds ratios of substance use at twelve months. The study by Toumbourou and Gregg (2002) only had one weak quality rating, with high attrition.

Size of effect. Several studies did not provide enough data to recalculate effect sizes including Steering Teens Safe (Peek-Asa et al., 2014), Media Aware Parent (Scull et al., 2019), Familias Unidas (Estrada et al., 2017; Estrada et al., 2015) Parenting Adolescents: A

Creative Experience (Toumbourou & Gregg, 2002), and Families Preparing the New Generation (Marsiglia, Ayers, Han, et al., 2019). For *Nuestras Familias Andando Entre Culturas* the recalculated effect size of the effect of the parenting programme on adolescent tobacco use from pre programme to immediately post programme was medium ($d = 0.521$).

Author reported effect sizes were of similar values to externalising effect sizes, with the exception of *Familias Unidas*, where a larger effect size was reported in regards to risky sexual behaviour. However, given the heterogeneity of outcome measures used, how the effect sizes were calculated, and timeframes to which they were applied, it is difficult to draw conclusions and make comparisons in regards to the size of the effects of parenting programmes on adolescent risky behaviour.

Summary. The findings indicate that parenting programmes for parents of adolescents have a desirable effect on risky behaviour. Some programmes reduced risky behaviour whilst this behaviour increased in the control group (*Familias Unidas*, Estrada et al., 2015; *FPNG*, Marsiglia, Ayers, Han, et al., 2019; *Nuestras Familias Andando Entre Culturas*, Martinez & Eddy, 2005). Alternatively, for some programmes risky behaviour scores remained stable but scores in the control group increased (*Familias Unidas*, Estrada et al., 2017; *PACE*, Toumbourou & Gregg, 2002) or there were increases in risky behaviour in both the programme and control groups but this increase was significantly higher for the control group (*Familias Unidas*, Estrada et al., 2017; *Steering Teens Safe*, Peek-Asa et al., 2014). For one study there were reductions in risky behaviour in both groups, which was of a greater magnitude for the programme group (*Media Aware Parent*, Scull et al., 2019). Most effects reported by authors were small. Of the three studies that did not report significant effects, one was a non-RCT (Allen et al., 2013), one had multiple weak ratings (Tael-Oeren et al., 2019) and one was underpowered (Mason et al., 2016). These methodological issues

may account for the null findings, or it may be these particular programmes are not effective for adolescent risky behaviour.

Changes in alcohol use seemed to have the least support for programme effects, although substance use was not always affected by programme participation across studies. The primary focus of the programme being risky behaviour did not consistently result in reducing risky behaviour or ameliorate its increase. Neither participant characteristics nor the theoretical basis of the programme appeared to influence whether a programme had an effect on risk-taking.

Chapter 5: Discussion

Systematic reviews of interventions can provide evidence-based explorations of topics that may assist in establishing gold standards for delivery (Evans, 2003). In the literature there are gaps in knowledge regarding parenting programmes for parents of adolescents (Chu et al., 2015). It is important to understand what works for who, as a programme evaluated for one population, does not necessarily translate into it working for all populations (McCart et al., 2006). This systematic review sought to systematically examine and critically appraise the evidence base of universal parenting programmes for parents of adolescents in relation to adolescent psychosocial outcomes. To the best of my knowledge, this is first review to look at universal parenting programmes for adolescents where the programme does not include any active participation by the adolescent and includes analysis of not only adolescent risky behaviour, but other adolescent psychosocial outcomes. The primary objectives of this review were to (a) provide a narrative review of the research, (b) examine the quality of the research base to date, and (c) explore the nature of the effects of universal parenting programmes for parents of adolescents on adolescent internalising and externalising difficulties as well as risky behaviour. This last chapter will discuss the findings from this review in light of these objectives and consider the extent to which universal parenting programmes affect adolescent psychosocial outcomes and the magnitude of these effects. In addition, the nature of the programmes identified in the review will be discussed as well as the quality of the research that has been used to evaluate them. Finally, the limits of this review will be considered.

Do Universal Parenting Programmes Affect Adolescent Psychosocial Outcomes?

The findings indicate that universal parenting programmes for parents of adolescents can reduce adolescent difficulties and risky behaviour, but this is not uniform across all psychosocial outcomes or programmes.

Combined Internalising and Externalising Difficulties

When adolescent internalising and externalising difficulties are combined together into one overall behaviour index, the research indicated that in general parenting programmes for parents of adolescents are able ameliorate the challenges adolescents face. For five of the six programmes, at post intervention, adolescents whose parents attended a programme had lower scores on the total difficulties scale of the Strengths and Difficulties Questionnaire (Active Parenting, Connect, Alfredsson et al., 2018; ABCD Parenting, Burke et al., 2012; Teen Triple P, Chu et al., 2015; PAPP, Nitsch et al., 2015), and for the three RCTs this was significantly lower compared to waitlist and care as usual control groups. The three RCTs received multiple strong ratings in the quality ratings, with one (Chu et al., 2015) not rated as weak on any rating.

Internalising Difficulties

Focusing specifically on adolescent internalising difficulties, the efficacy of parenting programmes for parents of adolescents was not clearly demonstrated, with only two RCTs and one non-comparative trial reducing internalising difficulties without subgroup analysis (Padres Informados/Jóvenes Preparados, Allen et al., 2013; Tuning into Teens, Kehoe et al., 2014; PAPP, Nitsch et al., 2015). A contributory factor to the null results for the majority of programmes may be floor effects at baseline for internalising difficulties. Methodological limitations are unlikely to account for the lack of statistically significant effects as two studies reporting null findings did not have any weak quality ratings. The programme written specifically to address internalising difficulties found limited effects (PiPP, Yap et al., 2018), and it was two general parenting programmes, one based on social learning theory (Nitsch et al., 2015) and one based on attachment theory (Kehoe et al., 2014) that found statistically significant small to large effects.

The reduction in number of suicide attempts in the sub group of families with low levels of baseline parent-adolescent communication (Familias Unidas; Vidot et al., 2016) and reduced depression scores in adolescents who were born into a different culture to that of their parents (Nuestras Familias Andando Entre Culturas; Martinez & Eddy, 2005) may indicate that parenting programmes are more likely to reduce internalising difficulties in selected samples rather than universal samples. However, comparison of baseline scores of internalising difficulties between studies that did and did not demonstrate a reduction of internalising difficulties did not indicate studies that had positive results included more adolescents at baseline with higher levels of internalising difficulties.

There is support that selected parenting programmes are effective in reducing adolescent depression (Medlow et al., 2016), and parenting programmes for parents of younger children have been found to reduce internalising difficulties across universal and selected samples (Yap et al., 2016). In addition, for primary school aged children, programmes at the selective level are likely to be more effective than those at the universal level. Parenting factors have been found to account from 2% to 9% of the variance in internalising difficulties of children (Yap & Jorm, 2015). Other targets for intervention, such as a young person's own cognitions and behaviour may be better suited for universal samples, as demonstrated in the delivery in schools of such programmes as the FRIENDS programme (Johnstone et al., 2018). It may be that parenting programmes are not the right intervention at the universal level for adolescents in reducing internalising difficulties.

An additional consideration of programmes in addressing internalising difficulties is their timing. Epidemiological studies show the onset of depression and a peak in anxiety disorders are common during mid-late adolescence (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012). It may be that for parenting programmes to address internalising disorders, more research is needed into when in adolescence such programmes

should be delivered. One study (Familias Unidas; Estrada et al., 2015) revealed trajectories that included an adolescent “bump” in psychosocial outcomes, with programmes not affecting these outcomes at some time points, but then altering the trajectory so programme groups lowered their scores on adverse outcomes but control groups continued to increase their scores. In future research, a comparison of trajectories of adolescents when measuring internalising difficulties over a sustained period post programme may help tease out when effects are observed on these outcomes. In addition, it may be that internalising difficulties may be ameliorated through addressing other psychosocial outcomes. Many young people who experience externalising difficulties experience internalising difficulties and there is likely to be a complex interplay between them (McElroy, Shevlin, Murphy, & McBride, 2018). A recent cascade effect of the parenting programme Familias Unidas was found in a study that amalgamated results from four longitudinal trials that included universal and selected samples (Perrino et al., 2014). Improved parent-adolescent communication led to lower levels of externalising difficulties which in turn reduced internalising difficulties.

No unique characteristics of the programmes that did reduce internalising difficulties (PAPP, Tuning into Teens, Padres Informados/Jóvenes Preparados), compared to the programmes that did not have a statically significant effect were identified. Further trials of these programmes would establish if these specific programmes should be recommended at the universal level in reducing internalising difficulties.

Externalising Difficulties

In contrast, to internalising difficulties, there was robust evidence for a reduction in adolescent externalising difficulties after parents attended a programme. Nine out of ten RCTs reported decreases in externalising difficulties in the programme group and no change or increases in the waitlist and active control group, or reductions in both groups but the

change was greater for the programme group. Of these studies, two had multiple strong quality ratings and no weak ratings.

The more evident positive outcome of universal parenting programmes for parents of adolescents on externalising difficulties may be in part due to baseline scores of externalising difficulties not being limited by floor effects. Alternatively (or in addition) there may be a factor within the parenting programmes that explains the difference. Patterson (2005) proposed that externalising difficulties may be a continuation of past learned behaviours and coercion cycles that are maintained by parenting behaviour. Thus, a parenting programme based on addressing these types of interactions is likely to reduce externalising difficulties. The current review found that programmes were not consistently more or less effective depending on their theoretical base. However, nearly all programmes did have a component relating to the adolescent-parent relationship and/or communication. Thus, a possible underlying mechanism of all programmes is the encouragement to parents to examine their daily and moment to moment interactions with their adolescent, and consider how these can be optimised for outcomes that are beneficial for the whole family. This supports the argument of Fisher and Skowron (2017) that theoretical orientation of programmes matters less than concentrating on relationship skills and complements findings that parenting interventions derived from different distinct models can have general non-specific effects (O'Connor, Matias, Futh, Tantam, & Scott, 2013).

Risky behaviour

For adolescent risky behaviour, positive outcomes were found, in that adolescents whose parents attended a programme were less likely to initiate the risky behaviour, less likely to engage in the behaviour in the future, or reduced their existing engagement in the behaviour post intervention. This was seen in eight of nine RCTs across a number of behaviours including substance use, sexual risky behaviour, risky driving, alcohol use, and

smoking. Similar trends were seen for risky media use (Media Aware Parent; Scull et al., 2019) but these did not reach statistical significance. The study was suitably powered and differences were detected on measures of sexual risky behaviour for the same sample. The quality ratings of the RCTs across this group of studies were variable.

For some programmes, the risky behaviour scores remained stable but scores in the control group increased (Familias Unidas, Estrada et al., 2017; PACE, Toumbourou & Gregg, 2002) or there were increases in risky behaviour in both the programme and control groups but this increase was significantly higher for the control group (Familias Unidas, Estrada et al., 2017; Steering Teens Safe, Peek-Asa et al., 2014). Even though adolescent risky behaviour increased in the programme groups, the programmes may still be considered effective in that the magnitude of the increase was reduced. For example, Estrada et al. (2017) examined ability of Familias Unidas to reduce substance use as measured by the percentage of young people reporting their use. At baseline this was 3.2 - 4.9%, so maintaining this low percentage in the population could be considered successful. This was the effect of the programme as this remained stable for the programme group but increased in the control group. Thus, these programmes mitigated the magnitude of increase in adolescent risky behaviour.

Effect Sizes

The general finding in the literature that universal parenting programmes for parents of adolescents are able to have a positive effect on adolescent psychosocial outcomes needs to be balanced with the more challenging exploration of the nature of the effects. Both author reported and recalculated effect sizes were highly variable ranging from very small to large. This was true across all three of the adolescent psychosocial domains examined in this study. It is possible the large effect sizes may be outliers, compared to the others reported and recalculated. Small effect sizes would be expected given the small *n* numbers for the

individual studies, the distal outcome from the intervention (the programmes address parent behaviour to then influence the outcome of interest, adolescent psychosocial outcomes) and a population wide sample (Kraft, 2018). Interventions targeting universal samples tend to have smaller effect sizes due to selected or indicated samples being narrowed to those in the population who have the potential to benefit the most and there is less variation within these samples (Kraft, 2018).

Funder and Ozer (2019) propose large effect sizes should be treated with caution in psychological research and question the reliability of studies with relatively small sample sizes with large effect sizes. It is unlikely that the method used to recalculate the effect sizes somehow inflated them. The recalculated effect sizes for the PAPP programme (Nitsch et al., 2015) were consistent with those recalculated by Carr et al. (2017) for the same study. The PAPP study was rated as weak for withdrawals and drop outs, suggesting the possibility that this affected the final analysis of results. The other large effect size obtained from recalculation was parent report for externalising difficulties for the Tuning into Teens programme (Havighurst et al., 2015), for which the study had multiple strong ratings and no weak ratings. The adolescent report of externalising difficulties for this programme produced an effect size that was small. Small to medium effect sizes were common across the remaining four programmes (ABCD Parenting; Nuestras Familias: Andando Entre Culturas; Connect; Teen Triple P) for which there was data available for effect sizes to be recalculated. The effect size for ABCD Parenting was very small (Burke et al., 2012), and may be considered an outlier. This very small effect size may be due to the use of intent to treat analysis. In addition to Tuning into Teens, other programmes had varying effect sizes depending on the outcome being measured, for example Teen Triple P resulted in a small effect size for externalising behaviour but a medium effect size for SDQ total difficulties. The

study evaluating Teen Triple P, like Tuning into Teens, had multiple strong quality ratings and no weak ratings.

Comparing recalculated adolescent and parent reported effect sizes was difficult as only two studies were available for this comparison (Chu et al., 2015; Kehoe et al., 2014). Two recalculated effect sizes indicated a larger effect size was obtained from adolescent reports of internalising and combined internalising and externalising difficulties. However, this needs to be balanced with the fact parent reports were more likely to find statistically significant results than adolescent reports and, in this review, only effect sizes for statically significant results were recalculated and only where there was adequate data reported to do so. Author reported results indicated effects were more likely to be statistically significant if parent report was used. At longer follow ups beyond immediately post intervention, the number of statistically significant effects for adolescent reports increased. This may indicate a delay in the effect of the programme, so change experienced by adolescents takes time to be noted by the adolescent, whereas the parent can observe changes earlier as they may be expecting the changes to occur. Alternatively, the parent report may be subject to confirmation bias. The parent expects there to be change as they have attended the programme and are more likely to endorse that this change has occurred through their report on the measures. Instead “true” change may take time, with the parent report immediately post programme not reflecting this. No study used any independent measures such as observations, as will be discussed below in relation to the limitations of the research.

Whilst cautioning against any firm interpretation regarding effect sizes, it remains that many of the parenting programmes for parents found effects and these effects were not inconsequential. The delivery of a psychological intervention is likely to be one of many complex interdependent factors that contribute to change in psychosocial outcomes. Even if the true nature is that these programmes have small effects, such effects within an individual

can trigger a chain of changes in parenting and family life that can have cumulative effect (Funder & Ozer, 2019). Parenting programmes have also been found to improve parental psychosocial outcomes, and although the mechanism by which this occurs is currently unknown, it is possible that small improvements in adolescent behaviour may relieve stress for parents and in turn improve their parenting capacity (Barlow, Smailagic, Huband, Roloff, & Bennett, 2014).

The RCT of a particular programme within a universal sample may only produce a small effect both for individual families and for the study. However, if that programme is scaled up, offered regularly in multiple communities for a sustained time period, there is a potential for the small effect to multiply, resulting in a larger effect in epidemiological studies (Funder & Ozer, 2019). For example, a universal parenting programme such as TINT can have a small effect on internalising problems of adolescents, which means that if offered as part of care as usual within communities, there may be a significant drop in the prevalence rates of internalising problems in those communities (Chu et al., 2012; Yap et al., 2016). Evidence for this would require long term epidemiological studies that involve the implementation of universal parenting programmes. In addition, providers would want to have access to cost-effectiveness studies to justify the roll out of such programmes. Universal programmes can offer the best economic advantages, but only if they work (Chu et al., 2012).

The Programmes

The 23 studies evaluated 19 different programmes, indicating that in the research there is little replication of trials of programmes. The large number of programmes found in the review replicates the findings from other reviews which also found a high proportion of studies did not replicate previous programmes evaluations. For example, Hurley et al. (2019) identified 13 programmes across 17 studies, Newton et al. (2017) identified 10 programmes across 13 studies, and Vermeulen-Smit et al. (2015) identified 18 programmes across 22

studies. Chu et al., (2012) suggested that there are only a small number of programmes for parents of adolescents that produce positive outcomes, but the findings from this study and other systematic reviews seem to contradict this.

Theoretical basis and content

Despite there being a wide range of programmes in the literature, this review demonstrated that there were some commonalities in the content and delivery of the programmes. These common elements included the use of psychoeducation, group discussion, teaching and practicing positive parenting strategies, and content relating to the parent-adolescent relationship or parent-adolescent communication.

The research reviewed did not provide any discernible patterns in regards to whether variable programme factors such as theoretical orientation or content influenced the efficacy or effectiveness of the programmes. Whilst social learning theory was the predominant basis for the programmes, across the identified studies, eight different theoretical orientations were cited. Programmes with a social learning theory foundation have been cited as having the strongest evidence base (Campbell & Palm, 2018); however, this has not been found in the current review. Programmes based on social learning theory were found to have consistent positive effects on adolescent outcomes (Chu et al., 2015), mixed effects (Burke et al., 2012), or no effects (Mason et al., 2016). Equally, programmes based on other theories were also found to have consistent positive effects (Kehoe et al., 2014) and mixed effects (Estrada et al., 2017). The two programmes that found no effects on any of the measures employed in the studies evaluating them were COPE (Alfredsson et al., 2018) and CSP (Mason et al., 2016), both based on social learning theory. Both of these programmes differed from all other programmes in that the programme descriptions in the articles in this review do not mention content relating the parent-adolescent relationship. When detailing content, neither study describes parts of the programme that address how parent adolescent communication can be

improved nor how the parent-adolescent relationship can be maintained during a developmental period where the adolescent is striving for autonomy.

Only three studies reported that the programmes they evaluated had content related to adolescent development, although all the programmes involved psychoeducation.

Interestingly, the programme that was written based on research on adolescent development for the purpose of improving protective factors and reducing risk factors relating to internalising disorders did not significantly lower internalising problem scores compared to the control (Yap et al., 2018). As discussed above, reducing internalising difficulties might require delivery at a different development stage at the universal level, so the protective factors can be embedded before the onset of any internalising symptoms. Nearly all programmes included positive parenting in the content description and this programme was one of the few that did not. Perhaps having practical positive parenting skills is more important in a parenting programme for adolescents than learning about adolescent development. Whether it is this skill teaching, or another component that contributes to the efficacy of parenting programmes for adolescents is beyond the scope of the current review.

One review identified in Chapter Two examined unique components for programmes adapted for parents of ethno cultural groups (Ruiz-Casares et al., 2017). Through qualitative coding, these reviewers identified two key themes common to successful programmes: strengthening parent-adolescent communication and engagement with the community in programme adaptation. A quantitative component analysis of what contributes to positive parenting programme effects has been conducted for those directed at parents of children aged 0-7 years (Kaminski et al., 2008), however this has not been well addressed for parenting programmes for parents of adolescents. There is a need not only for broad types of programmes to be evaluated and compared, but also to ascertain what components within programmes are required for it to be successful.

In contrast to general adolescent development, specific developmental tasks are mentioned by many of the studies when describing the programmes. Two programmes described content relating to autonomy, with a further four mentioning monitoring which is balanced with autonomy granting. Two thirds of the programmes referenced content about risky behaviour, even if risky behaviour was not a primary focus or measured in the study. These key areas of adolescent development, especially in relation to how parenting may support adolescent positive outcomes, appear to be common across many programmes. Whether they are required for the programme to affect change is not possible to discern at this stage. However, two programmes that had no effects did not reference any adolescent development specific content (COPE; Alfredsson et al., 2018; CSP; Mason et al., 2016). In addition, none of the study authors referenced identity as a salient developmental task for adolescents in their programme description. This may be a reflection that parents do not see identity related issues as an urgent issue that needs to be addressed (a felt need) and most empirical research into identity focuses on how identity status has been related to other outcomes rather than the influences on its development (Arnett, 2014).

Conflict between parents and adolescents has been highlighted in the literature and by parents of adolescents as a common concern (D'Angelo & Omar, 2003; Ralph et al., 2003; Steinberg, 2010b). Only a quarter of the programmes reviewed here included conflict resolution in their descriptions, and a further quarter included problem solving which may relate to conflict. In addition, acceptance and understanding of your adolescent was mentioned by a quarter of programmes. This indicates that although there are a minority of parenting programmes that are meeting the needs and wishes of parents, a substantial number seem to be missing an opportunity to address common needs. With conflict affecting parents more than adolescents (D'Angelo & Omar, 2003), it may be expected that parenting

programmes also address parent well-being. This was only mentioned in relation to four programmes.

Most programmes were delivered in groups, and making connections with other parents of adolescents has been identified as a need by parents themselves (Thorslund et al., 2019). Of the two programmes that were delivered online, one was found to ameliorate adolescent risky behaviour (Scull et al., 2019), and one did not result in reductions of internalising difficulties significantly more than the control group (Yap et al., 2018). Both these studies had multiple strong quality appraisal ratings and no weak ratings.

Sample Characteristics

Sample homogeneity across studies included being recruited in Western affluent countries, parents being female, and the adolescents being below the age of 13 years old. The review did not identify any studies that focused on fathers or actively tried to recruit fathers. By not actively including fathers, a key member of the parenting system is omitted. Rather than being labelled parenting programmes, Ramchandani and Iles, (2014, p. 1213) proposed that such programmes should be labelled “mothering programmes” given that the vast majority of attendees are female. This bias towards mothers in parenting programmes is a problem across the spectrum of parenting programmes, not just those related to adolescents (Panter-Brick et al., 2014). A review of fathers’ participation in parenting programmes found that mothers are often the principal attendees by default, as seen in programmes such as Triple P (Panter-Brick et al., 2014). The reviewers advocate for a change in both the design of programmes and in how they are evaluated to remedy the situation.

The majority of parenting programmes were delivered to parents whose adolescents were in the first half of this developmental period. This may reflect that for many universal programmes, the aim was preventative rather than an intervention to ameliorate existing

difficulties. It also may reflect an assumption that the earlier a programme is delivered, the more efficacious it will be. This has been partially supported across the whole age range of dependants, birth to age 18 years old, with there being some evidence that programmes targeted when children are younger are more effective, at least when comparing those under 11 years of age with those older than 11 years of age (Bjerre et al., 2020). However, the mantra “the earlier the better” for parenting programmes has recently been questioned in a review of parenting programmes for children, with a new principle, “never too early, never too late” being proposed (Gardner et al., 2019). This principle would also fit the data found in this review, as the few programmes that delivered to parents of adolescents older than 13 years old, also demonstrated programme effects.

Whilst nearly all programmes operated in Western countries, there was representation of culturally diverse parents. Eight of the 19 programmes were written or adapted for a specific cultural population. It appears there is therefore some recognition in the field that parenting programmes need to be evidenced for particular populations, a principle proposed by Sanders and Kirby (2012). However, Ruiz-Casares et al. (2017) came to a different conclusion, suggesting there are few adapted programmes. They located 18 adapted programmes from 107 programmes for parents of adolescents (17%) as opposed to the 42% found in the current view. As the details of the 107 obtained studies are unavailable (Mónica Ruiz-Casares, personal communication, February 6th 2020), the difference in findings is not clear. However, it is likely that the large set was obtained due to inclusion criteria including a wider definition of parenting programmes, multiple outcomes (not just those relating to adolescents), and all levels of delivery (universal, indicated and selected). Similar to the findings of the review by Ruiz-Casares et al. (2017), most of the adapted programmes were aimed at Hispanic families living in the United States. In this specific review of parenting programmes for parents of adolescents that had been adapted for ethno-

culturally diverse families, an important theme identified in programme content was the importance of the parent-adolescent relationship. This was also found across all programmes in the current view, suggesting the potential for considerable cross-cultural relevancy in programmes for parents of adolescents regardless of the specific target population.

Quality of the Evidence Base

Well conducted RCTs are considered to be the gold standard for intervention research (Evans, 2003; Lonigan et al., 1998) and it is promising that of the 23 studies, 17 studies were RCTs. This indicates that the efficacy of the programmes can be confidently evaluated. However, whilst strong in internal validity when conducted well, RCTs can have limits when considering the effectiveness of a programme delivered under real world conditions. A strength of the literature reviewed here was that most of the RCTs were conducted in the community settings in which they would be delivered if not part of a research project. Many of these used facilitators who would also be employed into the role if the programme was not being researched. This indicates that there can be some generalisability of the results obtained in the controlled studies, and therefore results may be transferrable to what will be delivered day to day in the community. Three non-randomised studies had high external validity, allowing parents to choose the programme or variant (Alfredsson et al., 2018; Cotter et al., 2013; Stalker et al., 2018) and their results on the whole mirrored those found in more controlled studies.

The systematic quality appraisal using the EPHPP Quality Assessment tool (Evans et al., 2015) identified some weaknesses in the methods in the studies reviewed. This may indicate a lack of clear reporting or there was a lack of rigour in the study itself. Selection bias and blinding were areas commonly found to be weak. Blinding participants and researchers can be difficult in trials of parenting programmes but it is not insurmountable. There needs to be greater reporting of what participants are told in regards to the research

question and if data analysis is conducted by a researcher blind to participant allocation to a group. By ensuring analysts and participants are blind to the research question, and then reporting this, will improve the quality of future parenting programme trials.

Selection was most often self-selection by parents in response to school or community advertising of the programme. It is unlikely that the trials recruited from the full population of parents of adolescents. This may have biased the results as the parents were likely to have been highly motivated, willing to engage in the programme, and reported change in order to support the implementation of the programme. However, self-selection into a programme delivered at a universal level is also likely to be close to the real-world delivery of such programmes. Unless the parenting programme is mandated for all parents of adolescents, the programme will attract parents who are motivated and willing to engage. Thus, this limitation for the internal reliability of the studies may serve to assist the external validity of the findings.

Only using one informant hampered most studies. No study utilised an objective measure of adolescent psychosocial outcomes, or multiple forms of measures assessing the same outcomes to triangulate data. A small number of studies used parent and adolescent report to measure the same constructs, with most using parent report only. Discrepancies between informants of psychosocial constructs are not necessarily an indication of invalidity of one or the other (Van Roy, Groholt, Heyerdahl, & Clench-Aas, 2010) but they are problematic when deciding what measure to use to evidence that a programme is effective. For example, in the highest quality study that examined adolescent internalising difficulties, Kehoe et al. (2014) utilised both parent and adolescent report and both measures yielded a small effect size for anxiety. In the same study however, for the measure of depression, only parent report was significant which leaves some ambiguity of whether depressive symptoms were significantly reduced or not. It is for this reason that more measurements should be

taken to be confident that a “true” reduction of internalising difficulties has taken place after parent participation in the programme. Examples for depression and anxiety could be mood diaries in addition to the psychometrics administered or structured clinical interviews. In studies where adolescent report only was used this was in reference to risky behaviour. It is likely that a more reliable estimation of risky behaviour would be given by the adolescent rather than the parent. However some more objective measures could be employed, for example number of car accidents or interactions with law enforcement regarding underage alcohol use or illegal substance use.

One difficulty in reviewing the research was that there was great variability in how effects for the same constructs were measured, whether effect sizes were reported, what effect sizes were calculated by authors, the methods they used to calculate them, and providing data so effect sizes could be recalculated. Without a standard measure of a construct or method of calculating the effect, it is very difficult to make comparisons between studies. This variance precludes any meta-analysis, although this was not an objective of this review. The inability to be able to conduct robust meta-analyses has been found in other reviews for programmes for parents of adolescents (de Vicente et al., 2017; Foxcroft & Tsertsvadze, 2011; Vermeulen-Smit et al., 2015). For externalising difficulties, this review elected to only recalculate effect sizes related to broad measures so sizes could be compared. This reduced the number of eligible effect sizes by half. In addition, one of these effect sizes could not be recalculated due to unreported data.

For adolescent risky behaviour, six of the seven studies for which the effect size was to be recalculated did not report sufficient data to do so. Whilst there is a pressure for journal articles to be succinct, this needs to be balanced with providing readers with comprehensive data pertinent to the study. The use of supplementary data available online is one solution. Future researchers should ensure clear reporting of effect sizes and the methods by which

they are calculated. It was not always easy to ascertain if the Cohens d reported in the study related to within group change, between groups at post-programme, or between groups change scores (pre to post programme). In addition, to aid reviewers, authors should report descriptive statistics of outcomes, such as means and standard deviations so independent analysis can be carried out. Researchers should use the CONSORT guidelines for the reporting of RCTs to ensure all relevant data is available (Moher et al., 2012).

While these methodological concerns may affect the findings of individual studies and the findings of this review, an overarching limitation is a lack of unity and replication within the field. This review found few patterns and comparisons of particular constructs such as substance use or externalising difficulties was difficult due to the heterogeneity of the assessment tools used to measure these constructs. With only three programmes (Familias Unidas, Connect, and Parenting Wisely) being evaluated more than once for adolescent psychosocial outcomes, no other programme can meet the APA task force criteria for a well-established or probably efficacious intervention (Lonigan et al., 1998). For the three programmes evaluated more than once, there were methodological flaws in the studies such as lack of control group (Alfredsson et al., 2018; Cotter et al., 2013) and being non-randomised (Giannotta et al., 2013; Stalker et al., 2018). For Familias Unidas different outcomes were assessed in different studies, and one study evaluated a shortened version of the programme (Estrada et al., 2015) indicating these subsequent studies were not direct replications. There does not appear to be a sense that studies have built on from each other to establish a coherent evidence base for particular parenting programmes for parents of adolescents. A clearer narrative is seen in the programmes that have been developed from programmes aimed at parents of younger children, and the adolescent version sits in the suite of these. However, those developed within these suites have only been evaluated once for

adolescent outcomes from universal samples, thus a “well evidenced” suite does not necessarily equate to a well evidenced version for a given population.

Thus, when choosing a parenting programme, providers need to be careful they chose one that has evidence for the population at which the programme is aimed. For those that found statistically significant effects, currently there does not appear to be a parenting programme for parents of adolescents that has a greater evidence base than any other. There is a strong need for findings from studies so far to be replicated in new samples and then reviewers in the future may be able to start to assess if particular programmes are more beneficial than others. The fact this review found programmes for parents of adolescents to on the whole be efficacious is promising; now the research needs to build from these findings as the research has done for parenting programmes for parents of younger children. This evidence base is larger for particular programmes which can be confidently recommended as seen in reviews for programmes such as Triple P (Sanders, Kirby, Tellegen, & Day, 2014) and Parent Plus (Carr et al., 2017).

Going forward researchers should continue to evaluate existing universal parenting programmes with different populations for effects on adolescent outcomes. This will aid replication and establish what works for who. Sanders and Calam (2012) advocate that each country should develop their own evidence base to ensure a programme works for the community for which it serves. This review included 19 different programmes, which had been evaluated in universal samples using a measure of adolescent psychosocial outcomes. These outcomes were related to problem behaviour. It is likely these programmes and additional programmes have been evaluated using different levels of intervention and different outcomes such as parenting behaviours or positive youth development. However, if the ultimate goal is to alter adolescent trajectories so they do not experience poor outcomes, and a full public health reach is to be obtained, programmes need to be chosen with these

specific parameters in mind. Those planning interventions can only effectively do this with a comprehensive research base that includes multiple studies evaluating the same programmes. In the real world, many of the programmes reviewed here are running for parents of adolescents. This is both programmes that found effects in this review and those that did not. Most are currently adapting to online delivery due to the ongoing covid-19 pandemic. Given only two programmes were researched using online versions, it is important research is ongoing for all programmes to check outcomes found from face-to-face delivery are replicated in online versions.

What This Review Adds to the Literature

The findings of this review are a useful addition to the evidence base that supports the use of parenting programmes. This review complements previous reviews that have found parenting programmes for parents of adolescents are effective at a selective level (Medlow et al., 2016) and effective for risky behaviours (Curry et al., 2015; Kuntsche & Kuntsche, 2016; Ruiz-Casares et al., 2017). Parenting programmes have found to be efficacious on a range of outcomes for younger children (Gardner et al., 2016; Sanders & Calam, 2012; Tully & Hunt, 2016). This review extends that evidence in that structured parenting programmes can be effective in addressing adolescent externalising difficulties and risky behaviour at the universal level. As all the programmes in this review only had contact with parents (no adolescent sessions were included in any of the programmes in the studies), this also lends support that parenting behaviour has an effect on adolescent psychosocial outcomes as changes were seen in adolescents whose parents received psychoeducation and acquired parenting skills as opposed to the control groups. It can be tentatively inferred that changes in parenting behaviour learned on the programmes cascaded to the home environment resulting in changes in problem outcomes for adolescents.

The possible models of mechanism of change due to parenting programmes proposed by Sandler et al. (2011), as detailed in the Introduction (Chapter Two; Figure 1), suggests that parenting programmes can affect problem outcomes through changes in parenting behaviour, changes in adolescent behaviour, or changes in how youth act on the environment. In all three models, the ultimate goal is to ameliorate adolescent problem outcomes. The findings from this review have demonstrated that parenting programmes for parents of adolescents have the ability to affect those changes in adolescent psychosocial problems as reported by adolescents themselves. Assessing which model best fits the data is beyond the scope of this review, although it is a future direction that warrants further investigation. However, where studies have not found immediate post programme effects on an adolescent outcome, it may be that they are still affecting change earlier in the process, as per one of the three models, and this takes time for it to be experienced by the adolescent or seen by the parents. How much time should be given to a programme before it is deemed to not be effective on an adolescent outcome is an interesting question. Flay et al. (2005) suggests the minimal follow up period for testing the efficacy of interventions is six months. Some studies in the review that did not find effects (but may still be in the process of bringing about change) measured adolescent outcomes at one year (Yap et al., 2019) and two year follow up (Mason et al., 2016). If change has not occurred despite these long-term follow ups, it is questionable as to whether they can be still considered as potentially effective. It is possible that any one of the three models is also subject to the timing of the intervention, so the ultimate goal of changes in adolescent problem outcomes is only achieved if the parenting programme delivered at the beginning of the process is done at a key time in adolescent development.

Limits of this review

The current review has some limitations. Whilst articles needing to be peer reviewed was not an inclusion criterion, there was no active search of the grey literature. This resulted

in only peer-review articles being identified. This may have resulted in a publication bias. The review's findings may therefore be limited due to the "file drawer" phenomena, where it is believed that research that demonstrates statistically significant effects is more likely to be published than those that do not (Rosenthal, 1979). The inclusion of Google Scholar in database searches can result in the inclusion of grey literature if results up to 300 citations are included (Haddaway, Collins, Coughlin, & Kirk, 2015). The current review included up to 200 citations in its export from Google Scholar. The current search method was unlikely to be comprehensive enough to include sufficient grey literature in order to be confident in its inclusion. Google Scholar should complement, rather than replace, any formal searching of grey literature databases (Haddaway et al., 2015).

To mitigate some areas of bias, the current review included an endorsement of search terms and method by a subject librarian and asked another researcher to rate a selection of the studies using the selected quality appraisal tool so reliability of this could be ascertained. However, it is recognised that the preferred method for undertaking systematic reviews is to have a research team rather than a sole researcher (Higgins & Cochrane, 2019). This would further reduce bias within the current review. In order to fulfil the criteria for this review to form part of a Master of Science degree, this was not possible.

Potentially informative studies may have been excluded from the current review due to the search parameters utilised. The review included only articles available in English and applied a strict definition of a parenting programme. This review sought to ascertain programme effects that can be attributed to an intervention that is only delivered to parents. This meant programmes that included adolescents actively taking part for just one joint session were excluded. Examples include alternative versions of Common-Sense Parenting (Fleming et al., 2015) and The Strong African Americans Program (Brody et al., 2006). Other reviews have had more lenient criteria; for example, including a programme if it had an

element of parent training (Hurley et al., 2019) or 50% of programme delivery was aimed at parents only (Vermeulen-Smit et al., 2015). Future work would benefit from comparing parent programmes which include adolescent participation with programmes that only include parents. This would complement this review by providing evidence or not of any additional benefits of including the adolescent in parenting programmes.

Final Conclusions

Parents are challenged with guiding their adolescent through a time of great change, and this can require new skills or adaptations to existing parenting behaviours. While adolescents experience great biological, psychological and social change, parents need to support their adolescent and balance the needs of the entire family unit. Universal parenting programmes for parents of adolescents may assist parents with this task.

The results from this systematic review suggest that universal parenting programmes for parents of adolescents can result in at least small statistically significant reductions or mitigations in increases of adolescent externalising difficulties and risky behaviour. The findings indicate that these programmes have limited benefits for adolescent internalising difficulties. This indicates they have a role in a comprehensive public health approach and can meet the World Health Organisation's recommendation to prevent problems with an adolescent onset (World Health Organisation, 2011). For both internalising and externalising difficulties as well as adolescent risky behaviour, a single programme will not address all the risk and protective factors (Smokowski et al., 2018). However, evidenced parenting programmes can form an important component of a multifaceted approach. Parents, present in adolescent's microsystem, are a crucial part of any intervention as they represent the everyday support a young person receives (Bjerre et al., 2020). A universal parenting programme intervention is therefore one component that may contribute to addressing the risks to adolescents.

Whilst many of the studies in the review were deemed to have adequate quality to make this assertion, the conclusion can only be tentative given the heterogeneity in the literature both in regards to programmes, outcomes measured, and measures used. In addition, it is less clear from the literature reviewed what programme should be selected for who and for what objective. The challenge for programme providers is to be able to choose which programme, and for which population, that has a solid evidence base supporting it. The challenge for researchers is to gather this evidence through replication trials and well conducted and reported studies in order to grow the evidence base. Future reviews will then be able to conduct meta-analyses and start to investigate not only what programmes are most effective, but what components. This will aid provision and ultimately serve adolescents and their families by establishing best practice for parenting programmes for parents of adolescents.

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*indicates articles included in the systematic review

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Appendix A

Outline of Database Searches

Database: Ovid MEDLINE(R) <January 1, 2000 to June 5, 2020>

Search Strategy:

- 1 adolesc* or teen* or youth or young person.ti,ab,kf
- 2 parent or parents or parenting or mother* or father.ti,ab
- 3 program*.ti,ab
- 4 2 and 3
- 5 1 and 4
- 6 universal or prevent*.mp
- 7 5 and 6
- 8 efficacy or effective* or outcome*.ti.ab.kf
- 9 7 and 8

This yielded 1325 results for export.

Database: EBSCO Psychinfo <2000 to 2020>

Search Strategy:

- 1 adolesc* or teen* or youth or young person.ab
- 2 parent or parents or parenting or mother* or father.ab
- 3 program*.ti,ab
- 4 2 and 3
- 5 1 and 4
- 6 universal or prevent*
- 7 5 and 6
- 8 efficacy or effective* or outcome*.ab
- 9 7 and 8

This yielded 1628 results for export.

Database: The Cochrane Library <January 2000 to June 2020>

Search Strategy:

- 1 adolesc* or teen* or youth or young person.ti,ab,kf
- 2 parent or parents or parenting or mother* or father.ti,ab.kf
- 3 program*.ti,ab.kf
- 4 2 and 3
- 5 1 and 4
- 6 universal or prevent*.ti.ab.kf
- 7 5 and 6
- 8 efficacy or effective* or outcome*.ti.ab.kf
- 9 7 and 8

This yielded 1353 results for export.

Database: Elsevier Scopus <Limit 2000 to 2020>

Search Strategy:

- 1 adolesc* or teen* or youth or young person.ti,ab,kf
- 2 parent or parents or parenting or mother* or father.ti,ab,kf
- 3 program*.ti,ab,kf
- 4 2 and 3
- 5 1 and 4
- 6 universal or prevent*.ti,ab,kf
- 7 5 and 6
- 8 efficacy or effective* or outcome*.ti,ab,kf
- 9 7 and 8

This yielded 1325 results for export.

Database: Ovid Embase <Limit: 2000 to 2020>

Search Strategy:

- 1 adolesc* or teen* or youth or young person.ti,ab
- 2 parent or parents or parenting or mother* or father.ti,ab
- 3 program*.ti,ab
- 4 2 and 3
- 5 1 and 4
- 6 universal or prevent*.mp
- 7 5 and 6
- 8 efficacy or effective* or outcome*.ti,ab
- 9 7 and 8

This yielded 1751 results for export.

Database: EBSCO CINAHL <January 1, 2000 to June 5, 2020>

Search Strategy:

- 1 adolesc* or teen* or youth or young person
- 2 parent or parents or parenting or mother* or father
- 3 program*
- 4 2 and 3
- 5 1 and 4
- 6 universal or prevent*
- 7 5 and 6
- 8 efficacy or effective* or outcome*
- 9 7 and 8

This yielded 1325 results for export.

Database: Google Scholar

adolescent OR teen OR youth OR young person AND parent OR parents OR parenting OR mother OR father AND program OR programme AND universal AND efficacy OR effective OR outcome

Limit: 2000 onwards

This yielded 17600 results, of which the first 200 were exported.

Appendix B

Relevant Reviews

The search identified the following reviews which I deemed relevant. They were hand searched for additional studies that met the criteria for inclusion in this review.

de Vicente, M. V., Brage, L. B., del Carmen Orte Socías, M., & Amer Fernández, J. A. (2017). Meta-analysis of family-based selective prevention programs for drug consumption in adolescence. *Psicothema*, *29*(3), 299-305.

Foxcroft, D. R., & Tsertsvadze, A. (2011). Universal family-based prevention programs for alcohol misuse in young people. *The Cochrane Database of Systematic Reviews*, *9*, CD009308. doi:<https://dx.doi.org/10.1002/14651858.CD009308>

Gavin, L. E., Williams, J. R., Rivera, M. I., & Lachance, C. R. (2015). Programs to strengthen parent–adolescent communication about reproductive health: A systematic review. *American Journal of Preventive Medicine*, *49*(2), S65-S72.

Gilligan, C., Wolfenden, L., Foxcroft, D. R., Williams, A. J., Kingsland, M., Hodder, R. K., . . . Wiggers, J. (2019). Family-based prevention programmes for alcohol use in young people. *Cochrane Database of Systematic Reviews*, *3*, CD012287. doi:<http://dx.doi.org/10.1002/14651858.CD012287.pub2>

Hansen, A., Broomfield, G., & Yap, M. B. H. (2019). A systematic review of technology-assisted parenting programs for mental health problems in youth aged 0–18 years: Applicability to underserved Australian communities. *Australian Journal of Psychology*, *71*(4) doi:10.1111/ajpy.12250

Hurley, E., Dietrich, T., & Rundle-Thiele, S. (2019). A systematic review of parent-based programs to prevent or reduce alcohol consumption in adolescents. *BMC Public Health*, *19*(1), 1451. doi:<https://dx.doi.org/10.1186/s12889-019-7733-x>

Jackson, C., Geddes, R., Haw, S., & Frank, J. (2012). Interventions to prevent substance use and risky sexual behaviour in young people: A systematic review. *Addiction*, *107*(4), 733-747. doi:10.1111/j.1360-0443.2011.03751.x

Kaminski, J. W., Valle, L. A., Filene, J. H., & Boyle, C. L. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology*, *36*(4), 567-589.

Kuntsche, S., & Kuntsche, E. (2016). Parent-based interventions for preventing or reducing adolescent substance use—A systematic literature review. *Clinical Psychology Review*, *45*, 89-101. doi:10.1016/j.cpr.2016.02.004

Ladis, B. A., Macgowan, M., Thomlison, B., Huang, H., Fava, N. M., Trucco, E. M., & Martinez, M. J. (2019). Parent-focused preventive interventions for youth substance use and problem behaviors: A systematic review. *Research on Social Work Practice*, *29*(4), 420-442. doi:10.1177/1049731517753686

- Medlow, S., Klineberg, E., Jarrett, C., & Steinbeck, K. (2016). A systematic review of community-based parenting interventions for adolescents with challenging behaviours. *Journal of Adolescence*, *52*, 60-71. doi:10.1016/j.adolescence.2016.07.003
- Meiklejohn, S., Ryan, L., & Palermo, C. (2016). A systematic review of the impact of multi-strategy nutrition education programs on health and nutrition of adolescents. *Journal of Nutrition Education and Behavior*, *48*(9), 631-646. doi:10.1016/j.jneb.2016.07.015
- Newton, N. C., Champion, K. E., Slade, T., Chapman, C., Stapinski, L., Koning, I., . . . Teesson, M. (2017). A systematic review of combined student- and parent-based programs to prevent alcohol and other drug use among adolescents. *Drug and Alcohol Review*, *36*(3), 337-351. doi:10.1111/dar.12497
- Petrie, J., Bunn, F., & Byrne, G. (2007). Parenting programmes for preventing tobacco, alcohol or drugs misuse in children <18: A systematic review. *Health Education Research*, *22*(2), 177-191.
- Ruiz-Casares, M., Drummond, J. D., Beeman, I., & Lach, L. M. (2017). Parenting for the promotion of adolescent mental health: A scoping review of programmes targeting ethnoculturally diverse families. *Health & Social Care in the Community*, *25*(2), 743-757. doi:10.1111/hsc.12364
- Sandler, Schoenfelder, Wolchik, & MacKinnon. (2011). Long-term impact of prevention programs to promote effective parenting: Lasting effects but uncertain processes. *Annual Review of Psychology*, *62*, 299-329. doi:10.1146/annurev.psych.121208.131619
- Santa Maria, D., Markham, C., Bluethmann, S., & Mullen, P. D. (2015). Parent-based adolescent sexual health interventions and effect on communication outcomes: A systematic review and meta-analyses. *Perspectives on Sexual and Reproductive Health*, *47*(1), 37-50. doi:10.1363/47e2415
- Thomas, R. E., Baker, P., & Lorenzetti, D. (2007). Family-based programmes for preventing smoking by children and adolescents. *The Cochrane Database of Systematic Reviews*, *1*, CD004493.
- Torok, M., Calear, A. L., Smart, A., Nicolopoulos, A., & Wong, Q. (2019). Preventing adolescent suicide: A systematic review of the effectiveness and change mechanisms of suicide prevention gatekeeping training programs for teachers and parents. *Journal of Adolescence*, *73*, 100-112. doi:https://dx.doi.org/10.1016/j.adolescence.2019.04.005
- Van Ryzin, M. J., Roseth, C. J., Fosco, G. M., Lee, Y. K., & Chen, I. C. (2016). A component-centred meta-analysis of family-based prevention programs for adolescent substance use. *Clinical Psychology Review*, *45*, 72-80. doi:http://dx.doi.org/10.1016/j.cpr.2016.
- Vermeulen-Smit, E., Verdurmen, J. E. E., & Engels, R. C. M. E. (2015). The effectiveness of family Interventions in preventing adolescent illicit drug use: A systematic review and meta-analysis of randomized controlled trials. *Clinical Child and Family Psychology Review*, *18*(3), 218-239. doi:https://dx.doi.org/10.1007/s10567-015-0185-7.

Yap, M. B., Cheong, T. W., Zaravinos-Tsakos, F., Lubman, D. I., & Jorm, A. F. (2017). Modifiable parenting factors associated with adolescent alcohol misuse: A systematic review and meta-analysis of longitudinal studies. *Journal of Adolescence*, *112*(7), 1142-1162.

Appendix C

Data Extraction Form

This form is based on a version used for the Guide to Community Preventative Services: Systematic Reviews and Evidence-based Recommendations [the Guide] (Zaza et al., 2000).

Data Extraction Form.

Intervention title: _____

Citation: _____

Published Article? YES NO If no, state source: _____

Aim of study and H₁

Email sent for more information?

Reply received?

Follow up email sent?

Study design:

- | | |
|---|--|
| <input type="radio"/> Randomised Control Trial
<input type="radio"/> Individual
<input type="radio"/> Group
<input type="radio"/> Non-randomised trial with more than one comparison group | <input type="radio"/> Non comparative study
<input type="radio"/> Other _____ |
|---|--|

Intervention components:

- | | |
|--|---|
| <input type="radio"/> Psychoeducation
<input type="radio"/> Skills teaching
<input type="radio"/> Observation
<input type="radio"/> Discussion
<input type="radio"/> Practice
<input type="radio"/> Roleplay adolescent present
<input type="radio"/> Feedback | <input type="radio"/> Homework
<input type="radio"/> Generalisation
<input type="radio"/> Maintenance
<input type="radio"/> Problem solving use of taught material
<input type="radio"/> Out of session support (describe) _____
Other _____ |
|--|---|

Format of delivery:

- Group (give size and number e.g., 5 groups of 3-12 Pp) _____
- Individual
- Computer

Place of delivery:

Community School Own home Clinics Other _____

Location

Characteristics of location e.g., rural/low SES

Number length and frequency of sessions:

Number, length and frequency of support sessions:

Type of organisation that delivered:

Who delivered? position/experience/training/how assigned?

Intervention content: (select and describe)

- Parent/adolescent relationship
 - Monitoring
 - Positive parenting strategies
 - Risky behaviour
 - Autonomy
 - Independence
 - Development
 - Other _____
-

Description of how it was delivered/content/page reference to sessions

Fidelity measured? YES NO

Theory described? YES NO

Comparison

- None
- No intervention for comparison
- Intervention applied to comparison

Conflicts of interest declared

Participant characteristics

	Parents	Adolescents
Age range and mean		
Gender		
SES		
Ethnicity		
Education		
Employment		
Marital status		

Eligibility criteria for Pp inclusion

Recruitment and screening procedure:

Incentive? YES NO

Allocation and N

Number eligible: _____

	Intervention	Control if applicable	Completion rate: number analysed/number allocated x 100
Allocated to group T1*			
Received intervention			
T2			
T3			

* Code: E= from entire eligible population, C= convenience/self-selected NR Not reported
NA not applicable

Attendance rates measured? Yes NO

Analysis of completers/non completers YES NO

Differences:

Pre intervention differences between groups? YES NO

Describe what and how controlled for

Primary Outcome Measures (Adolescent)

Outcome construct	Measurement tool	Subscales reported	Reliability and Validity	Informant

Other outcome measures (list with page references)

Independent variable (if not group) _____

Time period and intervals outcomes measured?

Missing data: described and accounted for:

Results (include reliable and clinically significant change if reported as well as raw scores)

Measure (each outcome must be noted): _____

	Pre (T1) mean (std)	Post (T2) mean (std)	(T3) mean (std)	Analysis statistic; analysis used	P value	Reported effect size (d unless otherwise stated)	Recalculated effect size d
Group One							
Group two							

Add additional tables as required.

Notes/questions regarding results reported:

Study limitations identified by authors:

Study imitations not noted:

Feasibility and other key issues addressed in paper (page ref)

- | | |
|--|---|
| <input type="radio"/> Costs | <input type="radio"/> Formation or use of existing coalitions to develop, implement or evaluate interventions |
| <input type="radio"/> Potential arms | <input type="radio"/> Ethical constraints |
| <input type="radio"/> Other benefits | <input type="radio"/> Other |
| <input type="radio"/> Implementation | |
| <input type="radio"/> Barriers to implementation | |
| <input type="radio"/> Community acceptance/involvement | |

Other important information

Relevant references

Quality Appraisal Tool

The following form was used to assess quality of each of the studies, based on Effective Public Health Practice Project [EPHPP] Quality Assessment Tool for Quantitative Studies (Evans et al., 2015).

QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES

A) SELECTION BIAS

(Q1) Are the individuals selected to participate in the study likely to be representative of the target population?

1 Very likely 2 Somewhat likely 3 Not likely 4 Can't tell

(Q2) What percentage of selected individuals agreed to participate?

1 80 - 100% agreement 2 60 – 79% agreement 3 less than 60% agreement 4 Not applicable 5 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

B) STUDY DESIGN

Indicate the study design

1 Randomized controlled trial 2 Controlled clinical trial 3 Cohort analytic (two group pre + post) 4 Case-control 5 Cohort (one group pre + post (before and after)) 6 Interrupted time series 7 Other specify _____ 8 Can't tell

Was the study described as randomized? If NO, go to Component C.

No Yes

If Yes, was the method of randomization described? (See dictionary)

No Yes

If Yes, was the method appropriate? (See dictionary)

No Yes

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

C) CONFOUNDERS

(Q1) Were there important differences between groups prior to the intervention?

1 Yes 2 No 3 Can't tell

The following are examples of confounders:

1 Race 2 Sex 3 Marital status/family 4 Age 5 SES (income or class) 6 Education 7 Health status 8 Outcome baseline score

(Q2) If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g., stratification, matching) or analysis)?

1 80 – 100% (most) 2 60 – 79% (some) 3 Less than 60% (few or none) 4 Can't Tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

D) BLINDING

(Q1) Was (were) the outcome assessor(s) aware of the intervention or exposure status of participants?

1 Yes 2 No 3 Can't tell

(Q2) Were the study participants aware of the research question?

1 Yes 2 No 3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

E) DATA COLLECTION METHODS

(Q1) Were data collection tools shown to be valid?

1 Yes 2 No 3 Can't tell

(Q2) Were data collection tools shown to be reliable?

1 Yes 2 No 3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

F) WITHDRAWALS AND DROP-OUTS

(Q1) Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?

1 Yes 2 No 3 Can't tell 4 Not Applicable (i.e., one-time surveys or interviews)

(Q2) Indicate the percentage of participants completing the study. (If the percentage differs by groups, record the lowest).

1 80 -100% 2 60 - 79% 3 less than 60% 4 Can't tell 5 Not Applicable (i.e., Retrospective case-control)

RATE THIS SECTION	STRONG	MODERATE	WEAK	
See dictionary	1	2	3	Not Applicable

G) INTERVENTION INTEGRITY

(Q1) What percentage of participants received the allocated intervention or exposure of interest?

1 80 -100% 2 60 - 79% 3 less than 60% 4 Can't tell

(Q2) Was the consistency of the intervention measured?

1 Yes 2 No 3 Can't tell

(Q3) Is it likely that subjects received an unintended intervention (contamination or co-intervention) that may influence the results?

4 Yes 5 No 6 Can't tell

H) ANALYSES

(Q1) Indicate the unit of allocation (circle one) community
organization/institution practice/office individual

(Q2) Indicate the unit of analysis (circle one) community organization/institution
practice/office individual

(Q3) Are the statistical methods appropriate for the study design?
Yes
No
Can't tell

(Q4) Is the analysis performed by intervention allocation status (i.e., intention to treat) rather than the actual intervention received?

1 Yes 2 No 3 Can't tell

Is there a discrepancy between the two reviewers with respect to the component (A-F) ratings?

No Yes

If yes, indicate the reason for the discrepancy

1 Oversight 2 Differences in interpretation of criteria 3 Differences in interpretation of study

Power Calculation

Was a power calculation undertaken? Yes No

Was the study suitably powered? Yes No

A power calculation might need to be undertaken

<https://clincalc.com/stats/Power.aspx>

Appendix D

Details of Programmes Identified in the Review

ABCD Parenting Young Adolescents Program (Burke et al., 2012)

The programme was written with the intention it can be delivered to families with children aged 9-14 prior to difficulties occurring. It extends a behaviour family programme model to include acceptance and mindfulness. Its primary focus is on adolescent behaviour, parental well-being and positive parenting with emphasis on psychological flexibility of the parent. One study evaluating this programme that met the inclusion criteria for this review was located.

Active Parenting of Teens (Alfredsson et al., 2018; Foley, Popkin, Mullis, & Cooper, 2019)

This neo-Alderian programme was specifically designed for a universal population and emphasises the young person's psychological and behavioural goals. The objective is to help parents become more aware of their parenting style and to teach them to be more active (authoritative) and less lenient/authoritarian. Encouragement and appreciation are favoured over rewards and token economies. There have been a number of revisions since the first 1983 version of the programme, written for parents of children aged 2-17 years. The current forms of the programme have separated parents of children and those with adolescents. One study evaluating this programme that met the inclusion criteria for this review was located.

Common Sense Parenting [CSP] (Mason et al., 2016; Mason et al., 2015)

This programme has been adapted from a social learning theory-based parenting training aimed at children with severe behaviour issues. The older child version targets the transition to high school as a vulnerable period in adolescent development. It emphasises the role of parenting in helping an adolescent to develop regulation skills, as well as problem solving skills. Subsequent versions of the programme have incorporated adolescents in some

sessions and so these versions are not included in this review. One study evaluating this programme that met the inclusion criteria for this review was located.

Community Parent Education Programme [COPE] (Alfredsson et al., 2018)

COPE draws on social learning theory and family systems theory to bring parents together in large groups to problem solve difficulties parents experience with their children and to strengthen their parenting support network. Originally this was a programme for parents of children with behavioural difficulties and has been adapted for parents of adolescents. One study evaluating this programme that met the inclusion criteria for this review was located.

Connect (Alfredsson et al., 2018; Giannotta et al., 2013; M. M. Moretti, Pasalich, & O'Donnell, 2017; Ozturk et al., 2019)

Based on attachment theory, Connect focuses on educating parents about their relationship with their adolescent as opposed to managing specific teen behaviours. Parents are encouraged to take their adolescent's perspective and understand their reactions and emotional experiences. There is also a focus on skills needed to provide adolescents with a secure base. The universal programme has been adapted from one written for adolescents presenting with severe issues. Three studies evaluating this programme that met the inclusion criteria for this review were located.

Effekt (Tael-Oeren et al., 2019)

The authors were influenced by primary socialisation theory. Given parents are a primary source for learning norms, values and behaviours, targeting parents' communication and modelling of alcohol related thoughts and behaviours will influence adolescents' alcohol use. This may be enhanced if attention is also paid to the quality of the parent/adolescent relationship, communication and monitoring. It is a subsequent version of the Örebro

Prevention Programme, not included in this review as evaluation studies have included adolescent skills training or the parents training was a single psychoeducation session. One study evaluating this programme that met the inclusion criteria for this review was located.

Familias Unidas (Estrada et al., 2017; Estrada et al., 2015; Lee et al., 2019; Molleda et al., 2017; Pantin et al., 2003; Vidot et al., 2016)

Based on ecodevelopment theory, this programme has been specifically written for Hispanic/Latino families. It aims to empower parents to establish a good relationship and communication with their adolescents to improve family functioning to ultimately prevent poor outcomes such as substance use and conduct problems. Four studies evaluating this programme that met the inclusion criteria for this review were located.

Families Preparing the New Generation [FPNG] (Marsiglia, Ayers, Han, et al., 2019; Marsiglia, Ayers, & Kiehne, 2019; Marsiglia, Wu, et al., 2019)

The programme aims to reduce substance misuse by involving the family in prevention. It is based on ecodevelopment theory and ecological systems models. This includes the need to have culturally sensitive and adapted programmes as the family system is embedded within the community. This programme is directed towards the Latino community in the United States. One study evaluating this programme that met the inclusion criteria for this review was located.

Media Aware Parent (Scull et al., 2019)

The intention of this programme is to assist parents to communicate effectively with their adolescent regarding sex, relationships health and the influence of the media. It provides medically accurate information and scaffolds how to critically evaluate portrayals of sex and relationships in the media, drawing on theory of reasoned action, planned behaviour and message interpretation processes. The programme was written to fill a gap in connecting

adolescent sexual health with media use for parents of adolescents. One study evaluating this programme that met the inclusion criteria for this review was located. This was the first study in relation to this programme.

Nuestras Familias: Andando Entre Culturas [Our Families: Moving Between Cultures]
(Martinez & Eddy, 2005)

Based on culturally adapted parent management training, this programme was written to reduce substance use and related negative outcomes for monolingual Spanish families. It draws on social interaction learning theory and ecodesvelopment theory. One study evaluating this programme that met the inclusion criteria for this review was located. This was the first study in relation to this programme.

Padres Informados/Jóvenes Preparados: Parenting Component (Allen et al., 2013; M. Allen et al., 2017)

This programme was influenced by the use of community based participatory research to develop a new family skills training programme. The purpose was to address perceived disadvantages of existing curricula to prevent substance use of young Latinos. The parenting component was delivered and evaluated in a feasibility study prior to the full programme being implanted in the community. The full programme incorporated adolescents into four of the eight sessions which included skills training, making the full programme ineligible for this review. One study evaluating this programme that met the inclusion criteria for this review was located. This was the first study in relation to this programme.

Parenting Adolescents: A Creative Experience [PACE] (Communities That Care, 2012; Toumbourou & Gregg, 2002)

This programme, written for all parents of adolescents, aims to help parents choose strategies that can assist in navigating adolescent development. It has subsequently been

incorporated into the Resilient Families programme, which includes a curriculum for students and support for schools. It utilises adult learning models with the intention that by teaching some parents effective tools, these will be disseminated within the community through informal social networks. One study evaluating this programme that met the inclusion criteria for this review was located.

Parenting in 2 Worlds (Kulis et al., 2015)

The priority of the programmes to reduce substance use and other problem behaviours within the Native American population. The programme draws on ecodevelopment theory, rejecting a disease model. Instead, the programme concentrates on risk and resiliency factors within systems that surround the adolescent. One study evaluating this programme that met the inclusion criteria for this review was located. This was the first study in relation to this programme.

Parenting Wisely (Cotter et al., 2013; Gordon, 2000; Stalker et al., 2018)

Based on Patterson's family coercion theory, the program intends to alter cycles of behaviour using behaviour modification and relationship enhancement. Its primary format is that of self-instruction via internet delivery. However, it has also been used in group formats with facilitators. Written with an adolescent selected population in mind, it is additionally used with universal populations. Two studies evaluating this programme that met the inclusion criteria for this review were located.

Parents Plus Adolescents Programme [PPAP] (Nitsch et al., 2015)

Parents Plus has a suite of programs aimed at pre-schoolers, children and adolescents with the latter specific to developmental needs of this age period. The programme can be used for universal, selected or indicated populations. It is based on social learning theory with a balance between positive parenting and behaviour management. It also incorporates

conflict management and negotiation models. It utilises a solution and strengths-based approach when working with families. One study evaluating this programme that met the inclusion criteria for this review was located.

Partners in Parenting Programme (Yap et al., 2019; Yap et al., 2018)

This programme was derived from parenting guidelines that promote healthy adolescent development. These guidelines were established following a systematic review and expert consensus. The programme is also grounded in a consumer engagement approach and persuasive systems design model. It is hoped this will influence behaviour change. One study evaluating this programme that met the inclusion criteria for this review was located. This was the first study in relation to this programme.

Steering Teens Safe (Peek-Asa et al., 2014)

Teaching motivational interviewing to parents with the intention they use this strategy with their adolescent, this programme targets risky behaviour when driving. Safe driving is thought to be encouraged when parents communicate effectively with their adolescent and scaffold safe driving decisions. One study evaluating this programme that met the inclusion criteria for this review was located. This was the first study in relation to this programme.

Teen Triple P (Chu et al., 2015; Sanders, 2012)

The Triple P suite of parenting programs utilises social learning theory to equip parents to change children's' problem behaviour by focussing on modifiable targets such as their own responses. The programme emphasises a self-regulatory framework so parents become independent problem solvers in relation to difficulties their family may experience currently and in the future. The suite includes programmes for parents of children aged 0 – 16, with different curricula for pre-schoolers, children and adolescents. There are specific programmes for parents with children with disabilities and all programmes cover universal,

selected and indicated populations, with variations in content and delivery depending on the target population. One study evaluating this programme that met the inclusion criteria for this review was located.

Tuning into Teens [TINT] (Havighurst et al., 2015; Kehoe et al., 2014, 2020)

Adapted from Tuning into Kids, a parenting programme for parents with young children, TINT utilises emotion socialisation theory to promote emotional competence, particularly emotional communication between parent and adolescent. It draws on emotion coaching and aims to assist parents in navigating developmental tasks of the adolescents within an emotionally supportive framework. It was designed as a universal prevention programme. One study evaluating this programme that met the inclusion criteria for this review was located.