Prevention Programs for Early Childhood Anxiety: Current State and Future Directions

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Abstract

Anxiety disorders are among the most prevalent psychiatric disorders in children and adolescents, and have long term adverse effects on development and psychosocial functioning. The present review summarizes the empirical literature on prevention and treatment programs for anxiety and its disorders in young children (aged 3 - 7 years). With a specific focus on targeted risk factors. An improved understanding which is critical for developing and improving effective preventive interventions. Programs targeting the treatment and prevention of anxiety and its disorders in this age group are discussed in the context of universal, selected, and indicated frameworks, with the objective of outlining future directions for the area. The fourteen studies reviewed demonstrate promising results for early prevention of anxiety and its disorders in young children. The review concludes with a discussion of future directions for research.

The symptoms of anxiety and its disorders represent one of the most prevalent forms of childhood psychopathology (Costello et al. 2003; Donovan & Spence, 2000) and are associated with a wide range of significant psychosocial impairments including social, emotional and academic difficulties (Donovan & Spence, 2000; McLoone, Hudson & Rapee, 2006; Rapee, Kennedy, Ingram, Edwards & Sweeney, 2005). Disrupted psychosocial development often occurs through social isolation, interpersonal difficulties, impaired social competence and disrupted school adjustment (Barrett & Pahl, 2006; Klein & Last, 1989; Messer & Beidel, 1994). In many cases, anxiety disorders are a precursor for long term clinical presentations into adolescence and adulthood (Cartwright-Hatton,

McNicol & Doubleday, 2006; Donovan & Spence, 2000; Insel & Fenton, 2005; Kessler, Berglund, Demler, Jin & Walters, 2005; La Greca, Lochman, & Silverman, 2008) and are highly comorbid with other psychological disturbances such as mood disorders and substance use, in addition to suicidal ideation and attempts (Boyd & Gullone, 1997; Brady & Kendall, 1992; Cole, Peeke, Martin, Truglio, & Seroczynski, 1998; Kendall et al., 2010; Orvaschel, Lewinsohn, & Seeley, 1995; Pine, Cohen, Gurley, Brook, & Ma, 1998; Pollock, Rosenbaum, Marrs, Miller, & Biederman, et al., 1996; Seligman & Ollendick, 1998). Childhood anxiety and its disorders may also contribute to family disruption and represent a significant public health concern, due to the increased risk for further psychopathology, functional impairment and significant costs imposed to society (Donovan & Spence, 2000; O'Connell et al., 2009; Rapee et al, 2005; Woodward & Fergusson, 2001). Few clinical studies have examined the prevalence rates of anxiety disorders in preschool aged children; however increasing evidence suggests that anxiety is a common, impairing and persistent disorder of early childhood (Hirshfeld-Becker et al., 2011; Mian et al., 2011), with the most conservative studies estimating approximately one child in every preschool classroom of 25 will experience an anxiety disorder (Ford, Goodman & Meltzer, 2003). Studies of preschoolers within mental health settings have suggested prevalence rates range from 4 to 10% (Frankel, Boyum & Harmon, 2004; Hooks, Mayes & Volkmar, 1988; Lee, 1987; Luby & Morgan, 1997), with prevalence in a community sample of 2 to 5 year olds found to be as high as 9.5% (Egger & Angold, 2006). With regard to persistence across the lifespan (Ialongo, Edelsohn, Werthamer-Larsson et al., 1995; Rapee, Schniering, & Hudson, 2009), early onset anxiety is believed to result in significant impairment in multiple areas, with the findings from an epidemiological study of first grade children predicting anxiety and academic difficulties in fifth grade (Ialongo, Edesohn, Werthamer-Larsson et al., 1999).

The aetiology, prevention and treatment of anxiety disorders in older children, adolescents and adults has been reviewed extensively in the literature (see Teubert & Pinquart, 2011 for a recent meta-analysis), however understanding of early child anxiety and its disorders is limited, and therefore warrants more attention from researchers and clinicians (Donovan & Spence, 2000; Last, Hansen, & Franco, 1997; McLoone, Hudson & Rapee, 2006; Rapee, Schniering, & Hudson, 2009; Shaffer, Fisher, Dulcan, & Davies, 1996) however an increasing number of empirical studies are emerging, aimed at the prevention of anxiety in children and adolescents (see Neil & Christensen, 2007; Neil & Christensen, 2009 for previous reviews). Neil & Christensen's (2009) review focused on school based prevention for children aged 5 – 12 and 13 – 19 years, and demonstrated that most of the prevention programs are effective in the reduction of anxiety in children and adolescents. To date however, there has not been a specific review of the literature in the area or treatment and prevention of anxiety for early childhood and preschool aged children. Thus, the present review focuses on early prevention and treatment literature for anxiety and its disorders in this age group. The risk factors targeted in each of the reviewed studies will be examined in terms of whether change was achieved, and more importantly whether there is any evidence that change on these risk factors actually mediates anxiety prevention. Future directions for early prevention of anxiety and its disorders will then be discussed.

Risk for Early Childhood Anxiety and Targets for Prevention

From a developmental psychopathology perspective, it is hypothesized that mental health difficulties result from multiple causal influences (Cicchetti & Cohen, 1995; Degnan, Almas & Fox, 2010; Vasey & Dadds, 2001), with anxiety disorders perceived as emerging from pathways that reflect the reciprocal interaction between characteristics of the child, and his or her environment over time (Pahl, Barrett & Gullo., 2012). Theories related to the etiology and maintenance of anxiety disorders focus on the interaction between; biological vulnerability (Biederman et al., 1993), the experience of stressful life events (Chorpita &

Barlow, 1998), learned, maladaptive behavioral responses to threat such as avoidance behavior (Dadds, Barrett, Rapee, & Ryan, 1996) and inaccurate, overly-threatening, cognitive interpretations of events (Barlow, 1988). A comprehensive discussion of the factors that increase risk for anxiety disorders is beyond the constraints of this review, however a number of risk factors related to early childhood anxiety and its disorders have received support in the literature and will be discussed. These include; Behavioural Inhibition (BI), parental psychopathology, parenting stress and parenting behaviour. Some of these identified risk factors have the potential to be modified and therefore targeted in prevention programs, although a comprehensive ecological model has not yet been empirically examined for young children. Mian et al., (2011) recently examined a comprehensive risk model for young children within a community sample. The model was comprised of multiple factors across several levels including; child, maternal, family and community. Findings indicated that child anxiety symptoms and temperament represented the most robust predictors of later symptoms of anxiety, with maternal and community risk factors in toddlerhood also predictive of later anxiety.

Temperament

The risk factor with perhaps the greatest empirical support is an inhibited or withdrawn temperament (Kagan et al., 1987). Approximately 15% of young children are thought to be at an increased temperamental risk for developing anxiety from an early age (Kagan & Snidman, 1991). These children are said to have inherited the temperamental construct of Behavioural Inhibition (BI) (Feng, Shaw, & Silk, 2008). BI is defined as the tendency to react with unusual fear, cautiousness and withdrawal in the face of unfamiliar people or settings (Biederman et al., 1993; Fox Henderson, Rubin, Calkins, & Schmidt, 2001; Hirshfeld et al., 1992; Kagan & Snidman, 1991). Longitudinal research has demonstrated that young children demonstrating high levels of BI are at increased risk for later

internalizing distress and more specifically anxiety disorders (Hirshfeld et al., 1992; Prior, Smart, Sanson & Oberklaid, 2000; Rubin & Asendorpf, 1993), with toddlers identified as chronically inhibited at the greatest risk (Biederman et al., 2001; Chronis-Tuscano et al. 2009; Kagan, Reznick & Snidman, 1988; Prior et al., 2000). It has even been suggested that BI may be best conceptualized as an early manifestation of anxiety symtpomatology (Egger and Angold, 2006).

From a theoretical perspective the literature has suggested that an inhibited temperament is not purely genetically mediated and that a number of environmental factors may interact to influence its expression (Rapee, 2002). Such proposed factors include; parent anxiety, parent child interaction and parental modelling. Further, longitudinal research has proposed that temperament may not be stable over time (Hirshfeld et al., 1992; Prior et al., 2000). It seems justifiable therefore to focus on this potentially modifiable risk factor in the prevention of anxiety disorders. Early prevention in such cases would be of significant clinical advantage in terms of positively impacting a child's developmental trajectory and enhancing the resilience process (Hirshfeld-Becker et al., 2008). Further, Bienvenu and Ginsburg (2007) have suggested that providing preventive interventions to children who show early signs of anxiety or BI may represent the optimal stage to intervene.

A number of environmental risk factors have also been implicated in early childhood anxiety and its disorders. Parental factors have been identified as significant, both through the influence of the parents' own anxiety, and through parent-child interactions (Bogels & Breechman-Toussaint, 2006; Hudson & Rapee, 2004; Pahl, Barrett & Gullo, 2012; Rubin, Brugess, Kennedy & Steward, 2004). Family studies have demonstrated that children of parents with an anxiety disorder are up to seven times more likely to present with clinical levels of anxiety compared with children of non-anxious parents (Biederman et al., 2006).

Less research attention has focused on the specific mechanisms by which theses associations may be mediated (Rapee, 2002). Clearly there is a strong genetic influence in anxiety that is likely to be at least partly responsible for the association between parent and child anxiety. However, whilst genetic inheritance may be responsible for approximately 30–40% of the variance in anxiety symptoms (Eley & Lau, 2005), other processes such as direct conditioning experiences, modeling of threat and negative verbal transmission (Barrett, Rapee, Dadds, & Ryan, 1996; de Rosnay, Cooper, Tsigaras, & Murray, 2006; Merckelback et al., 1996; Muris et al., 1996) may also be involved.

A moderate but reliable association between two types of parenting styles and anxiety has been established; over protective and controlling parenting behavior (Bögels & Brechman-Toussaint, 2006; McLeod, Wood & Weisz, 2007; Rapee, 1997; Wood et al. 2003). It is hypothesized that high levels of control and overprotection may result in decreased self-efficacy in children and increased anxiety, through the implication that the world is threatening, resulting in hyper vigilance and subsequent fear (Wood, 2006). Further, this may result in limited opportunities for the child to learn how to cope effectively, thus perpetuating negative beliefs about the self and the world (Rapee, 1997). It is likely however that a reciprocal relationship exists, in which over protective caregivers enable withdrawn behavior in the child, and withdrawn child behavior promotes controlling parenting (Hudson & Rapee, 2004; Rubin & Mills, 1991; Silverman, Kurtines, Jaccard, & Pina, 2009). The findings from recent study examining predictive risk factors for early childhood anxiety are consistent with the literature, demonstrating a relationship between mothers' negative affect and anxiety as a predictor of child anxiety (Pahl, Barrett & Gullo, 2012).

According to attachment theorists, the parent child relationship provides the context in which the young child develops emotion regulation abilities (Sroufe, 1995; Thompson,

2001). A secure attachment relationship and responsive, sensitive caregiver are regarded as critical in assisting the child to regulate fear and anxiety (Bowlby, 1973, 1979; Cassidy, 1995; Sroufe, 1995; Thompson, 2001). Conversely an insecure attachment relationship may interfere with the development of effective emotional regulation through the caregiver's inconsistent or extreme responses and inability or unwillingness to offer comfort and proximity in response to the infants' signals of fear (Denham et al., 2012). Longitudinal data also supports a link between insecure attachment relationships in infancy and anxiety difficulties in later childhood and adolescence (Kochanska, 2001; Manassis, Bradley, Goldberg, Hood, & Swinson, 1994, 1995).

Parenting stress and traumatic life events may also contribute either directly or indirectly to child anxiety and its disorders, particularly for children with a genetic predisposition (Dadds & Roth, 2001; Garstein, Bridgett, Rothbart & Robertson, 2010; Grant, Compas, Thurm, & McMahon, 2004). A negative cycle may develop between an anxious child's excessive demands for support and reassurance from a parent, which may be perceived by the parent as beyond what they are able to tolerate, generating additional stress in the parent and potentially leading to either rejection of the child, disengagement from the relationship or coercive parenting strategies (Dadds and Roth, 2001). Such dysfunctional parent-child interactions may significantly interfere with the child's development of self-efficacy and ability to cope with stressful situations (Dadds & Roth, 2001). These processes are likely to be further intensified for anxious parents who have poor coping or emotional regulation skills, as the parent may become increasingly overwhelmed and frustrated by their child's challenging behavior eliciting further anxiety and irritability and result in the parent rejecting or criticizing the child (Dadds & Roth, 2001).

It is critical that we continue to enhance understanding of factors which may increase a child's risk of anxiety and its disorders in order to inform early prevention. Given the highly malleable nature of young children in terms of neurodevelopment, representations of the self and others, and behavior, early prevention has the potential to have a significant positive impact on the symptoms of anxiety and its disorders (Derryberry & Reed, 1994). Further, given that treatment and prevention protocols with young children may benefit from parental involvement targeting both parents and children may have the potential to address multiple risk and maintaining factors for child anxiety and its disorders (Hirshfeld-Becker et al., 2010). Findings from a recent longitudinal prospective study (Mian et al., 2011) highlight the complex developmental interaction between a child and the environment, which begins very early in life, and has the potential to influence the negotiation of development tasks (Cicchetti and toth, 1997). Such impairment further supports the need for very early intervention and prevention.

Treatment and Early Prevention of Anxiety and its Disorders

Cognitive Behavioral Therapy has been consistently regarded as the first line treatment for anxiety disorders in children and adolescents, (Costello, Egger & Angold, 2004; Kendall, 1994; Silverman, Pina & Viswesvaran, 2008; Silverman et al., 1999). However, until recently few studies have extended the age limits to include preschool aged children in treatment or prevention studies. Increasing evidence suggests however, that anxiety disorders are common in young children and have the potential to disrupt a children's developmental trajectory (Egger & Angold, 2006). Hirshfeld-Becker et al., (2011) recently reviewed and summarized the research to date addressing the developmental modifications required for the application of CBT to young children, with specific recommendations to ensure the treatment approach is developmentally appropriate .

Thus the literature is developing in this area and becoming more relevant and applicable for younger children.

CBT based treatment for older children and adolescents has been reported to result in a recovery rate of approximately 55 to 60%, as compared to approximately 30% of children in comparison conditions (Cartwright-Hatton et al. 2004; James et al. 2005). However, Australian statistics suggest that only around 5% of children and youth with mental health disorders, including anxiety, access appropriate services (Stanley, 2002). Of those who successfully access assistance, many suffer for years before receiving help (Thompson, Hunt & Issakidis, 2004), with the delay between onset of symptoms and consultation with a mental health professional ranging on average form between 6 and 14 years across anxiety disorders (Christiana et al. 2000; Kessler et al.1998). Further, many children and youth who do successfully access treatment, many fail to complete, or drop out prematurely (Barrett, Dadds & Rapee, 1996; Donovan & Spence, 2000; Weisz et al., 1997). According to Donovan and Spence (2000) failure to respond to treatment often occurs when interventions are offered too late, thus the negative impact of the disorder has become apparent and is difficult to reverse. The treatment of children who are already experiencing significant anxiety problems therefore, may not be the most optimal intervention model for reducing the incidence of childhood anxiety in the general population (Barrett & Turner, 2001). Further, an improved understanding of the early onset, chronic course and high levels of co morbidity of anxiety disorders has resulted in a move away from the traditional models of psychological treatment delivery, with attention focused towards prevention as a way of improving both the immediate health of children and young people, as well as contributing to their longer-term resilience. The anxiety prevention literature suggests that such efforts should be targeted early in the life course

with the aim of reducing the overall burden to the individual, family and society (Bienvenu & Ginsburg, 2007).

Prevention programs that focus on early childhood risk factors for anxiety and its disorders and promote resilience, may provide young children and their parents with the opportunity to learn positive coping, emotional regulation and anxiety management skills prior to entering and during early primary school. Further, early prevention may reduce the impact of anxiety on academic and social success and potentially impact a negative developmental trajectory (Hirshfeld-Becker et al., 2008). Such early preventive interventions may also reduce rates of depression, with anxiety typically preceding co-morbid depressive disorders (Bienvenu & Ginsburg, 2007; Flannery-Schroeder & Kendall, 2004). Such interventions may be most powerful when they are targeted at high-risk life transitions, such as entry to primary school or other significant transition points.

Whilst the current literature contends that the delivery of preventive interventions early in the life course may lead to positive outcomes, empirical evidence remains inconclusive regarding optimal strategies and appropriate timing for such interventions and there is still a great deal to learn about when in the life course prevention efforts may have the biggest impact, and which risk factors should be targeted in order to achieve the most powerful results (Dadds & Roth, 2008). A significant gap also exists in the literature examining the effectiveness of prevention and treatment protocols for younger children (Eley et al., 2003; Spence, Rapee, McDonald, & Ingram, 2001; Sterba, Egger, & Angold, 2007; Egger & Angold, 2006) particularly related to understanding the mechanisms responsible for change relevant to the preschool aged population. Thus, although the identification of process variables has been highlighted as an important area for the focus of future research (Kazdin & Kendall, 1998; Kraemer, Wilson, Fairburn, & Agras, 2002; Weisz & Jensen, 2001) and critical for improving clinical practice with children (Kazdin & Nock,

2003), few studies have focused on mediators, or assessed the degree to which process variables may be responsible for change over time.

The Institute of Medicine's committee on Prevention of Mental Disorders (Mrazek & Haggerty, 1994) proposed an influential framework for the conceptualization of various levels of intervention defined as; Indicated, Selective and Universal approaches. *Indicated* prevention approaches are targeted towards individuals or groups who have been identified as having minimal but detectable signs or symptoms of a mental disorder, or biological markers, identifying them as being at increased risk for the future development of mental health difficulties (Mrazek & Haggerty, 1994). *Selective* prevention programs are targeted towards individuals or subgroups who present with a significantly higher than average risk of developing a mental health disorder, based on our conceptualization of the associated risk factors for that disorder (Mrazek & Haggerty, 1994). The following section will review the early anxiety prevention literature for young children (aged infants to seven years), with the objective of identifying areas for future research and thus contributing to this under investigated, but very important area of research.

Search Strategies and Results

To select studies for the current review, The Psychinfo, Pubmed, Cochrane Library, PsychArticles, ProQuest Education Journals, ERIC, databases were electronically searched for articles that examined the treatment or prevention of anxiety in children aged 3 – 7 years. The following key search terms were used; "child*", "pediatric", "school", OR "pre-school" or "kindergarten" or "school-based", "universal", "selective", "indicated", "anxiety" OR "anxious" and "early intervent*" OR "prevent*" OR "treat*".

This search produced hundreds of citations. The titles and abstracts were reviewed by the primary author. Articles identified as irrelevant to the topic of this paper were excluded,

while relevant articles were obtained and reviewed. Additional articles were also obtained from reference lists from relevant book chapters and review articles. From these articles the studies 35 were selected that met the following inclusion criteria; (a) Study participants included children aged 3 - 7 years (and in some cases their parents/caregivers also); (b) The primary objective of the intervention was to treat or prevent the symptoms or incidence of anxiety; (c) One of the primary outcome measures in the study was anxiety symptomatology; (d) The study was a published peer reviewed within an English language journal.

Summary of Prevention and Early Intervention Studies for the Treatment of Early Child Anxiety

To date only 18 studies, that we are aware of, have examined the early intervention or treatmetn of anxiety in young children (aged 3 – 7 years). Table 1 at the end of this section provides a summary of published early intervention, prevention and treatment programs for this population. Narrative evaluative summaries are provided for each of the 18 studies reviewed.

Treatment Studies Children aged 3 -7 years

A number of anxiety treatment studies been published with this age group to date, with several more currently under development. The treatment approaches are typically based on CBT, however vary in terms of the focus of the intervention, some of which included parent training, or direct intervention with the child in addition to parent and skills training (Hirshfeld-Becker, 2011). The following section will provide a summary of the treatment literature to date, concluding with a brief summary of OCD and PTSD based treatments in young children.

Cartwright-Hatton et al., (2005) conducted a trial of parenting skills training program for preschool aged children. 43 parents attending a community based Child and Adolescent Mental Health Service in England participated in the study. The children ranged in age from 24 – 56 months. All parents invited to participate in the program were experiencing significant internalising and or externalising behaviour problems in their children. The CBCL, preschool or 4-18 years versions were administered upon recruitment (Achenbach, 1992) and 6 month follow-up. Parents then attended an group based, eight session Parent Survival Course (PSC), based on Webster-Stratton's (1990) program for managing problem behaviours in young children. The program focused on; positive attention through play, reinforcement of positive behaviour through attention, use of frequent rewards and time out for inappropriate or dangerous behaviour. Group leaders were mental health professionals with a nursing or psychology background. Results demonstrated a reduction in both internalising and externalising behaviour, with the effect size equivalent for both internalisng and externalising symptoms. This finding provides support for the targeting of parenting skills and behaviour as a focus of intervention for the treatment of internalising symptoms in young children.

Choate, Pincus, Eyberg and Barlow (2005) conducted an open pilot study, treating three children from three separate families with a primary diagnosis of Separation Anxiety Disorder (SAD) (aged 4 - 8 years) using a multiple baseline design. Children with developmental disorders or at risk of harm to selves or others were excluded from the study. The program was based on Parent-Child Interaction Therapy (PCIT) with parents taught specific skills related to playing in a positive way with their child, reflection of emotions, administering praise and time outs, conducting exposure tasks and reducing avoidance behavior. The principal therapist was a professor with 2 years of training in the administration of PCIT and a doctoral level student acted as co-therapist. Assessment

measures included the Anxiety Disorders Interview Schedule for DSM-IV – Child and Parent Versions, (ADIS-C-/P; Silverman & Albano, 1996), administered to both child and parents at three time points (pre and post treatment and at 3 month follow-up). The Child Behavioral Checklist (CBCL, Achenbach, 1991) was administered pre and post treatment and the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) completed at four time points; pre CDI phase, before the PDI phase of treatment at post treatment and follow-up. Parental monitoring of anxiety behavior over the duration of the study was conducted using the Weekly Record of Anxiety and Separation (WRAS; Choate & Pincus, 2005) and the Fear and Avoidance Hierarchy (FAH).

Following treatment with PCIT, clinically significant change in separation anxiety was observed on all measures, with treatment gains maintained at 3-month follow-up. The study findings are promising and suggest that PCIT may be an effective treatment for SAD in young children. The findings also support the important contribution of family factors to anxiety in childhood. The intervention targeted identified risk factors for the development of SAD and the authors proposed several mechanisms that may explain the significant decrease in separation anxiety, such as increased levels of child control, increased positive reinforcement of “brave” behavior, enhanced parent child attachment and decreased levels of parental anxiety. A larger scale group design study using randomized assignment to treatment versus wait-list would be of value to further test the effectiveness of PCIT for this age group, and defining gains due to maturation and development versus treatment gains. Assessment of parental levels of anxiety through self-report measures may also be of value; this was not formally assessed in the current study.

A number of strengths of this study can be identified. First, a thorough multi-modal assessment process was adhered to, including the use of diagnostic interviews, parent

self-report instruments, child self report instruments, and behavioral observation and coding measures of parent child interaction. Treatment acceptability data was obtained also, with the objective of modifying the treatment protocol based on this data. The program targeted a number of identified risk factors for anxiety including parental overprotection and focused on providing parents with psycho education about anxiety and the role of parenting behavior in the cycle of anxiety. The overall objective of which was to improve the parent-child relationship in order to reduce rates of SAD. Although this study produced promising results in terms of positively impacting rates of anxiety in young children, a larger scale replication, including a waitlist control is required.

Pincus, Eyberg & Choate (2005) attempted to extended Choate et al's (2005) study by conducting the first randomized trial for young children with SAD under the age of 7 years, using PCIT at Boston University. The specific goals of this project were; to evaluate the efficacy of modified PCIT for SAD, to assess long-term maintenance of change at 3, 6, and 12 months following treatment and to increase understanding of the possible mechanisms of action in treatment (Pincus, Santaucci, Ehnrereich & Eyberg, 2008).The intervention included two phases; Child Directed Interaction (CDI), which focused on improving the quality of the parent child relationship and the Parent Directed Interaction (PDI), which focused on increasing parental warmth, positive attention and praise during play. Treatment is performance based and is not complete until parents have achieved mastery of the skills, with the average number of weekly sessions ranging from 9 - 16 (Schuhmann, Foote Eyberg, Boggs & Algina, 1998). 58 chilren with a principal diagnosis of SAD were randonly allocated to one of two contditions,; either modified PCIT (PCIT) or a Waitlist (attentional control) condition in which pariticpants are required to wait 9 weeks prior to receiving treatment at twhoich time theyr receive a post waitlist assessment. Follow-up was to be conducted at three time points post completion (3, 6 and

12 months post intervention). The study includes a multimodal assessment of anxiety, including diagnostic interviews with the parent and child, parent self-report instruments, child self-report instruments, and behavioral observation and coding measures of parent child interaction. The most recent reserach to date, Pincus et al., (2008) reported that 34 children have participated in the randomized controlled trial (21 females and 13 males), with data collection ongoing. Preliminary data from the modified PCIT intervention suggested that children allocated to the PCIT condition had demonstrated significant improvements from pre-to posttreatment in terms of the severity of SAD compared to the wait-list. This study represents a very important area of research, given the limited number of interventions to date which have been developed specifically to treat SAD in young children and the early onset of this anxiety disorder the continued evaluation of such an intervention is critical.

A number of studies have been conducted with young children with Specific Phobias. For example Mendez and colleagues have used in vivo exposure to successfully treat children aged 3 to 8 years with specific phobias of darkness, loud noises, animals and medical phobias (González, Méndez & Sánchez-Meca, 1996; Méndez, 1986; Méndez & Gárcia, 1996; Méndez, González & Sánchez-Meca, 1997; Méndez & Macià, 1986, 1988). Play therapy has also been used effectively in the treatment of specific phobias (Sosa, Capafons & Carrió1984; Walker & Healy, 1980). More recently Santacruz et al., (2006) conducted a play therapy treatment study for children aged 4 – 8 years with a Specific phobia of darkness (N=78) Participants were recruited from 27 schools in the southeast of Spain. The pre-test process occurred over a period of two weeks. In the first week the assessment meaures were adminsited and two beahvioural observation scales conducted in the home. Over the period of the second week, parents only were involed in the play therapy groups while children assessed their own fears. Children were assessed using the

Dark Fear Interview (DFI; Méndez, 1996) a structured assessment interview to obtain information regarding phobic responses. The Children's Fear Survey Schedule Revised (CFSS-R; Pelechano, 1984) is a parent report assessment tool used to assess fears in children aged 2 to 9 years. In addition to the above measures, the Dark Fear Scale (DFX, Méndez & Santacruz, 1996) , Bed Time Recording (BTR, Méndez & Gonzalez, 1996) and Dark Behaviour Recording Modified (DBR-M; Milulas & Coffman, 1989) were administered as further measures of specific phobia of darkness.

Children were randomly assigned to one of three experimental groups including; bibliotherapy and games (BG), emotive performances (EP) and a no treatment group. Parents were trained in the principles of the programs over a period of 5, 45 minute sessions. Training included; modeling, role play, positive reinforcement and feedback. Parents implemented treatment in the home environment for a period of 20 mintues at a time over three non consecutive days. Bibilothearpy (BG) involved a 12 chapter treatment book about a hero with a phobia of darkness in addition to nine games involving in vivo exposure (Mikulas & Coffman, 1989; Mikulas, et al., 1985). The Emotive Performance (EP) treatment package included four parts; hierarchy, play, token economy and modeling (Méndez, & Gárcia,1996; Mendez, Olivares & Bermejo, 2001). Thus both treatment approaches involved gradual in vivo exposure to the dark.

Compared with the control group, the two play therapies, BG and EP resulted in an improvement in darkness phobia, with further improvement evidenced at 12 months follow up, suggesting that interventions conducted by parents in the home environment is a promising approach for the treatment of phobias in young children.

Hirshfeld-Becker et al., (2008) piloted a CBT based intervention for anxiety, the *"Being Brave"* program in an open trial with nine children aged 4 to 7 years. The program is a manualized CBT based treatment program for children and their parents facilitated over

20, 50 minute, weekly sessions. The program included six parent only sessions and 13 sessions for both child and one or both parents. The parent sessions were focused on general principles of anxiety management and coaching, and the child sessions focused on the development of basic coping skills and graduated exposure. The child sessions were reported to be loosely based on the “Coping Cat” program (Kendall 1992). The “Being Brave” program is developmentally appropriate, incorporating puppet play, games, and specific anxiety management strategies found efficacious in treating fears and phobias in preschool age children (Hirshfeld-Becker et al., 2002). The parent sessions focused on providing psych-education about the anxiety model and cognitive errors that contribute to anxious or pessimistic thinking, development of skills to assist their children mange their anxiety and structure graded exposure exercises. The child component of the program focused on relaxation skills, development of coping plans, in vivo and in vitro exposures tasks and management of anxious symptoms.

Assessment included parental assessment using the Structured Clinical Interview for DSM-IV (SCID) to determine whether parents met criteria for any diagnoses. Children were assessed pre and post intervention using clinical interview, behavior observations and questionnaires. Measures included the K-SADS-E (Orvaschel & Puig–Antich, 1987), the Kaufman Brief Intelligence Test (KBIT) (Kaufman & Kaufman, 1990), the Retrospective Self Report of Inhibition – Preschool Adaptation (Reznick et al., 1992) and the Emotionality-Activity-Sociability Temperament Survey for Children (Bluss & Plomin, 1984). Both parents also completed the CBCL/4 – 18 (Achenbach, 1991) and Kendall’s (Kendall, 1994) Coping Questionnaire pre and post assessment and at follow-up. The study demonstrated promising findings, with significant reductions in anxiety disorder diagnoses and symptoms following the intervention, with results maintained at two year follow up. Significant improvement was also observed in parent rated coping with feared situations.

A number of strengths of this pilot study can be identified. First, the study employed a multimodal, multi-informant approach to assessment including use of structured clinical interviews, behavioral observation and questionnaires completed by both parents at three time points; pre, post and 2 year follow up. The Being Brave intervention is a developmentally appropriate CBT based manualized program, which is based on empirically, validated treatment protocols for older children. The intervention targeted identified risk factors for anxiety such as parental modeling of anxious behavior and encouraged the development of approach behaviors through exposure work and development of helpful coping skills such as relaxation and cognitive restructuring. Further, the program was based on previous research outlining principles for a comprehensive CBT intervention with young children at risk for anxiety (Hirshfeld-Becker & Biederman, 2002). Parents were provided with a workbook summarizing the material covered in the intervention, which may assist with generalization of skills across contexts. Further, parents were actively involved in the program as "coaches" in the program and participated in the process of modeling and reinforcing techniques for coping. The study employed a two year follow up which is important in terms of providing information on the maintenance of treatment gains. The findings from the study are comparable to results obtained following CBT protocols for older children (Barrett, Duffy, Dadds, & Rapee, 2002; Barrett, Rapee & Dadds, 1996; Kendall, 1994; Kendall, Southam-Gerow, 1996) and provide promising preliminary data for the adaptation of a CBT based parent and child protocol for children aged 4 – 7 with an anxiety disorder diagnosis. Replication studies with a larger sample sizes and a control group are required to assess the efficacy of this intervention however, controlling for the effect of maturation over the 6 month period of the intervention and two year follow up period.

Waters et al., (2009) conducted a trial assessing the efficacy of a group-based cognitive behavioural intervention for young anxious children aged 4 – 8 years. A Parents only CBT group treatment was compared with the same intervention delivered to both children and parents, relative to a waitlist-control condition. Inclusion was based on the child meeting DSM-IV-TR diagnostic criteria for specific phobia, social phobia or generalised anxiety disorder and/or separation anxiety disorder. The 80 children participating in the study were randomly assigned to one of three groups, Parent only intervention, Parent + Child intervention or waitlist control. The children were assessed using the ADIS-IV-C/P (Silverman & Albano, 1996), with a clinical severity rating of four or higher required for inclusion. Parent report assessment of child anxiety were also administered including the Spence Children's Anxiety Scale – Parent Version (Nauta et al, 2004; Spence, 1998), and the Child Behaviour checklist (CBCL; Achenbach & Edelbrock, 1983; Achenbach & Rescorla, 2000). The Parenting Scale (PS; Arnold, O'Leary, Wolff & Acker, 1993) was adminsited as a measure of parenting practice and Parents Sense of Compentcy Scale (PSCS, Johnston & Mash, 1989) was used as a measure of parenting sefl efficacy. Parental self report of levels of anxiety and depression were measured using the Depression, Anxiety and Stress Scale, 42 Item Version (DASS-42, Lovibond & Lovibond, 1995).

The CBT based intervention, "Take ACTION", was conducted at the Griffith University Psychology Clinic, facilitated by Psychologists trained in CBT for child anxiety. The intervention included a detailed therapist manual which was followed for the duration of the program, with weekly supervision and review. Treatment integrity was maintained through the use of a therapist checklist and supervision. Parents of children in the Parent Only condition (N=256) received 10 weekly sessions of GCBT whereas children and parents in the Parent + Child condition (N= 24) each received 10 weekly session of GCBT.

The child intervention included 6 components for managing anxiety including; psychoeducation about anxiety symptoms and boy reactions ("be AWARE"), relaxation training ("Keep CALM); identification of anxious self talk and use of coping self statements ("THINK strong thoughts"); graded exposure "INITIATE action"; development of strength and problem solving cards and the identification of a support system ('use my OPTIONS"); social skills and assertiveness training ("NEVER stop taking action". Homework tasks were set and checked for completion each week. Children in the Parent +Child group received individual workbooks containing the intervention materials.

The same content was presented to parents in the Parent Only Parent + Child conditions. Sessions were held weekly for 1 hour and included; psychoeducation, parental strategies for managing anxious behaviour; coverage of the Take ACTION steps of the child program; promotion of positive parental coping and training in communication and problem solving skills. Booster sessions were conducted 8 weeks after the end of treatment for both treatment conditions which involve reviewing progress, reinforcing strategies and problem solving.

Both active conditions were found to be superior to the waitlist condition, with treatment gains maintained in both conditions at 12 month follow-up. There were no significant differences between the two active conditions on other outcome measures. The post-intervention interviews were completed by the primary therapist across both treatment conditions, and therefore was independent, therefore further research utilising blind outcome assessment is required. However, the study has many strengths and represents a valuable contribution to the literature, providing support for the exclusive delivery of a CBT intervention to parents of young anxious children as a viable treatment approach.

Potentially enhancing accessibility to efficacious treatments for children with anxiety disorders, and reducing costs associated with mental health care delivery.

Monga, Young and Owens (2009) openly piloted a CBT group treatment developed for children aged 5 - 7 years (mean age = 6.51 years). The CBT based manualized program for child and parent groups called *Taming "Sneaky Fears* " *Child Treatment Manual* (Monga & Young, unpublished manual) *and Parent Treatment Manual (*Monga & Young, unpublished manual) was developed specifically to treat anxious children aged 5 - 7 years. The program incorporated stories, games and developmentally appropriate activities to reinforce the cognitive behaviorally based concepts taught which include; relaxation, cognitive strategies such as identifying negative self-talk and thinking of alternative or "brave thoughts". The objective of the parent program was to teach parents the CBT based skills and to support their children to face their fears and manage their anxiety effectively. Participants were referred to the Anxiety Disorders Clinic of a children's hospital. All children met criteria for at least one DSM-IV anxiety disorder diagnosis based on clinical interview and completion of the Anxiety Disorders Interview Schedule for DSM-IV – Parent Version (ADIS-P) (Silverman & Albano, 1996). Exclusion criteria for the study included; children who had a co-morbid psychotic disorder or pervasive developmental disorder, suffered from a medical condition that may interfere with treatment and children who had significant language problems or were not proficient in the English language. 32 children (13 males, 19 females) and their parents completed the 12-week pilot program; with the stipulation being that at least one parent participated in the program. Participants presented with a mix of primary anxiety disorder diagnoses and co-morbidity among the anxiety disorders was common. The majority of the children were assessed several weeks prior to the treatment commencing, however a small subset were assessed approximately 2 – 2.5 months prior to the group starting. Participants in the group with a longer wait period were assessed at two time points prior to the program commencing. Assessment measures included the SCARED parent version (Birmaher, Khetarpal, Brent et al., 1997), ADIS-P (administered by a child psychiatrist to parents), Children's Global Assessment Scale (CGAS, Shaffer, Gould, Brasic et al., 1983); the Conner's Parent Rating Scale (Connors, 1998); Long Version (CPRS-L) and the Behavioural Styles Questionnaire (BSQ, Carey, 2000). Results demonstrated significant reduction in anxiety disorder diagnoses and clinician rated improvement in functioning. Parent based ratings of anxiety also improved significantly. The remission rates reported in the current study are comparable to

those reported in a recent review (Cartwright-Hatton et al., 2004) for older children and adolescents using a CBT treatment intervention.
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here are a number of strengths of this study. First the authors adhered to a manualized treatment protocol, which involved both parents and children. The 12-week program was based on empirically validated treatment protocols for older children including; the identification and labelling of feeling states, relaxation techniques and cognitive strategies. Further, the program was developmentally targeted, incorporating the use of puppets and games in order to engage the children. The parental component incorporated psycho-education, teaching of parent management and behavioural strategies, relaxation exercises, group problem solving and support from peers. Thus, focusing on identified areas of risk such as parental reinforcement of avoidant behaviour. This study provides promising support for the adaptation of CBT based treatment protocols for young children and their families. However, the lack of a randomized control comparison group and parent only assessment of anxiety is limitations of this study. Future research is required with the inclusion of an appropriate control group. It would also be of benefit to assess levels of parental stress and anxiety in addition to other contextual and family variables, such as family functioning to determine how these factors influence treatment outcome.

Hirshfeld-Becker et al., (2010) conducted a randomized wait-list controlled trial to examine the efficacy of a developmentally appropriate parent-child cognitive behavioral (CBT) protocol for the treatment of anxiety disorders in children aged 4 - 7 years (n = 64) “Being Brave”. This study is a follow up to Hirshfeld-Becker et al’s (2008) study discussed above. Inclusion criteria stipulated the child must meet DSM-IV diagnostic criteria for an anxiety disorder. A number of exclusion criteria were adhered to including the exclusion of children at risk in terms of suicidal ideation or severe impairment. Participants were randomized to either an intervention or control condition. The intervention was facilitated by registered

psychologists and a postdoctoral psychology student. The “Being Brave” intervention is a developmentally targeted manualized program developed from Kendall’s Coping Cat Program (Kendall, Kane, Howard & Siqueland, 1992) developed for young children and their parents. The program is based on a CBT framework and incorporates a number of empirically validated treatment targets such as relaxation, cognitive restructuring and in vivo exposure. Developmental adaptations include; the use of games, immediate positive reinforcement and parental involvement in modeling and reinforcing coping techniques.

Participants were assessed at baseline, post treatment and one year follow up. Parents of the children involved in the research were also assessed for anxiety disorders. In addition, children in the control group were reassessed at week 7, or if their condition worsened. Children assigned to the CBT intervention group (IG) were assessed using the Schedule for Affective Disorder and Schizophrenia for School aged Children, Epidemiological Version (K-SADS-E, Orvaschel, 1994) which was supplemented with the DSM-III-R avoidant disorder module from the Diagnostic Interview for Children and Adolescents, Parent Version (Herjanic & Reich, 1982). Kendall’s (1994) Coping Questionnaire (CQ) and standardized age specific laboratory observational protocols for BI (Rosenbaum et al., 2000). The Kaufman Brief Intelligence Test (K-BIT) Vocabulary and Matrices subtests (Kaufman & Kaufman, 1990) were used to assess intellectual functioning, and two parent report measures were used to supplement the BI observational ratings; The Retrospective Self-Report of Inhibition (Reznick, Hegeman, Kaufman, Woods & Jacobs, 1992) and the Emotionality-Activity-Sociability Temperament Survey (EAS; Buss & Plomin 1984). Both parents were interviewed at baseline using the Structured Clinical Interview for DSM-IV (SCID) to determine the parent’s diagnoses, if any. The diagnostic interviews were completed by Bachelor or Master’s degree students in psychology under the direct supervision of psychiatrists and psychologists. Post and follow up assessment included

completion of the K-SADS-E, and the Coping Questionnaire, and children were assessed again for BI (post treatment only) through laboratory observation.

At post treatment among completers, 59% of the CBT group were rated as free of an anxiety disorder diagnosis compared to 18% of control children. This finding is comparable to the results of CBT treatment trials for older children (Barrett, Rapee & Dadds, 1996;& Kendall, 2000; Kendall, 1994). Treated children demonstrated a clinically significant decrease in anxiety disorders and increase in parent rated coping with levels of improvement following treatment maintained at one year follow up. Whilst it was not the objective of the study to modify levels of BI, the treated children who demonstrated high levels of BI unexpectedly showed a significantly greater increase in spontaneous comments during the laboratory assessment at post treatment than the control group. 50% of the inhibited children treated with CBT lost their BI status compared with only 10% of the control condition. Although children with BI responded at a reasonable rate they were less likely to lose all of their anxiety diagnoses and those without BI had a significantly higher overall response rate. This finding is suggestive of the fact that children with BI may require longer or more intensive treatment approaches to address their anxiety diagnoses.

This research is one of very few controlled trials in the literature for this population which has examined the effectiveness of a developmental adaptation of effective treatment approaches for older children (Comer et al., 2012). The focus on increased parental invovlement in treatment, and direct targeting of identified risk factors such as parenting behaviour beleived to mainatin child anxiety, parental management of anxiety and an increased emphasis on, parental modelling, represent significant strengths of this intervention. The specified goals of the study were two fold; firstly to achieve anxiety symptom reduction in the children, but also to modify parenting factors hypothesized to maintain child anxiety. The parental component involved providing psycho education and skill development, with the aim of teaching parents how to model optimal coping, to praise

the child's efforts at adaptive coping and to refrain from criticizing or reinforcing anxious behavior. Further parents were encouraged to foster exposure and contingently reinforce exposure practice and use of coping plans. The study adhered to a strict manualized treatment protocol and a thorough multimodal assessment was conducted including the use of behavioral observations, questionnaires and clinical interviews. In addition parents were assessed using a structured clinical interview to determine presence of psychopathology, this is a further strength of the study as it provides information about the impact of the parental component of the program and the familial contribution to the child's presentation.

The results suggest that developmentally modified parent-child CBT may show promise for reducing anxiety and improving coping skills in children aged 4 - 7 years. Further, the finding that CBT may be able to reduce some manifestations of BI should be explored further in larger samples. This finding is consistent with experiments with primates suggesting that BI can be modified through parenting behaviors early in development (Suomi, 1997). The inclusion of booster sessions is also recommended for future studies to improve long-term outcome. In addition it may be beneficial to examine the "Being Brave" treatment protocol's efficacy in samples with greater socioeconomic and ethnic diversity as well as its effectiveness in community mental health settings. A limitation of this study is the use of a monitoring only wait-list condition, such a condition is unable to control for the non-specific effects of attention provided during the intervention, thus future research should include an attention control condition.

Comer et al., (2012) in a very recent study sought to build on previous research (Choate et al., 2005; Pincus et al., 2005, 2010) examining the efficacy of an anxiety based modification of PCIT for separation anxiety disorder. The study represents a preliminary feasibility and efficacy study of the CALM program (Coaching, Approach behaviour and Leading by Modeling) for children aged 3 to 8 years (M = 5.4, SD = 1.3) with a diagnosis of

separation anxiety disorder, social anxiety disorder, generalised anxiety disorder and /or specific phobias. Participants and their families were recruited from Columbia University Clinic for Anxiety and Related Disorders. Inclusion criteria stipulated that children had a principal anxiety disorder diagnosis, based on diagnostic interview assessment, with a clinical severity rating or 4 or more required (ADIS-C/P; Silverman & Albano, 1996), and both child and parents were to be English speaking. Exclusion criteria included; a diagnosis more impairing than the anxiety disorder, severe functional impairment, and/or medical related issues or pervasive developmental concerns.

Potential participants were initially screed by telephone and those children who met criteria were assessed using the ADIS-C/P (Silverman & Albano, 1996) and the Children's Global Assessment Scale (CGAS; Shaffer et al., 1983) by an independent evaluator blind to all treatment related. The administrator, a PhD level postdoctoral research fellow in clinical psychology was directly trained on the interview. A second baseline assessment was conducted immediately prior to the first treatment session of the CALM Program (Puliafico, Comer & Albano, 2008) with post treatment assessment conducted on completion of the program

The program is a 12 session manual based modification of Parent-Child Interaction Thearpy (Eyberg, 2010; McNeil & Hembree-Kigin, 2011) for the treatment of anxious children aged three to eight years and was administered by PhD level clinical psychologists specializing in the treatment of pediatric anxiety disorders. The \CALM program provides behavioural parent training via real time in session coaching of parents whilst the therapist observes and coaches the parent via a bug in the ear device. Session content focuses on developing a positive and mutually rewarding parent-child relationship, selective attention, praise and incidental teaching. The importance importance of exposure tasks in the treatment of child anxiety has been established (Kendall et al., 2005, 2008; Silverman et al., 2008) therefore the CALM program incorporated 8 in session

exposures sessions during which time the parent live-coaches the child in the promotion of brave behaviour.

The findings of the study are promising for the treatment of anxiety and its disorders in young children using modified PCIT, with all but one of the participants demonstrating full diagnostic improvement on both principal and comorbid diagnoses and all but one showed meaningful functional improvements. The innovative inclusion of in-vivo parent coaching for the treatment of a range of anxiety disorders is a significant strength of this study and has contributed significantly to the increasing body of literature focused on this population.

Treatment of OCD and PTSD in Young Children

Obsessive Compulsive Disorder (OCD) and Post Traumatic Stress Disorder (PTSD) OCD and PTSD represent serious and significant psychiatric disorders in early childhood (Choate et al., 2008) and can be considered to be at the severe end of a continuum of anxiety. The treatment components for OCD and PTSD overlap with interventions for prevention of anxiety, however the dose of intervention required is more intense for young children suffering from the debilitating effects of severe anxiety. The following section reviews the treatment studies for preschool aged children with a diagnosis of OCD or PTSD.

Freeman et al., (2008) developed and tested a family based CBT protocol for 5 - 8 year old children (n = 42) and their parents with a primary diagnosis of Obsessive Compulsive Disorder (OCD). Participants were recruited through referral from a variety of health professionals. The objective of the study was to assess the relative efficacy of family based Cognitive-Behavioral Therapy (CBT) versus family based Relaxation Treatment (RT). Assessment and treatment was conducted in a child anxiety disorders specialty clinic. Inclusion criteria for participation in the study included; a *DSM-IV* diagnosis of OCD (primary) as determined by a semi structured interview (Schedule for Affective Disorders

and Schizophrenia for School-Age Children-Present and Lifetime Version [KSADS-PL]) administered to both parent and child; symptom duration of at least three months and the availability of at least one parent to attend each treatment session. Assessments were conducted pre and post treatment by independent raters blind to treatment assignment. Assessment measures included the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS), the Clinical Global Impressions (CGI)-Improvement Scale, National Institute of Mental Health (NIMH) Global Rating Scales, Conners Parent Rating Scale-Revised (Long Version) (Conners, Sitarenios, Parker & Epstein, 1998), Beck Depression Inventory (BDI) (Beck, 1996), The Obsessive-Compulsive Inventory (Foa, Kozak, Salkovkis, Coles & Amir, 1998), The Screen for Child Anxiety-Related Emotional Disorders (Birmaher, Khetarpal, Brent et al., 1999) and The Brief Symptom Inventory (Derogaris & Melisaratos, 1983).

Participants were randomly assigned to either the Family Based CBT or Relaxation Therapy (RT) control group. The treatment was based on a CBT framework and developmentally tailored for this age group. Parents were trained as coaches and taught specific skills to increase their child’s motivation and assist their children to manage the symptoms of OCD. The primary components of the treatment included; affective education, exposure and response prevention relaxation training and the use of a reward system to encourage relaxation between sessions. The facilitators of the group treatment were postgraduate level students and clinical psychologists with experience in CBT for anxiety disorders, parent behavior management training, relaxation and family based treatment. Promising results were obtained with CBT found to be effective in reducing OCD symptoms and achieving remission. A moderate treatment effect was identified for the CBT group, however significant differences between the groups were not found. For the completer sample, CBT had a large effect and there was a significant group difference favoring CBT. In the intent-to-treat sample, 50% of children in the CBT group achieved

remission as compared to 20% in the RT group. In the completer sample, 69% of children in the CBT group achieved a clinical remission compared to 20% in the RT group.

There are many strengths of this study. First, this research represents one of the first studies with an exclusive focus on young children with early onset OCD and their parents with a focus on identified risk factors. The findings from the study suggest that a developmentally tailored family based CBT approach for early onset OCD may be of significant benefit for young children and supports the importance of involving parents in the treatment of child OCD. The treatment components of the program were based on empirically validated treatment for older children, but had been developmentally tailored to the cognitive capabilities of the young children. A further significant strength includes the use of an active treatment (RT) as a comparison condition as opposed to a wait-list control. There are a number of benefits to the use of RT as a comparison condition such as the ability to control for key factors including; level of therapist contact, intensity of treatment experience, treatment expectancy, acceptability and credibility for families (Freeman et al., (2008). This allowed for a much more rigorous test of the treatment. However there were also several limitations of the study including; the small sample size and lack of diversity in the sample in terms of ethnicity. The authors suggested that the study would have benefited from the use of additional outcome measures including parental psychopathology and family functioning. Further, the lack of longer-term follow up also represents a weakness in terms of the maintenance of treatment effects over time

Prevention Trials

Indicated Prevention and Treatment Studies for Children aged 3 – 7 years

The first study (La Freniere & Capuano, 1997) is one of the earliest incorporating a preventive intervention with an experimental design with withdrawn preschool aged children. The objective of this study was to clarify the direction of effects within a

transactional model of the development of anxious-withdrawn behavior in early childhood. The authors sought to test the general hypothesis that emotional problems of young children are best conceptualized as relationship disturbances (Emde, 1989; Sroufe, 1989; Sroufe & Fleeson, 1986). It was further hypothesised that early childhood affective and behavioural symptoms may be influenced by chronic caregiver difficulties that negatively affect the parent-child relationship. Thus, it was proposed that by addressing such difficulties this may reduce the child's symptoms.

Participants included 43 children aged 31 - 70 months (mean age of 53.4 months) who were part of a large-scale evaluation of the social emotional adjustment of children attending preschool. The sample of 43 (23 girls, 20 boys) children who scores were 1.0 SD or more above the mean on the anxious-withdrawn scale of the Social Competence and Behavior Evaluation, (SCBE, La Freniere & Dumas, 1996) as rated by their teachers, were selected from a large scale sample of French-Canadian preschoolers recruited from 74 preschool classes, located within the Montreal metropolitan area. Exclusion criteria were not discussed. Following attainment of parental consent, the participants were randomly assigned into a parent-child intervention (*N = 21)* or a monitoring-only control condition (*N= 22*) and the two groups were evaluated to verify equivalence of demographic factors. Subject attrition included only one participant. The treatment group received a 6-month intervention, whilst the control group did not receive any intervention.

A multi-method, multi-informant method of assessment was employed at pre-intervention and 6 month follow-up for the experimental group. The control group was assessed once only, with repeated measures carried out for the SCBE only using the same 6-month interval as the experimental group. Experimental subjects were assessed through maternal report, direct observation and child motivation/co-operation. The direct observational task was based on a paradigm developed by Gauvain and Rogoff (1989) and adapted for use with preschool aged children. Observational ratings were competed

by three observers, including two advanced graduate students and a faculty researcher. The raters were reportedly blind to participant status, and received 2 months training to score the videotapes. Inter-rater agreement was obtained for all the videotapes, ranging from 71 - 85% across the three scales used. Teachers also competed the SCBE (LaFreniere & Dumas, 1996). Assessment of levels of maternal stress (Parenting Stress Index) was also completed prior to the initial home visit.

The intervention involved a 20 session, 6 month, integrated home-based prevention program for anxious/withdrawn preschoolers based on attachment, attribution and behaviorist perspectives. The program was facilitated by five advanced graduate students who were trained the in the manualized program (Capuano, 1995) and received ongoing supervision to ensure fidelity across facilitators. The intervention included four phases; *Phase 1 (*one laboratory visit and two home visits) focused on assessment, *Phase 2 (*three home visits*)* primarily focused on providing parental psycho-education related to children's developmental needs; *Phase 3* (two home visits) involved setting objectives related to a core set of activities which included; child-directed play sessions, behavior modification, training in parenting skills, and building support networks and *Phase 4* (11 home visits) involved skills based training. At post treatment significant immediate improvements in terms of teacher-rated social competence were identified for children in the treatment group however significant between group differences were not observed in terms of reduction of anxious-withdrawn behavior. The total levels of parental stress in the treatment group achieved a significant decline over the 6-month intervention. This finding is based on post-test scores only. Mothers in the treatment group were also found to demonstrate a significant improvement in emotional support towards their children and more control. Maintenance effects were not assessed.

La Freniere and Capuano's (1997) study demonstrated significant methodological rigor. The use of a multi-informant, multi-method assessment process (including an

observational interaction task between mother and child), manualized intervention and 6-month follow-up are all significant strengths of this study. Further, the intervention focused on a number of identified extrinsic risk factors for child anxiety including; providing parental psycho education focused on the developmental needs of the child, and promotion of parenting competence in terms of sensitivity to those needs; direct training in positive parenting skills and use of video feedback to assist in the development of child directed play and reduction of controlling and intrusive parenting. The intervention also focused on alleviating parenting stress and increasing levels of social support for the parent and family. The findings from the study suggest that anxious withdrawn preschool aged children can achieve improvement in terms of social competence through parental participation in a home-based intervention. Given that the intervention was focused primarily on parental behavior and promotion of parental health and competence, the findings provide strong evidence for proposed transactional processes underlying early affective disorders, and for the significance of parenting behavior on the development and/or maintenance of child anxiety. Thus providing preliminary support for the inclusion of a parental training component in developmentally tailored prevention programs, to promote social and emotional competence in preschoolers and for the possibility of selective intervention for anxiety.

Selective Prevention and Treatment Studies for Children aged 3 - 7 years

Findings from selective interventions have demonstrated promising results in terms of the prevention of anxiety symptoms and disorders. Three selective intervention studies were identified which are of particular relevance to this review, and provide support for the use of such early programs in preschool aged children.

Rapee and Jacobs (2002) piloted the efficacy of a selective prevention based parent program for anxiety and parent rated behavioral inhibition (BI), in preschool aged 3.5 years to 4.5 years (*N* = 7). The aim of the program was to conduct educate parents of inhibited children to assess whether the development of anxiety disorders can be reduced by targeting potential risk factors. Participants were recruited across a number of day care centers in Sydney, Australia based on parental report of temperament (Childhood Temperament Questionnaire Australian Adaptation (CTQ-A, Smart, Prior, Oberklaid & Pedlow, 1994). Children who scored in the top 25% on the approach scale of the measure were contacted (*N= 41*) and 8 of the families consented to participate in the study, with one family failing to complete the project. Assessment involved maternal report across two measures including the CTQ-A as described above, and the Revised Children's Manifest Anxiety Scale - Modified (RCMAS, Reynolds & Richards, 1978), modified for completion by mothers. The intervention consisted of a six session CBT based parent program which incorporated a number of component skills including; anxiety management strategies, understanding parental modeling and over-involvement, promotion of independence and strategies to assist with development of exposure hierarchies to address fears. Each of the 6 sessions were 90 minutes in duration, conducted over a nine-week period, and facilitated by a final year graduate student in clinical psychology. The program was based on a modified version of Rapee's (2000) treatment program for anxious children. Pre, post and 6 month follow up assessment was completed.

The objective of this study was to pilot a program with potential to be implemented on a universal scale, enhancing public health accessibility. Such programs are essential to the prevention of anxiety disorders in young children, thus the study is important in terms of its contribution to the literature. The program aimed to reduce cost as much as possible, by involving minimal therapist input, and providing long-term educational value to parents. A

strength of this study is the focus on recognized environmental risk factors for anxiety such as parental over involvement and modeling to reduce withdrawn behavior in preschool aged children.

Results from this parent-based program demonstrated marked reductions in BI and the rates of anxiety diagnoses in children to 12 month follow up. Suggesting it may be possible to influence the expression of an identified risk factor for anxiety and its disorders, withdrawn temperament, in young children. No immediate post-intervention effects were found, however this study provided promising results in terms of the potential for similar parent based programs in the prevention of anxiety and its disorders.

In an extension to this study, Rapee, Kennedy, Ingram, Edwards & Sweeney (2005) conducted a larger scale selective prevention study examining the effects of a universal CBT based prevention program for parents (*n = 146*). The program targeted parents of preschool-aged children (aged 36 - 62 months, mean age 46.8 months) exhibiting inhibited-withdrawn behavior as rated by parents, and observed in the laboratory to show BI. It was proposed that a number of putative risk factors for anxiety disorders may be moderated or mediated by inhibited temperament (Rapee, 2002; Rapee et al., 2005). The participants were recruited through screening of parents from 95 preschools located in Sydney, Australia. Children scoring above 30 (approximately 1.15 standard deviations above the aged adjusted norm) on the Short Temperament Scale for Children (STSC-A were invited for further testing (*n = 285)* and participated in a laboratory assessment, based on Kagan et al's (1989) procedure for behavioral inhibition. The parents of 146 children agreed to participate in the study. Assessment included the behavioral assessment as reported above, parental report on the STSC-A, the Temperament Assessment Battery for Children-Revised (TABC-R; Presley & Martin, 1994) and the

Anxiety Disorders Interview Schedule for Children and Parents IV - Parent Version (Silverman & Albano, 1996) completed by psychologists. Inter-rater reliability was attended to, with adequate rates obtained. The children were randomly allocated to either the intervention or monitoring-only control condition. The monitor condition did not receive any intervention and were contacted 12 months later for a follow up assessment. The parent-education program involved six 90 minute sessions focusing on; providing psycho-educational material about anxiety, parental management techniques, the role of overprotection in maintaining anxiety; exposure hierarchies principles and practical application, cognitive restructuring of the parents' worries and identification of high risk transition periods. The intervention was specifically designed to be brief in order to provide maximum potential for public health implementation and targeted an identified risk factor for anxiety, an inhibited/withdrawn temperament.

Children of parents in the educational-parent group demonstrated a significantly greater decrease in anxiety diagnoses at 12-month follow-up, relative to the monitoring condition. Further, a higher percentage of the children allocated to the treatment group moved from "at risk" to "low risk" status following the intervention. The results failed to demonstrate that parent education had any significant impact on inhibition/withdrawal over a one-year period however. At 2 and 3 year follow up there was no difference in levels of BI, however children from the intervention condition had lower frequency and severity of anxiety disorders. By mean age 7 years, rates of anxiety disorders were 40% (intervention) versus 69% (controls). In concordance with Rapee and Jacobs (2002), this study emphasized the potential of a relatively low intensity, parent based CBT preventive intervention to influence the trajectory of anxiety symptoms and its disorders with preschool aged children. Although difficulties exist in terms of the interpretation of the effects on temperament and several limitations of the study can be identified, such as non-randomization of the

participants. The results are promising and suggest that early child anxiety may be preventable through a universal intervention.

Kennedy, Rapee, & Edwards (2009) conducted a study examining the efficacy of an early intervention program for 3-4 year old children (n= 71, mean age 47.07 months) and their parents. Inclusion criteria stipulated that children obtain a high score on a laboratory measure of inhibition, and at least one parent met DSM-IV (APA, 2000) diagnostic criteria for an anxiety disorder. Participants were randomly assigned to either an 8-session parent only intervention or a 6-month waitlist group. Assessment included a number of measures including; the Short Temperament Scale for Children (STSC) (Prior et al. 2000), The Behavioral Inhibition Questionnaire (BIQ) (Bishop, Spence, McDonald, 2003) completed by both parents, the Preschool Anxiety Scale (PAS-R) (Spence et al, 2001), ADIS-IV-P (Silverman & Albano, 1996) and the Child Anxiety Interference Scale-Preschool Version (H.J Lyneham et al., unpublished, 2008). In addition participants completed a BI laboratory assessment based on Kagan et al's (1984) procedure for preschool aged children, facilitated by experienced assessors. Both parents also completed the Depression Anxiety and Stress Scales (DASS-21) and the Anxiety Disorders Interview Schedule for DSM-IV Lifetime Version (Di Nardo, Brown & Barlow, 1994) was used to assess anxiety in both parents. The CBT based parent intervention was based on the *Cool Kids Program* (Rapee, Lyneham, Schneirg et al. 2006) developed for anxiety management in older children. The program aimed to extend the authors' earlier intervention by targeting a group of children at risk for anxiety disorders. Program content included psycho education, parent management strategies, exposure, cognitive restructuring for both parents and children and relapse prevention strategies. The intervention was facilitated in a group format over a period of 8, 90-minute sessions.

Children whose parents participated in the intervention demonstrated a significant reduction in the frequency and severity of anxiety disorders and inhibition, relative to children on the waitlist. At the time of initial assessment all children met diagnostic criteria for at least one anxiety disorder. At 6 month follow up, the intervention group demonstrated a significant decline in anxiety disorder diagnoses. The intervention did not appear to have a significant impact on rates of parental anxiety however.

This study provides a valuable contribution to the literature as it represents one of the first to demonstrate a significant improvement in both anxiety disorder diagnoses and levels of inhibition in preschool aged children. It would be of significant value for future research to replicate this study with a larger sample size and an active control group. A longer follow up would also be useful to measure change over time. The findings provide further support for the many benefits of early parent based intervention to alter the developmental trajectory of anxiety in a high-risk group of young children.

More recently, Rapee, Kennedy, Ingram, Edwards & Sweeney (2010) conducted a randomized controlled trial of a brief parent based intervention program, designed to prevent anxiety in young children. Participants included 146 inhibited children aged 36 to 59 months (mean age=46.5 months, SD=4.8) and their parents. Inclusion criteria were based on parent-reported screening in addition to laboratory-observed inhibition. Participants were recruited from 95 preschools. Mothers of all children (N=1,720) completed several screening measures including; the Short Temperament Scale for Children, an abbreviated version of the Childhood Temperament Questionnaire (Australian version) (Sanson et al., 1994; Thomas & Chess, 1977). Only children who obtained a score above a pre determined clinical cutoff on the Short Temperament Scale for Children, and who also met criteria for behavioral inhibition based on a laboratory assessment were eligible to participate in the study (N=146). The participants were then randomly assigned to either an intervention group or a monitor group. Children were assessed across a

number of measures including; the ADIS for Children and Parents IV- Parent Version, Spence Child Anxiety Scale (Spence, Rapee, Mcdonald & Ingram, 2001) and The Temperament Assessment Battery for Children- Revised (Presley & Martin, 1994).

The group-based parent intervention was conducted across six, 90 minute sessions and focused on; principles of parent management, cognitive restructuring for the parent's worries, and in vivo exposure. Clinical psychologists facilitated the intervention. The main outcome measures included number and severity of anxiety disorders, anxiety symptoms, and extent of inhibition. The participants allocated to the monitor condition did not receive any intervention. All participants were followed up every 12 months for three years. Intervention was offered to the children in the monitor condition if required.

Study findings suggested that children, whose parents received the intervention when they were preschool age, were found to be significantly less likely to present with symptoms of anxiety at middle childhood (at three year follow-up). Levels of behavioral inhibition were shown to have reduced in both groups, thus the preventive effects of the intervention do not appear to be mediated by temperament.

There are a number of significant strengths of this study including the focus on identified risk factors for anxiety including inhibited temperament, parent anxiety and over protection. Further, the low cost, brief nature of this intervention promotes implementation in community settings. This study is significant in that it represents the first to demonstrate lasting changes in children's symptoms of anxiety, following a brief intervention early in the child's life. Thus, this simple low cost intervention may potentially alter the trajectory of anxiety and related disorders in young inhibited children.

Universal Prevention Studies for Children aged 3 – 7 years

Domitrovich, Cortes & Greenberg (2007) conducted a Universal randomized trial of an adaptation of the Promoting Alternative Thinking Strategies curriculum (PATHS) for

preschool-age children. The PATHS program was developed to increase social and emotional competence and reduce problem behaviour for preschool aged children. The program was implemented in twenty classrooms and facilitated by classroom teachers on a weekly basis over a 9-month period. Participants included 246 children (120 boys, 126 girls) recruited from participating Head Start schools located in Central Pennsylvania, and randomly assigned to intervention or control groups. Child assessments and teacher and parent reports of child behavior were obtained at the beginning and end of the school year. Child assessment included completion of the Recognition of Emotion Concepts subtest from the Kusche Emotional Inventory (KEI; Kusche, 1984); the Assessment of Children's Emotions Scales (ACES; Schultz, 2001), the Denham Puppet Interview (DPI; Denham, 1986) and two measures of inhibitory control; the Day/Night Task (Diamond & Taylor, 1996) and an adaptation of Luria's tapping test (Luria, 1966). The Attention sustained subtest from the Leiter-Revised Assessment Battery (Roid & Miler, 1997 and problem solving section of the Challenging Situations Task (CST; Denham, Bouril & Belouad, 1994) were also administered directly to the children. Parent report measures included; the Head Start Competence Scale (HSCS; Domitorvich, Cortes & Greenberg, 2001) and completion of a demographic based questionnaire. Teachers completed the Preschool and Kindergarten Behaviour Scales (PKBS, Merrell, 1996).

Post intervention effects for this randomized clinical trial were obtained on emotional knowledge skills targeted by the intervention including; increasing emotion knowledge and improving the accuracy with which emotional expressions are processed. These are critical areas of improvement, as emotion knowledge may predict future social functioning (Izard et al. 2001; Schultz et al. 2000, 2001). Children in the intervention group were also reported to have improved in terms of social and emotional competence as rated by parents and teachers at post assessment compared to the control group. Further, teachers

rated intervention children as less socially withdrawn at the end of the school year compared to controls.

This study represents one of a very few Universal trials of a program designed to address social and emotional competence in this age group. The findings from this Universal randomized clinical trial suggest that the Preschool PATHS program is clearly a promising practice for improving children's social and emotional competence, and that Head Start teachers can effectively deliver a universal social-emotional curriculum and improve children's emotional knowledge, self regulation, social interaction level and skills. A significant strength of this study is the focus on emotional regulation, an identified risk factor for anxiety. A further area of strength is the use of multiple informants; teacher, parent and direct assessment of the children's skills, and that concordance was achieved across parent and teacher ratings. Additional research is needed to replicate the findings.

Dadds and Roth (2008) conducted a universal prevention program, REACH for RESILIENCE (*N* = 734). The intervention, developed exclusively for parents of children aged 3 to 6 years, was trialed in 25 preschools in Brisbane, Australia over a three month time period using a controlled-trial design. The study was based on a proposed developmental model of the trajectory of internalizing problems. The model hypothesized that temperament is a predisposing risk or protective factor that interacts with parenting style to establish learned patterns of parent child interaction (Dadds & Roth, 2008). It was further hypothesized that early intervention may improve parent child interaction patterns and promote positive future expectations, resulting in a more resilient developmental path. The program content was based on a cognitive-behavioral framework and included training on the following component skills; targeting self-talk, behavioral change, and problem solving. The 25 schools were allocated to either an intervention or a comparison

group. Treatment integrity and social validity data was collected. Mean adherence to the treatment protocol was 96% and the program was rated as highly acceptable. Assessments occurred at four time points over a 14-month period, with a diagnostic interview at follow-up. Parent and teacher reports included assessment of child temperament, social behavior, inhibition, parent characteristics, and parent-child interactions. Social validity data indicated that parents perceived the program as highly acceptable and helpful. The results of the study demonstrated that the intervention resulted in decreases in child problems based on teacher report for both internalizing and externalizing difficulties. However, the effect sizes were small and no changes were noted in parent's diagnostic ratings. When participants were grouped according to pre-intervention risk status, a higher percentage of the treatment group moved from at-risk to low-risk status following the intervention however.

A number of strengths of this study can be identified. First, this study represents one of a very few universal trials with this population. The intervention incorporated a number of validated approaches to internalizing problems delivered in a preventive format. The trial was open to all parents and was marketed in terms of positive development for children and parents, rather than remediation of problems, potentially reducing stigma associated with seeking help. The study also focused on assessment of both child functioning and parental stress, and the interaction between parent and child, which is important in terms of the maintenance of anxiety. Overall, this study provides preliminary support for the implementation of universal preventive interventions for the parents of preschool-aged children, demonstrating reasonable participant rates and high levels of social validity. However several methodological issues can be identified, commonly associated with universal trials, such self-selection issues and drop out rates, suggesting the results should be interpreted with some caution.

Pahl & Barrett (2010) conducted a school-based Universal preventive intervention trial for preschool aged children (aged 4-6 years, *N* = 263) in Brisbane, Australia. This study represents the first efficacy trial of the *Fun FRIENDS* program (Barrett, 2007). *Fun FRIENDS* is a CBT based treatment and prevention program for anxiety and social and emotional skill development, developed as a downward extension of the *FRIENDS for Life* program (Barrett, 2004, 2005). The *Fun FRIENDS* program is a developmentally tailored, play-based program, which aims to prevent anxiety and enhance resilience through development of social and emotional competence. Program content includes; social skills development to assist with establishing a sense of identity and being brave, understanding feelings in oneself and others, learning to recognize the physiological cues associated with feelings and positive coping mechanisms to manage emotions, cognitive strategies to increase awareness and control over thoughts and graded exposure to feared situations. Schools were randomly allocated to an intervention group (IG) or a waiting list control group (WLG). The program is manualized and was facilitated by postgraduate psychology students, within each classroom for two hours a week, over a 10-week period. Three parent information evenings were also provided over the 10 weeks, the content of which focused on; anxiety psycho-education and information regarding session content. Weekly handouts were also provided to assist parents to reinforce skill development in the home context. Parent and teacher pre and post intervention screening was conducted; with 12 month follow up data collected from teachers only. Parent report data revealed no significant differences between the IG and WLG on anxiety, behavioral inhibition (BI) and social emotional strength at post-intervention. At 12-month follow-up, improvements were found on anxiety, BI and social-emotional competence for children in the IG. Teacher reports revealed significant improvements at post-intervention on BI and social-emotional strength for children who had received the program.

There are a number of strengths to this study. First, given the very limited number of universal studies with this age group, the study provides a valuable contribution to the literature. Secondly, the use of multiple informants (teachers and parents) is significant, and the fact that the results were concordant between raters is also of value. The developmentally targeted, manualized nature of the program and targeting of identified risk factors such as behavioral inhibition, emotional regulation and parental behavior, are further areas of strength. In summary, the results from this study provide support for the use of universal intervention programs for young children (aged 4-6 years) implemented within the school context. Further the study outlines the importance of developmental appropriateness of the intervention and the involvement of parents in the intervention program.

The Universal prevention and early intervention studies above provide promising outcomes for reducing the risk for anxiety disorders in children through school-based delivery of programs. There is a clear need for further research in this area however to expand our current understanding regarding the applicability of universal preventive interventions with young children.

Insert Table A.

Summary

In summary, despite the well-recognized and significant impact of anxiety disorders across the lifespan, few attempts have been made to develop and evaluate the effectiveness of prevention programs for anxiety and its disorders in young children, therefore it is difficult to draw any clear conclusions about how, and in whom, anxiety can be prevented

(Bienvenu & Ginsburg, 2007). It is possible that the scarcity of such interventions is in part due to the limited understanding of developmental models of risk for anxiety and its disorders (Rapee et al., 2010).

The current review highlights all early treatment and prevention studies for early child anxiety (aged infancy – 7 years) to our knowledge to date. Overall the findings from the reviewed studies are encouraging and provide preliminary support for the early treatment and prevention of anxiety in young children characterized by varying levels of risk. The research evidence suggests that CBT and other treatment and prevention approaches delivered to either parents or children or a combination, can reduce emotional and beahvioural symptoms of anxiety and its disorders in preschoolers.

Whilst the reviewed studies provide promising support for the prevention of anxiety and its disorders by targeting risk factors, the findings are still far from conclusive and further research examining the mediating role of such factors is essential. Many additional questions remain about the prevention of anxiety disorders, including; whom should prevention efforts target? What intervention strategies, delivery formats, and settings would be most helpful? What level of parental involvement is required to achieve change? Finally, how much does prevention cost, and who will pay for it? Thus, there is a significant need for theoretically derived models that specify how the mechanisms of prevention might work. Many of the reviewed studies also used small sample sizes and included limited follow up periods which is a disadvantage in terms of understanding the long term impact of prevention programs.

It is of vital importance that we continue to advance our knowledge of anxiety across the lifespan through methodologically rigorous randomised clinical trials and further empirical identification of risk and protective factors for the development of anxiety disorders in young children as targets for prevention. A further issue related to the identification of risk

involves an appreciation that risk factors may not be stable over time and may be unique to specific developmental stages. Thus identifying when and what to target across the life span is an important area for future research focus, and may assist to define the optimal timing of interventions. A further goal for future research should be the clarification as to which preventive intervention strategies are most effective and who the primary target of intervention should be, children, parents or a combination or both in order to enhance the benefit of treatment. Or whether parent based intervention, particularly with preschool aged children, is sufficient. Future research examining theory-based mechanisms of change will help to answer to these questions.

Also unclear is whether preventive intervention strategies are most effective when delivered on a universal nature, or whether smaller groups or work with individual families is needed. Thus further randomised controlled trials are required to evaluate the effectiveness of prevention programs across these contexts. In response to this need and dearth of literature in this area Anticich et al. (in preparation) conducted a randomised trial of a prevention program for children aged 4 - 7 years within Brisbane primary school and kindergartens. The findings of this trial may be of significant importance for the literature in terms of furthering our understanding of the effectiveness of prevention in the real world setting.

The recent success of bibliotherapy (Rapee, Abbott, & Lyneham, 2006) and web-based formats for treatment of anxiety disorders suggest that additional options may be viable as preventive interventions. While there are many advantages to this there are also disadvantages, which need to be considered. Evaluation of the maintenance of positive outcome effects over time through long term follow up is also of particular importance in future research, given that the impact of preventive interventions is hypothesized to be long-term, rather than short-term. Inclusion of a wait-list and attention control group, and ensuring adequate assessment of both child and both parents may also contribute further

to our understanding of the efficacy of interventions for young children. As a final recommendation, the inclusion of strength based measures to inform our understanding of resilience and protective factors that may buffer children from developing anxiety disorders, may also be of significant benefit for the development of effective early intervention and prevention programs.

In conclusion, the reviewed studies demonstrate preliminary support for the effectiveness of brief early intervention and prevention programs for young children, even if this is small in terms of statistical significance. Support was demonstrated for both child based and parent only interventions in terms of reducing current anxiety and associated risk. Thus such programs may have the potential to alter the developmental trajectory of anxiety in young children at risk for anxiety disorders and parents, preschool teachers and other professionals have several treatment and prevention modalitites to choose from. Given the potential for such programs, and the significant negative impact of anxiety on the lifespan, early prevention programs for this age group should be an area of priority for future research.

Acknowledgements

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