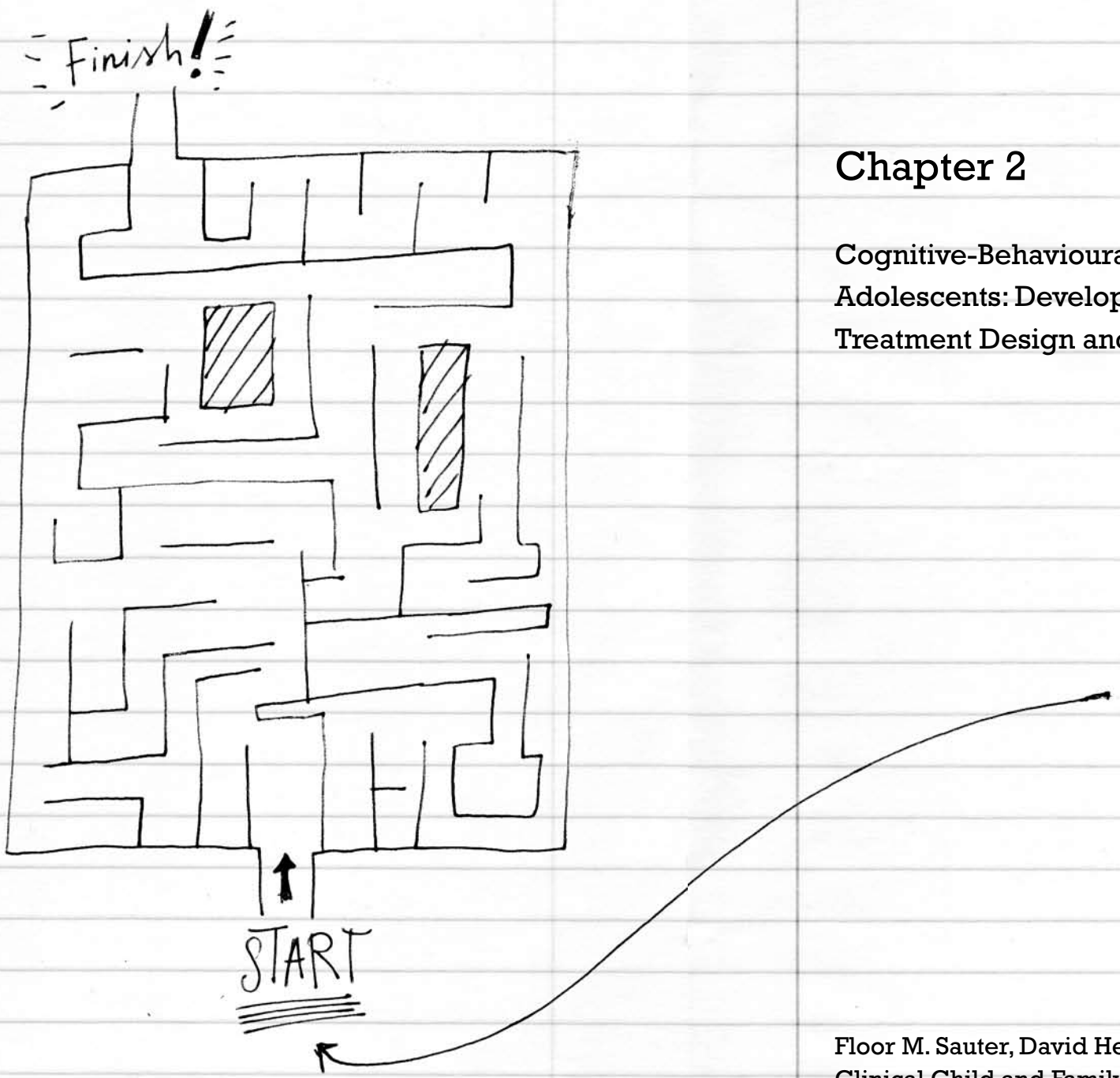
The @school project : developmental considerations in the design and delivery of cognitive-behavioural therapy for adolescent school refusal

Sauter, F.M.



Chapter 2

Cognitive-Behavioural Therapy for Anxious Adolescents: Developmental Influences on Treatment Design and Delivery

Floor M. Sauter, David Heyne, & P. Michiel Westenberg
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Abstract

Anxiety disorders in adolescence are common and disruptive, pointing to a need for effective treatments for this age group. Cognitive-behavioural therapy (CBT) is one of the most popular interventions for adolescent anxiety, and there is empirical support for its application. However, a significant proportion of adolescent clients continue to report anxiety symptoms post-treatment. This paper underscores the need to attend to the unique developmental characteristics of the adolescent period when designing and delivering treatment, in an effort to enhance treatment effectiveness. Informed by the literature from developmental psychology, developmental psychopathology, and clinical child and adolescent psychology, we review the 'why' and the 'how' of developmentally-appropriate CBT for anxious adolescents. 'Why' it is important to consider developmental factors in designing and delivering CBT for anxious adolescents is addressed by examining the age-related findings of treatment outcome studies and exploring the influence of developmental factors, including cognitive capacities, on engagement in CBT. 'How' clinicians can developmentally tailor CBT for anxious adolescents in six key domains of treatment design and delivery is illustrated with suggestions drawn from both clinically- and research-oriented literature. Finally, recommendations are made for research into developmentally-appropriate CBT for anxious adolescents.

Introduction

Anxiety is one of the most common disorders among young people (Roberts, Roberts, & Chan, 2009), and higher rates of anxiety disorders have been reported in adolescence relative to childhood. For example, Newman and colleagues (1996) found an age-related increase in the prevalence of anxiety disorders in a birth cohort, increasing from 7.5 percent at 11 years of age to 20.3 percent at 21 years of age. Similarly, Essau, Conradt, and Petermann (2000) reported that rates of anxiety disorders increased with age, from 14.7 percent at 12 to 13 years, to 22.0 percent at 16 to 17 years of age. Although separation anxiety disorder is less prevalent in adolescence relative to childhood (Cohen et al., 1993), other anxiety disorders such as generalized anxiety disorder (Rapee, 1991) and social anxiety disorder (Westenberg, Gullone, Bokhorst, Heyne, & King, 2007) are more prevalent in adolescence.

The presentation of anxiety in adolescence can be complex, chronic, and severe. Adolescents may be diagnosed with several concurrent anxiety disorders, as well as depression, conduct disorder and alcohol abuse (Clark, Smith, Neighbors, Skerlec, & Randall, 1994; Ollendick, Jarrett, Grills-Taquechel, Hovey, & Wolff, 2008). Essau (2008) reported that the most common pattern of comorbidity in both community (n = 185) and clinical (n = 69) samples of adolescents aged 12 to 17 years was that of depression and anxiety, with comorbidity rates of 31.4 percent and 47.0 percent in the community and clinical samples respectively. There is considerable evidence for the continuity of anxiety disorders into late adolescence and even adulthood (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Kim-Cohen et al., 2003; Kovacs & Devlin, 1998). The maladaptive coping mechanisms of anxious young people may become more entrenched over time (Hudson, Kendall, Coles, Robin, & Webb, 2002), which may intensify anxious symptoms with age. If left untreated, young people with problematic levels of anxiety often endure short- and long-term difficulties in their personal, family, school and social functioning (Essau et al., 2000; Keller et al., 1992).

The adolescent period is a developmental phase defined by transition. Many intrapersonal (e.g., cognitive development), interpersonal (e.g., seeking autonomy from parents), and contextual changes occur simultaneously in family, school and other contexts; and biological, social-emotional, psychosocial, and cognitive development takes place (Holmbeck, O'Mahar, Abad, Colder, & Updegrove, 2006; Roeser, Eccles, & Sameroff, 1998). Developmental factors such as these are regarded as being important to the development, maintenance and presentation of anxiety disorders in adolescence (Clark et al., 1994; Gosch, Flannery-Schroeder, Mauro, & Compton, 2006). For example, the peak in incidence of social anxiety in adolescence coincides with normal increases in fears of negative evaluation and social embarrassment (Ollendick & Hirshfeld-Becker, 2002). At the same time, growing independence may facilitate avoidance behaviours (Rao et al., 2007). These developmental transitions may also impact on a client's willingness and ability to engage in CBT. Interventions for anxious adolescents can therefore be enhanced by taking into account the unique

developmental characteristics of the adolescent period.

Several reviews and reports of treatment outcome research allude to the importance of considering development in intervention with young people in general (e.g., Chronis, Jones, & Raggi, 2006; Kearney & Albano, 2000; Kendall et al., 2005; Kendall & Williams, 1986; Kinney, 1991; Weisz & Hawley, 2002) and with anxious young people in particular (Gosch et al., 2006; Kingery et al., 2006; Silverman, Pina, & Viswesvaran, 2008). Indeed, examples of 'developmentally-appropriate' treatments for anxious adolescents are beginning to emerge. These are interventions which seek to take into account the young person's biological, social-emotional, psychosocial, and cognitive development (e.g., Kendall, Choudhury, Hudson, & Webb, 2002; Siqueland, Rynn, & Diamond, 2005). To date, however, there has been no comprehensive review of the impact that developmental issues may have upon the way in which CBT for adolescent anxiety is designed and delivered.

The purpose of the present review is to advance the use of developmentally-appropriate CBT for anxious adolescents. We begin by presenting three main arguments for 'why' it is important to do so. Subsequently, drawing on clinical and research literature from developmental psychology, developmental psychopathology and clinical child and adolescent psychology, we review and expand upon suggestions for 'how' CBT can be developmentally tailored for anxious adolescents. The review describes developmentally-appropriate practice in relation to treatment with young people, developmentally-appropriate practice in relation to CBT with young people, and, where possible, developmentally-appropriate practice in relation to CBT with anxious adolescents. In the absence of suggestions from the literature, adaptations relevant to CBT for adolescents with anxiety disorders will be proposed. To conclude, we provide suggestions for future research into developmentally-appropriate CBT for anxious adolescents.

'Why' consider developmental factors when designing and delivering CBT for anxious adolescents?

Age and developmental level may moderate treatment outcome

Cognitive-behavioural therapy (CBT)[4] is a widely implemented and evaluated intervention used to treat anxiety disorders. It is an amalgam of behaviourally- and cognitively-based strategies derived from behavioural and cognitive theories (Sanders & Wills, 2005). In CBT, behaviourally-based strategies involve the conceptualization of anxious symptoms in terms of conditioned responses to stimuli, with corresponding interventions emphasizing the blocking and extinction of avoidance behaviour through exposure. Cognitive therapeutic techniques include self-monitoring of thoughts, feelings, and behaviour and cognitive restructuring, aimed at modifying anxiety-related thought content and processes to produce changes in anxiety symptoms (Kendall, 2000).

Several meta-analyses support the effectiveness of cognitive and behavioural treatments for adult anxiety disorders (Deacon & Abramowitz, 2004; Norton & Price, 2007) and several recent reviews conclude that there is increasing evidence for the short- and long-term efficacy of CBT for anxiety-related difficulties in childhood and adolescence (Cartwright-Hatton, Roberts, Chitabesan, Fothergill, & Harrington, 2004; James, Soler, & Weatherall, 2005; Ollendick & King, 1998; Silverman et al., 2008). On average, 60 to 80 percent of children and adolescents treated with CBT no longer meet the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria for their primary anxiety disorder at post-treatment (Ginsburg & Kingery, 2007). As noted by Ginsburg and Kingery (2007), while CBT provides relief of symptoms for many young people, it is clearly not a panacea. A significant proportion of young people treated with cognitive behavioural protocols continue to report clinical and statistical levels of anxiety symptoms post-treatment. In their review of 10 clinical trials examining the efficacy of CBT for anxiety in young people, Cartwright-Hatton and colleagues (2004) revealed that anxiety diagnoses were still present after treatment in more than a third of participants. In fact, many studies report outcomes in terms of 'treatment completers', which may artificially elevate reported rates of symptom alleviation (Albano & Kendall, 2002). As Cartwright-Hatton et al. (2004) aptly concluded, "There is clearly room for considerable improvement in the understanding and treatment of anxiety in this age group" (p. 430).

Age is one variable which has been suggested to be associated with CBT outcomes. However, whether older or younger age is likely to be associated with enhanced outcomes is unclear (Hudson et al., 2002). Studies and meta-analyses investigating psychotherapy for internalizing disorders in young people (e.g., Durlak, Fuhrman, & Lampman, 1991), and CBT for anxious youth specifically (e.g., Cobham, Dadds, & Spence, 1998), have indicated that poorer response to intervention was associated with younger age. Other studies investigating the outcomes of anxiety treatment in young people have found that adolescents fare less well than children. In a study examining predictors of CBT outcome for clinically anxious young people, Southam-Gerow, Kendall, and Weersing (2001) found that older age was associated with poorer outcome post treatment, contrary to a priori expectations. In another study comparing individual and family-based CBT for anxious youth, younger participants (7-12 years) attained significantly better outcomes than their older counterparts across both conditions (13-18 years; Bodden et al., 2008). Yet again other studies report no age effects (e.g., Kendall, Hudson, Gosch, Flannery-Schroeder, & Suveg, 2008).

The lack of clear and consistent age-related patterns in treatment response may be due to a range of factors. Firstly, the type of treatment may influence the

[4] Hereafter, the term 'CBT' will be used to refer to those interventions which comprise both cognitive and behavioural strategies for change, while the term 'cognitive therapeutic techniques' will be used when making specific reference to interventions aimed at cognitive change.

outcomes, inasmuch as younger children seem to benefit from CBT with parent or family involvement (e.g., Barrett, Dadds, & Rapee, 1998) while individual treatment seems to be more helpful for adolescents (e.g., Cobham et al., 1998). Secondly, when 'age' is investigated in treatment outcome studies, researchers use small samples with broad age ranges, which limits the extent to which more sophisticated age-related moderation analyses can be conducted (Silverman et al., 2008). Researchers may combine young people of different ages into single categories (e.g., '8-13 year olds' versus '14 years and older') or compare age categories derived from the sample mean or median, rather than applying theoretically-driven age-related distinctions (Kendall & Williams, 1986; Stallard, 2002a). Thirdly, Creswell and Cartwright-Hatton (2007) noted that most treatment outcome studies on CBT for anxious youth are underpowered, reducing the reliability and validity of statistical analyses used to examine age effects on treatment outcome. Fourthly, relationships currently found between age and treatment response may in fact reflect factors which are merely associated with age, such as the severity and duration of psychopathology, rather than developmental processes (Daleiden, Vasey, & Brown, 1999; Shirk, 1999). Large individual differences in developmental pathways and developmental capacities are characteristic of adolescence (Oetzel & Scherer, 2003). Within the entire adolescent period, as well as amongst adolescents of the same chronological age, the number, nature, commencement, and length of the transitions experienced by young people vary (Holmbeck et al., 2006). As such, chronological age is regarded as a proxy for these developmental processes and an imperfect index of developmental level (Shirk, 1999).

An even more important factor impeding our understanding of the efficacy of CBT for anxious adolescents is their under-representation in treatment outcome studies (Cunningham, Rapee, & Lyneham, 2007; James et al., 2005; Weisz & Hawley, 2002). There are more published treatment outcome studies with children than with adolescents (Roberts, Lazicki-Puddy, Puddy, & Johnson, 2003; Shirk, 1999) and most anxiety treatment outcome studies focus on youth between seven and fourteen years of age (Barrett, 2000). A recent review of 21 studies evaluating the efficacy of CBT for anxious youth found that the average age of the participants was 9.85 years (Compton et al., 2004), calling into question the applicability of the review findings for adolescents with anxiety. While the prevalence of mental health problems, and specifically anxiety disorders, is very high amongst adolescents, many adolescents refrain from seeking professional help (Raviv, Raviv, Vago-Gefen, & Schachter Fink, 2009; Zachrisson, Rödje, & Mykletun, 2006). Accordingly, recruiting adolescents for clinical trials can be very challenging (May et al., 2007). Anxious adolescents in particular may 'slip through the cracks', as they often do not present an immediate problem to school staff, parents or others, unlike adolescents displaying externalizing problems. The lack of treatment outcome studies specifically focusing on anxious adolescents is one of the most significant obstacles to drawing conclusions about factors moderating

the efficacy of CBT for this particular age group. However, there are some indications that adolescents may do less well, and these findings may reflect the influence of developmental factors on the engagement in CBT (Hudson et al., 2002).

Developmental factors may influence engagement in CBT

The developmental processes inherent to adolescence make the teenage years a 'window of opportunity' to alter negative developmental trajectories (Cicchetti & Rogosch, 2002), but these same processes can impact upon the way in which young people engage with the treatment process. In turn, the extent to which a young person is engaged in the therapeutic process may influence treatment success (Chu & Kendall, 2004). For example, the developing need for autonomy can make it difficult for some young people to acknowledge the need for treatment and to accept 'help' (Edgette, 1999, 2002). During treatment, strivings for autonomy can lead to resistance, detachment or disengagement (Rubenstein, 2003; Stallard, 2002b), impairing both the therapeutic alliance and the adoption and generalization of skills outside of treatment. The behaviour of adolescents with anxiety disorders may be particularly challenging for those associated with the treatment process – clinicians, parents, and school staff – due to a complex interaction between anxiety-motivated avoidance on the one hand, and defiance fuelled by strivings for autonomy on the other hand (Garland, 2001). It is conceivable that high levels of anxiety in combination with these strivings for autonomy may lead some adolescents to resist accepting support when having to confront feared stimuli and may even contribute to ambivalence toward engaging in treatment and an evasion of exposure tasks.

The phase of identity development of the client may also influence their engagement in treatment. Marcia (1994) suggested, for example, that young people who are in the foreclosure phase (i.e., who are highly occupied with adopting the values of figures they identify with) may benefit from a slower tempo in treatment sessions. This is held to be important because the exploration of personal issues may reactivate anxieties regarding the process of identity formation. With particular reference to young people's engagement in CBT, Kendall and Williams (1986) suggested that strategies such as self-monitoring may help to further a young person's knowledge of themselves in the service of their identify development.

The way in a client interprets, organizes, and acts on their experiences of the self, others and the environment, or ego development, also may have implications for the engagement of adolescents in particular therapeutic techniques (Kroger, 2004; Westenberg, Hauser, & Cohn, 2004). Swensen (1980) suggested that behaviourally-based treatment (e.g., contingency management) is most suitable for young people below the conformist ego stage, given their tendency to view behaviour in terms of external causes. Adolescents who have achieved the self-aware stage, given their awareness of multiple perspectives, may benefit from cognitive therapeutic techniques such as the questioning of irrational beliefs (Swensen, 1980).

Social-emotional development may also impact upon an adolescent's engagement in CBT. Rohde, Seeley, Kaufman, Clarke, and Stice (2006) found that depressed adolescents (aged 13-17 years) treated with CBT who had good coping skills had a faster recovery time than those who had less adequate coping skills. The authors suggested that treatment outcome may be associated with the augmentation or activation of good baseline coping skills. Given the overlap between CBTs for anxiety and depression (Weersing, Gonzales, Camp, & Lucas, 2008), it is reasonable to expect that anxious adolescents who have more advanced coping repertoires would also have greater benefit from engagement in CBT. Additionally, the level of a young person's emotional development, in particular emotion recognition and regulation skills, can have a considerable impact on CBT participation. Recognizing and differentiating emotions is essential for understanding and applying the cognitive model, and better developed emotion regulation may allow young people to more quickly adopt adaptive coping strategies learned in CBT (Bailey, 2001; Kingery et al., 2006; Suveg, Sood, Comer, & Kendall, 2009).

Holmbeck et al. (2006) and Kendall & Williams (1986) remind us to be mindful of the asynchronicity between physical development and other areas of adolescent development, and the need to tailor treatment content and delivery to the adolescent's abilities, and not their appearance. Physically mature adolescents, for example, may not necessarily have acquired the cognitive, verbal or emotional capacities of same-age peers. In addition, clinical experience suggests that the physical development of the adolescent may have practical consequences for engagement in treatment: if they are reluctant to come to treatment sessions, parents often report that they cannot "pick them up and carry them to the car" as they might do with younger children.

In short, developmental factors can influence the young person's engagement in the therapeutic process in general as well as their engagement in specific therapeutic tasks (e.g., self-monitoring). Given the important role of cognitive therapeutic techniques in CBT, the development of CBT-relevant cognitive capacities may have particularly large implications for the engagement of adolescents in treatment, and thus the augmentation of treatment outcome (Friedberg & Gorman, 2007; Oetzel & Scherer, 2003).

Engagement in cognitive therapy calls for consideration of CBT-relevant cognitive capacities

A major emphasis in the clinical and research literature on CBT with young people is the need to consider the development of cognitive capacities of the young person when designing and delivering treatment (Friedberg & Gorman, 2007; Holmbeck et al., 2006; Stallard, 2002a; Suveg, Comer, Furr, & Kendall, 2006). Typically, research into cognitive development has focused upon a selection of cognitive constructs (e.g., information processing skills), to the relative exclusion of other cognitive constructs (e.g., anxious self-talk) (Weisz & Hawley, 2002). For the purposes of this review, CBT-relevant cognitive capacities are taken to include intellectual and executive functioning, as well as broader psychological constructs such as theory of mind and self-reflection (Grave & Blissett, 2004).

There are many cognitive capacities implicated in the CBT approach to treatment. Metacognitive and social-perspective taking skills are most frequently mentioned (e.g., Grave & Blissett, 2004; Holmbeck et al. 2006; Oetzel & Scherer, 2003; Quakley, Reynolds, & Coker, 2004; Weisz & Hawley, 2002; Weisz & Weersing, 1999). Metacognitive skills such as psychological mindedness and self-reflection may allow young people to identify and discriminate their own thoughts, feelings and behaviours, and to objectively identify causal relations between them (McAdam, 1986; Suveg, Comer, et al., 2006). Indeed, as noted by Grave and Blissett (2004), impairments in metacognitive skills may limit a young person's ability to understand and participate in CBT. Social perspective-taking is also positioned as a useful skill for engagement in CBT, given that young people participating in CBT are often asked to consider and anticipate the effects of their behaviour on others (Kinney, 1991). Other cognitive capacities mentioned in relation to delivering CBT with young people include abstract, consequential and future thinking (e.g., Holmbeck et al. 2006), hypothetical and deductive thinking (e.g., Harrington, Wood, & Verduyn, 1998; Shirk, 2001), and logical and causal reasoning (e.g., Oetzel & Scherer, 2003; Reynolds, Girling, Coker, & Eastwood, 2006).

Awareness of a young person's metacognitive and social perspective-taking skills, together with the other nominated capacities, may help guide clinicians in their decision-making about the use of cognitive therapeutic techniques held to require these capacities. Unfortunately, there is very little in the way of scientific evidence to guide our thinking about which cognitive capacities warrant attention when designing and delivering CBT with young people, let alone with anxious adolescents. One potential lead is found in the work of Safran, Segal, Vallis, Shaw, & Samstag (1993) with adults participating in cognitive therapy. The study found a relationship between a number of CBT-related cognitive capacities (e.g., the ability to access automatic thoughts) and a range of outcome measures. These results provide some preliminary evidence to support the notion that certain cognitive capacities are important for successful engagement in cognitive therapeutic techniques.

The cognitive development which takes place during the adolescent period may result in an increased 'receptiveness' for cognitive therapeutic techniques in CBT (Oetzel & Scherer, 2003; Ollendick, Grills, & King, 2001; Shirk, 1988). Continuing neural and brain development during adolescence means that adolescents acquire and refine the cognitive capacities commonly regarded as essential to engagement in CBT, such as abstract reasoning and metacognitive skills (Blakemore & Choudhury, 2006; Steinberg, 2005). Piagetian theory (Piaget, 2001) states that it is only when children reach the concrete operational period (7 to 12 years of age) that they are able to begin to reason abstractly, and only during the formal operational period (from 11

or 12 years of age, through to adulthood) do metacognitive skills mature, allowing the young person to reason hypo-deductively and think symbolically. In addition to an increase in abstract thinking capacities, adolescents develop an introspective thinking style which allows them to contemplate their thoughts, feelings and behaviours (Blakemore & Choudhury 2006; Kingery et al., 2006; Schrodt & Fitzgerald, 1987). Indeed, results of a recent empirical study with a population of socially phobic children and adolescents indicated that it was only adolescents who reported the presence of negative 'self-thoughts', while younger children more commonly confused emotions with anxious cognition (self-talk) (Alfano, Beidel, & Turner, 2006). From information processing research we know that adolescents develop greater processing capacity (e.g., memory), enhanced organizational strategies, and greater awareness and regulation of their own mental states (Keating, 1990; Steinberg, 2005).

Despite the identification of these developmental patterns, there remains little consensus in the clinical and research literature regarding the age at which young people acquire the 'minimum' level of cognitive skills needed to participate in CBT. Some researchers claim that even very young children are able to engage in 'basic' CBT techniques (e.g., Grave & Blissett, 2004; Quakley et al., 2004; Reynolds et al., 2006; Stallard, 2009). Others have argued that CBT may be more appropriate for young people aged 11 years and older (e.g., Durlak et al., 1991). Indeed, adolescents who have a greater capacity to consider multidimensional constructs, to think in a more organized manner, and to consider the perspectives of others may be better able to understand the purpose of treatment and to effectively engage in treatment, relative to children, because children are less cognitively advanced (Oetzel & Scherer, 2003; Weisz & Hawley, 2002).

However, even though adolescence is the period in which many of the cognitive capacities relevant to CBT are acquired, it is unhelpful to conclude that *all* adolescents are able to successfully engage in *all* cognitive therapeutic techniques. The pace of cognitive development varies considerably from one individual to the next (Everall, Bostik, & Paulson, 2005; Schrodt & Fitzgerald, 1987). Further, the threshold of these changes is not absolute; some adolescents will never acquire the highest levels of reflective thought and formal operational thinking (Werner-Wilson, 2001). Even if a young person has developed these skills, they may still be relatively 'inexperienced' in applying them (Werner-Wilson, 2001). The use of such skills may be context-dependent. For example, when adolescents are in challenging or emotionally-demanding situations, they may use less sophisticated cognitive coping strategies for handling the situations (Kingery et al., 2006; Oetzel & Scherer, 2003). In addition, concurrent psychopathology (e.g., substance abuse) may delay or disrupt certain developmental processes, such that the cognitive capacities of anxious adolescents may differ considerably from those of non-anxious same-aged peers (Oetzel & Scherer, 2003).

'How' can clinicians developmentally tailor CBT for anxious adolescents?

According to Wagner (2003), developmentally-appropriate treatments for adolescents are those which "…take into account the unique developmental issues and problems characteristic of adolescence (e.g., ascendancy of the peer group, identity formation issues, propensity towards limit testing)" (Wagner, 2003, p. 1349). In relation to CBT specifically, Grave and Blissett (2004) noted that a developmental perspective needs to be incorporated into cognitive behavioural models and treatment design, as well as the delivery of CBT. In sum, a developmentally-appropriate CBT for adolescents will account for the young person's developmental context, their needs, and their capacities.

In discussions in the literature about treatment with adolescents, numerous suggestions have been made about how to take developmental factors into account when working with this group (e.g., Bedrosian, 1981; Kendall & Williams, 1986; Miller, 1993; Wilkes, Belsher, Rush, & Frank, 1994). These suggestions are diverse and sometimes divergent, referring to just one or two developmental factors, as opposed to a broad spectrum of factors, or referring to specific protocols rather than making recommendations relevant to the design and delivery of CBT more generally. Few of the suggestions are specific to the treatment of anxiety in adolescents, and fewer still are empirically-based. The lack of (empirically-based) knowledge about how to account for developmental factors in the treatment of adolescent anxiety may be attributable in part to the 'developmental level uniformity myth' (Kendall, 1984), which assumes that young people are a homogenous group. As a result, differences in the biological, social-emotional, psychosocial, and cognitive development of young people are overlooked. According to Holmbeck et al. (2006), a 'one size fits all' approach is often used in the design and delivery of treatment. Given the heterogeneity which characterizes the adolescent period, the assumption that 'one size fits all' may have particularly negative consequences for treatment outcomes.

Fortunately, researchers and clinicians have begun to pay greater attention to developmental factors when designing, delivering, and evaluating CBT for adolescents. In the most recent of Holmbeck and colleagues' (2006) reviews of the application of CBT with adolescents, it was reported that 70 percent of the 29 empirical articles appearing between 1999 and 2004 mentioned developmental issues in treatment design and evaluation, an increase from 26 percent between 1990 and 1998. For the current review, a search of (English-language) empirical articles and treatment manuals was done for the period from 1990 to the present, using various combinations of the terms 'adolescence', 'cognitive behavioural therapy' and 'anxiety'. The results of this search are presented in Table 1, which provides a descriptive overview of a number of CBTs for anxiety in adolescence which explicitly emphasized developmental factors in treatment design and/or delivery.

This section on 'how' to conduct developmentally-appropriate CBT with anxious adolescents is based on a review of the materials presented in Table 1, together with a review of other materials (e.g., book chapters) containing descriptions of developmentally-appropriate practice in relation to treatment with young people, developmentally-appropriate practice in relation to CBT with young people, and, where possible, developmentally-appropriate practice in relation to CBT with anxious adolescents. Six key domains of developmentally-appropriate treatment design and delivery were consequently identified, and are discussed below.

Table 1.
Examples of Developmentally-Informed Adaptations to CBT for Anxious Adolescents

Author	Year	Type of publication	Age	Treatment	Intervention	Developmentally-informed adaptations
Angelosante, A.G., Pincus, D.B., Whitton, S.W., Cheron, D., & Pian, J.	2009	Treatment description and case study (n = 2)	12-17 years	Adolescent Panic Control Treatment With In-Vivo Exposures with (APE+fam) or without family involvement (APE)	Panic disorder and agoraphobia	Briefer and more intensive treatment to allow young people to more quickly return to developmentally important activities Included clinician-assisted in-vivo exposures, to guide the adolescents in their execution rather than letting them do them unsupervised. Parents/caregivers (in APE+fam) engaged as coaches Assessment of motivation pre-treatment and motivational enhancement techniques used in session Manual adapted to include developmentally-appropriate and concrete examples, less technical language, and sentence structure was simplified Gradual transfer of responsibility and ownership of the treatment from clinician to the adolescent.
Cunningham, M.J., Wuthrich, V.H., Rapee, R.M., Lyneham, H.J. Schniering, C.A., & Hudson, J.L	2009	Empirical study (n = 5)	14-16 years	Cool Teens CD-ROM for Anxiety Disorders in Adolescents (CBT)	Anxiety	Interactive multimedia presentation (text, audio, illustrations, cartoons and live video) with examples and presentation relevant to adolescent clients Treatment delivered in a new media (computer-based treatment) suited to adolescents (allows for personal control and flexibility; reduces stigma of receiving treatment) Involvement of young people during content creation
Spence, S. H., Donovan, C.L., March, S., Gamble, A., Anderson, R., Prosser, S., et al.	2008	Treatment description and case study (n = 2)	13–17 years	Online CBT for child and adolescent anxiety (BRAVE–ONLINE) – Teenage version	Anxiety	Interactive multimedia presentation (online, via internet) Visually appealing and interesting (bright, eye-catching graphics including real-life pictures) More complex text, examples and stories, more advanced graphics, and interspersed with a greater number of interactive exercises (e.g., "quizzes") than child version Aimed at a minimum reading level of age 12 Use of teenage characters as "models" for the use of coping strategies to overcome anxiety problems
Siqueland, L., Rynn, M., & Diamond, G. S.	2005	Empirical study (Phase i, n = 8, Phase ii, n = 11)	12 -18 years	Cognitive Behavioral and Attachment-Based Family Therapy	Anxiety	CBT components taught more quickly Cognitive therapeutic strategies emphasized Level of parent involvement in exposures negotiated as part of overall treatment focus of negotiating a balance of competency, autonomy, and attachment to parents
Nauta, M.H., Scholing, A., Emmelkamp, P.M.G., & Minderaa, R.B.	2003	Empirical study (n = 79)	7-18 years	Dutch adaptation of Coping Cat program (Kendall, 2000)	Anxiety	Extra workbook pages added for adolescents (e.g., less childish; more in-depth explanation and application of cognitive techniques such as challenging thoughts).

Table 1. (continued)
Examples of Developmentally-Informed Adaptations to CBT for Anxious Adolescents

Author	Year	Type of publication	Age	Treatment	Intervention	Developmentally-informed adaptations
Ginsburg, G.S., & Drake, K.L	2002	Empirical study (n = 6)	14-17 years	School-based group CBT for African-American adolescents	Anxiety	Manual adapted to be developmentally-appropriate and culturally sensitive Adolescent-relevant examples included Parents not included due to time constraints and scheduling conflicts
Kendall, P.C., Choudhury, M., Hudson, J.L., & Webb, A.	2002	Treatment manual	14-17 years	The C.A.T Project (CBT)	Anxiety	Adolescent can choose their own name for the program (i.e., their own interpretation of the initials C.A.T.) More detailed psychoeducational material Reduced emphasis on affective education Cognitive therapeutic strategies emphasized Increased adolescent autonomy in the context of parental overprotection and control
Scapillato, D. & Manassis, K.	2002	Treatment description	12 -15 years	Group CBT	Anxiety	Group format Cohesion-building introductory group activities
Barrett, P.M., Lowry-Webster, H. M., & Turner, C.	2000	Treatment manual	12 -16 years	Friends for Youth (CBT)	Anxiety	Group format Features age-appropriate content, activities, and illustrations More room for group discussion rather than didactic interaction in treatment session Less attention to affective education Emphasis on self esteem building and friendship skills More attention to challenging negative thinking
Hoffman, E.C. & Mattis, S.G.	2000	Case study (n = 2)	13 years	Panic Control Treatment (CBT-based)	Panic disorder	Clear, simplified language and verbal and visual examples used Lively examples of concepts incorporated New terms/analogies to help adolescents understand/recall concepts Parents involved in some sessions as 'coaches' Focus on active, experiential aspects of treatment over technical psychoeducational information
Albano, A.M. Albano, A.M., Marten, P.A., Holt, C.S., Heimberg, R.G., & Barlow, D.H.	1995 1995	Treatment description Empirical study (n = 5)	13-17 years	Cognitive-Behavioral Group Treatment for Adolescents	Social phobia	Group format Protocol was a downward extension of the adult version of the treatment Fears and anxieties are evaluated within a developmental context Case formulation presented to increase motivation/normalize problems Parent involvement 4 sessions: psychoeducation, how to support child Inclusion of behavioural social skills training More modelling, role playing, and behaviour shaping in the first four sessions, with a shift toward active participation later Use of workbooks and handouts Focus on typical feared situations for adolescents ('snack time practice')
Ollendick, T.H.	1995	Empirical study (multiple baseline design; n = 4)	13-17 years	CBT	Panic disorder with agoraphobia	Parent involvement in exposure practice

Conducting assessment of CBT-relevant (cognitive) capacities

In the literature on clinical child and adolescent psychology, the inclusion of developmentally-appropriate measures to assess pre- and post-treatment functioning is often stressed (e.g., Eyberg, Schumann, & Rey, 1998). In addition to developmentally-appropriate outcome measures, Hudson and colleagues (2002) and Shirk (1999) recommended that clinicians and researchers should attempt to assess a range of developmental factors prior to starting CBT with an anxious adolescent client. While age is a frequently used developmental marker for both clinicians and researchers, specific indicators of development may be more informative and meaningful, given young people of the same age may vary greatly in developmental status. Including such measures could allow for an exploration of the way in which developmental factors influence engagement in treatment, and in turn treatment outcomes (D'Amico et al., 2005; Wagner, 2003). There are many readily available pen-and-paper measures for a wide variety of developmental factors (e.g., the Pubertal Developmental Scale; Petersen, Crockett, Richards, & Boxer, 1988; the Adolescent Autonomy Questionnaire; Noom, Dekovic, & Meeus, 2001).

The assessment of CBT-relevant cognitive capacities may also be particularly useful prior to starting CBT. Clinicians will often 'estimate' a client's CBT-relevant cognitive capacities on the basis of a client's chronological age, their physical appearance, or their IQ, and then use this estimate to adjust the delivery of cognitive therapeutic techniques to the perceived capacities of the client. However, the young person's level of physical or intellectual development may not necessarily predict development in CBT-relevant cognitive capacities (Kendall & Williams, 1986; Kinney, 1991). Hence, such estimations can lead to inaccurate predictions about the extent of a young person's ability to engage in cognitive therapeutic techniques (Weisz & Hawley, 2002; Weisz & Weiss, 1989; Wilkes & Belsher, 1994). As noted by Holmbeck and colleagues (2006), however, there is currently "...no straightforward user-friendly method of assessing level of cognitive development across different cognitive sub-domains" (p. 448). These authors proffered a number of suggestions for the assessment of cognitive capacities in adolescents. The clinician might make use of measures such as the similarities subtest of the WISC-III (Wechsler, 1991) in order to tap into abstract reasoning. The Selman's Interpersonal Understanding Interview (Selman & Lavin, 1979) might be used to measure social perspective-taking. A more recent development is the Self-Reflection and Insight Scale for Youth (Sauter, Heyne, Blöte, Van Widenfelt, & Westenberg, in press). This psychometrically sound and developmentally-appropriate self-report measure provides another means of exploring a young person's proficiency in cognitive capacities deemed relevant to CBT; namely self-reflection and insight.

A possible limitation inherent to such measures is that they tap into cognitive capacities which may only be distally related to the engagement of the young person in CBT, rather than assessing skills directly applicable to CBT (G.N. Holmbeck,

personal communication, April 26, 2006). Holmbeck and colleagues (2006) suggested that the clinician also conduct informal assessment of cognitive capacities during their sessions with the young person. Several examples of the 'informal' assessment of cognitive capacities are found in the literature. To ascertain a young client's ability to access automatic thoughts, the clinician can ask the client in the assessment phase or early in treatment to recall and describe a recent, difficult situation they have experienced, and "what went through your mind when…?". If this proves too difficult for the young person, the clinician can ask about what thoughts and feelings the client is currently having, or ask the client "what would someone else think in the situation?" (Stallard, 2002b). Visual aids such as thought bubbles or cognitive cartoons can also be applied to informally assess cognitive capacities relevant to CBT (Kendall, 2000; McAdam, 1986; Stallard, 2009). A number of interactive tasks designed to tap into the cognitive capacities relevant to CBT have been evaluated with young children, and these may also be suitable for use with less mature and/or less verbal adolescents (Doherr, Reynolds, Wetherly, & Evans, 2005; Quakley et al., 2004; Reynolds et al., 2006). Anxious adolescents may have particular difficulties in describing their feelings and thoughts, due to both fears of negative evaluation and performance-related anxiety (Hudson et al., 2002). Therefore, the use of more formal means of assessing cognitive capacities (i.e., structured tasks or questionnaires) could be used if the clinician thinks the client's anxiety levels may interfere with what is yielded during informal assessment.

Planning treatment

In the following sections, the impact that developmental factors have upon three facets of planning a CBT program is reviewed: the development of the cognitive behavioural case formulation; decision-making around the selection, timing, and dosage of treatment components or 'modules'; and decision-making associated with the application of behavioural vis-à-vis cognitive techniques.

Preparing a cognitive behavioural case formulation

The cognitive behavioural case formulation summarizes accumulating information about the onset and maintenance of the young person's presenting problems, based on a cognitive behavioural model of psychopathology. This information is then used to inform decision-making about treatment. A developmentally-appropriate cognitive behavioural case formulation is one which elucidates the role of developmental factors and processes (e.g., school transition; escalating conflicts with parents associated with autonomy development) which are associated with the development and maintenance of the psychopathology (Drinkwater, 2005; Dummett, 2006).

When working with anxious children and adolescents, cognitive behavioural case formulations are developed in accordance with cognitive behavioural models of anxiety. These models are mostly drawn from research with anxious adults (Alfano,

Beidel, & Turner, 2002; Cartwright-Hatton, 2006; O'Connor & Creswell, 2005). One of the well-known models is the Clark and Wells (1995) model of social anxiety. Recently, Hodson, McManus, Clark, and Doll (2008) tested the applicability of this model with a group of socially anxious adolescents aged 11 to 14 years. It was found that the key cognitive elements of the model predicted levels of social anxiety. In particular, the study revealed that negative interpretations of social stimuli, increased self-focused attention, and negatively biased pre- and post-event processing differentiated high and low socially anxious adolescents. On the basis of these findings, the authors concluded that the model can be used in the development of cognitive behavioural case formulations for socially anxious adolescents, to understand symptoms and thus to guide treatment planning. The clinician can use a case formulation based on such a model when working with socially anxious adolescents in order to determine the value of certain therapeutic techniques to deal with maintaining factors (e.g., task concentration training to manage self-focused attention; Bögels, 2006). Studies into other cognitive models of anxious symptoms indicate that such models may also be relevant to adolescent clients. For example, Laugesen, Dugas, and Bukowski (2003) reported that a previously developed adult model of the cognitive processes involved in worry (Dugas, Gagnon, Ladouceur, & Freeston, 1998) could also effectively be applied to adolescents, and should be used to guide treatment of adolescent worry.

Currently, most models of anxiety only focus on a particular type of anxiety disorder and fail to include other comorbid problems such as depression (Ollendick et al., 2008). When working with anxious adolescents, such models may be less helpful in the preparation of the cognitive behavioural case formulation because it is commonly observed that anxious and depressive symptoms co-occur in young people (e.g., Schniering & Rapee, 2004). Models which have been developed in accordance with the 'cognitive specificity hypothesis' of anxiety and depression may be more helpful. According to this hypothesis, certain cognitive content and cognitive processes may be specific to particular disorders (Beck & Perkins, 2001). Therefore, when developing cognitive behavioural case formulations for anxious adolescents with comorbid depression, elements of cognitive models of depression can be combined with models of anxiety in order to best represent the problems experienced by the young person and provide links to suitable treatment strategies.

Some models of the development and maintenance of anxiety in young people pay special attention to family and parental factors (Ballash, Leyfer, Buckley, & Woodruff-Borden, 2006; Ginsburg & Schlossberg, 2002; Rapee, 1997) and the broader social context of the young person (Dummett, 2006). According to Wood, McLeod, Sigman, Hwang, and Chu (2003), for example, an important factor in anxiety in children and adolescents is parental intrusiveness, whereby parents take over tasks which children or adolescents are able to perform independently, resulting in low self-efficacy and a lack of mastery experiences in the young person. Wood et al. (2003) suggested that children with a history of parental intrusiveness may experience new

situations as anxiety-provoking due to their beliefs about their own inability to deal with challenges. In contrast, autonomy-granting parents encourage their children to engage in new situations or tasks by themselves, thereby stimulating feelings of mastery and self-efficacy. Chorpita and Barlow (1998) similarly viewed parental control as an important factor which may contribute to the onset and maintenance of anxiety symptoms in children and adolescence. They suggested that such familial characteristics can increase the risk of a child developing cognitions relating to a low sense of control. In later development, these cognitions may become activated by negative life events and external stressors, resulting in the experience of anxiety. In the case of anxious adolescent clients, current *and* past parenting behaviours, in particular in relation to the developmental task of autonomy development, ought to be considered when preparing cognitive behavioural case formulations, in order to more fully understand their potential influence on the adolescent's current anxiety-related behaviours, cognitions and emotions.

Depending on the developmental capacities of the young person, the extent of collaboration in the construction and presentation of the cognitive behavioural case formulation can vary. With less mature clients, or when the client does not believe in or understand the cognitive model, the clinician may choose not to explicitly share the formulation with the young person. Alternatively, the clinician can 'construct' the cognitive behavioural case formulation and share (parts of) it with the young person to help them to better understand their difficulties. For example, the clinician may initially only discuss emotions and automatic thoughts in reaction to situations with the young person, and share hypotheses about more abstract cognitive constructs such as core beliefs when it is judged that the young person is 'ready' (Drinkwater, 2005). Involving the young person in the process of constructing a cognitive behavioural case formulation can promote a sense of control over the way in which their treatment progresses and the means used to achieve their own goals for treatment. This sense of control may be especially motivating for adolescents, given their strivings for autonomy (Drinkwater, 2005).

Selecting, sequencing, and dosing treatment components

It is widely understood that CBT is not a unitary treatment; rather, it consists of various components (represented by different techniques such as systematic desensitization, cognitive restructuring, etc.) which may or may not be employed with a specific client, and which may be applied to a greater or lesser extent with one client relative to another client (Kendall, Gosch, Furr, & Sood, 2008). Individual differences in biological, social-emotional, psychosocial, and cognitive development are important factors to consider when making decisions about the selection and dosing of the various components.

Weisz & Hawley (2002) recommend the 'modularization' of treatment as a way of planning treatment such that it best meets the individual needs of adolescent clients.

According to the authors, a 'modularized' treatment protocol can be conceptualized as a collection of therapeutic techniques which can be selected and applied as modules, or "tools in a toolbox", based on the individual client's case formulation (p. 35). Using a modularized approach to CBT, the clinician can adjust the type of therapeutic techniques to be delivered, the extent to which a module is addressed during treatment (i.e., frequency and duration), as well as the sequence in which the various modules are introduced, according to the qualities and vulnerabilities of the client in question. For example, adolescent clients with both anxiety and depression can be offered a treatment module comprising activity scheduling, a module comprising exposure, and a module comprising cognitive restructuring.

Chorpita and colleagues (e.g., Chorpita, Becker, & Daleiden, 2007; Chorpita & Daleiden, 2004; Chorpita, Daleiden, & Weisz, 2005) are leaders in the field of modularized CBT for young people. They reviewed available treatments for many child and adolescent disorders and identified a number of 'common elements', the most frequently occurring discrete clinical techniques used as part of a larger intervention plan (Chorpita et al., 2005). They then developed evidence-based 'profiles' which 'matched' these common elements components to certain child and adolescent psychopathology. According to Chorpita and colleagues (2007), the clinician can use these profiles to create developmentally-appropriate, individually-tailored and empirically-supported packages made up of a number of 'modules' which are based on elements of pre-existing manuals. This approach to planning treatment is presented in a recently published treatment manual for anxiety disorders in children and adolescents (Chorpita, 2007). The treatment manual includes modules for the young person and parents which are aimed at tackling the anxiety symptoms, as well as other comorbid problems when present (e.g., oppositional behaviour). Similarly, our modularized CBT for anxiety-based school refusal in adolescence contains a number of standard or 'core' modules (e.g., psychoeducation, goal-setting, cognitive therapy) together with 'optional' modules selected on the basis of the cognitive behavioural case formulation (Heyne, Sauter, & Van Hout, 2008). For example, an optional module on 'activity scheduling' was incorporated in the CBT program because of the high levels of comorbidity between anxiety and depression, and the high levels of depression in adolescence (Essau, 2008; Ferdinand, de Nijs, Van Lier, & Verhulst, 2005; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993).

Tailoring the selection and delivery of behavioural and cognitive therapeutic techniques

It is often suggested that adolescents are well-suited to participation in CBT because of their growing cognitive capacities (e.g., Forehand & Wierson, 1993; Weisz & Hawley, 2002). For some young people, the clinician's use of cognitive therapeutic techniques will have the intended positive effect of stimulating the young person to deal with emotional and behavioural difficulties. For other young people, cognitive techniques

may be confusing or cause frustration (Werner-Wilson, 2001). We propose a nuanced perspective which takes account both the extent to which behavioural and cognitive techniques are differentially emphasized, and the selection and delivery of specific cognitive therapeutic techniques.

According to Willner (2006), it is not simply a question of 'whether or not' to employ cognitive therapeutic techniques. Rather, it is a question of the relative emphasis to be placed on behavioural techniques and cognitive therapeutic techniques. Unfortunately, the question of how important it is for young people to be in engaged in behavioural techniques versus cognitive techniques has received very little empirical attention (Stallard, 2009). Silverman and colleagues (1999) investigated the relative efficacy of behaviourally-based contingency management (e.g., reinforcement and extinction) and more cognitively focused self control procedures (e.g., self-evaluation) for anxious children and adolescents aged 6 to 16 years. Both treatments were equally effective in reducing parent and child-reported anxious symptoms at post-treatment and up to 12-month follow-up. However, between-condition differences were observed on some measures, in favour of the cognitively-oriented self-control treatment. Ultimately, the authors suggested that either of these approaches can be effective in treating anxiety in young people. In the absence of empirically-informed guidelines for decision-making about the use of cognitive techniques vis-à-vis behavioural techniques or their combination, alternative factors need to be considered.

Numerous authors have suggested that when an adolescent client seems to have difficulty engaging in cognitive therapeutic techniques, the clinician can include more concrete, behaviourally-based activities and 'real-life' practice opportunities (D'Amico et al., 2005; Friedberg & McClure, 2002; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Stallard, 2009; Zarb, 1992). By "learning through doing", the young person's cognitions may be indirectly challenged (Stallard, 2009, p. 160). In the same way that behaviourally-based techniques are especially suited to younger anxious children (i.e., exposure, relaxation training, and modelling; Bouchard, Mendlowitz, Coles, & Franklin, 2004; Werner-Wilson, 2001), anxious adolescents with lower cognitive capacity (i.e., similar to that of younger children) may also profit from a greater emphasis on behavioural techniques. An additional factor influencing the extent to which behavioural techniques and cognitive techniques are employed is the clinician's formulation of the presenting problems. Daleiden et al. (1999) argued that the internal processes which trigger psychopathology in less cognitively advanced young people may play less of a role in the continuation of the symptoms relative to socialization factors and environmental triggers. In such cases, the targeting of cognitions may be less relevant.

A second consideration concerning the tailoring of CBT delivery applies to the selection and delivery of the cognitive therapeutic techniques. The selection of techniques rests upon an understanding of the variability in how complex and cognitively demanding the various techniques are. As noted by DiGiuseppe (1981),

"...therapy techniques may best be viewed along a continuum of procedures that can be used with [young people] of different cognitive ability" (p. 61). Holmbeck and colleagues (2006) similarly proposed that different 'levels' or versions of cognitive therapeutic techniques should be available within a CBT program. Less cognitively demanding strategies can be applied with less cognitively mature adolescents, while interventions requiring higher level cognitive capacities may be more relevant to adolescents who have attained greater proficiency in CBT-relevant cognitive capacities. A recent example of a treatment containing different levels of cognitive therapeutic techniques is Chorpita's (2007) CBT for anxious youth. This manual contains several modules which represent cognitive therapeutic techniques of differing complexity, selected according to the cognitive capacities of the young person.

Various authors have provided frameworks and suggestions as to which cognitive therapy techniques are more or less 'complex'. Merrell (2001) developed an index of intervention strategies (including cognitive therapeutic techniques) for depression and anxiety in young people. The strategies were organized according to their suitability for different ages and suggestions were made for adapting the techniques to increase their applicability for older or younger youth. According to Merrell (2001), the cognitive therapeutic technique 'cognitive replay' (for identifying automatic thoughts) can be used with young people of all ages, although less mature young people will need "more structure and feedback" (p. xix). Other 'less complex' cognitive therapeutic techniques seen to be suited to less cognitively advanced adolescents may include self-instructional training (Friedberg & Gorman, 2007; Ollendick et al., 2001), self-monitoring (Harrington, 2005), and the use of coping statements (DiGiuseppe, 1981; Kingery et al., 2006; Stallard, 2009; Zarb, 1992). Psychoeducation can also be a simple technique for correcting certain maladaptive or distorted beliefs, such as when the clinician provides information about the course, presentation, and prevalence of a disorder (Willner, 2006). The 'more complex' cognitive therapeutic techniques regarded as most beneficial for adolescents with a higher level of cognitive development include identifying different levels of cognition (i.e., automatic thoughts as well as cognitive errors and unhelpful thinking styles; Stallard, 2009), the 'downward-arrow technique' (Merrell, 2001), Socratic questioning (Siqueland et al., 2005), formal examination of underlying beliefs and assumptions (Harrington, 2005; Zarb, 1992), as well as decatastrophization and logical analysis (DiGiuseppe, 1981; Friedberg & Gorman, 2007; Kearney, 2005). Some adolescent clients with more sophisticated reasoning abilities may even experience the 'less complex' cognitive therapy techniques as irrelevant and unhelpful. As noted by several authors (DiGiuseppe, 1981; Manassis, Avery, Butalia, & Mendlowitz, 2004), such adolescents may regard the use of coping self statements as less useful if these statements are not derived in the context of cognitive restructuring.

In addition to the decision to employ specific cognitive techniques, decisions can be made about the manner in which the techniques are delivered. The clinician

can consider the extent to which an adolescent client will need extra guidance (e.g., in the form of concrete instructions) and practice (Oathamshaw & Haddock, 2006; Willner, 2006). Some adolescents may benefit from earlier or greater attention to the cognitive therapy techniques in CBT. For example, the clinician may quickly socialize the young person into the cognitive therapy model in order to prepare them for earlier engagement in cognitive therapy techniques (Siqueland et al., 2005). Further, when the young person is able to identify and articulate their thoughts and feelings with minimal clinician guidance, the clinician might spend less time helping the young person learn techniques for identify unhelpful thinking, and more time on complex and refined discrediting strategies (Kingery et al., 2006).

For some young people, the cognitive demands associated with acquiring new knowledge and skills may impede the acquisition and use of cognitive therapeutic techniques (Werner-Wilson, 2001). Suggestions have been made about 'priming' CBT-relevant cognitive capacities in young people prior to engaging them in cognitive-behavioural interventions (Holmbeck et al., 2006; Shirk, 1998). For example, very early on in CBT a young person might be provided with opportunities to practice the self-monitoring of thoughts in order to improve their receptiveness to cognitive interventions employed later on. Such priming has been described in reference to younger children (e.g., Grave & Blissett, 2004) and adults with intellectual disabilities (e.g., Dagnan, Chadwick, & Proudlove, 2000), and it is likely to be most helpful when the skill being trained is in the client's 'zone of proximal development' (Vygotsky, 1978). In this way, we might regard the priming of cognitive capacities as a type of 'scaffolding' for cognitive therapy. The clinician works to enhance emerging CBT-relevant cognitive capacities prior to formally commencing cognitive therapeutic interventions. When delivering CBT with anxious children and adolescents, the young person may be helped to develop skills in monitoring and recording predicted anxiety levels (Bouchard et al., 2004). Given that many adolescents have a greater capacity for thinking about the future, the suggestion by Bouchard and colleagues may be particularly pertinent for this group.

Enhancing motivation and engagement in treatment

The capacity to learn and to use the skills included in a CBT program is fundamental to engagement in CBT, but capacity is certainly not the only determinant of engagement. Engagement in CBT, as described by Shirk and Karver (2006), involves developing a therapeutic alliance; being open to applying strategies aimed at achieving changes to thoughts, feelings and behaviours; and being actively involved in treatment during and between sessions. According to Willner (2006), a client's willingness or motivation to engage in treatment and to remain engaged in treatment may be just as important to treatment success as is having the capacity to use treatment skills. Weisz and Hawley (2002) proposed that low motivation for treatment may negatively influence the development of the therapeutic alliance between the adolescent client and the

clinician, which in turn may reduce engagement in treatment and have a detrimental effect on treatment success.

An adolescent's motivation for treatment and for engagement in treatment can be influenced to some extent by developmental factors (Holmbeck et al., 2006). The social context impacts upon the life of the adolescent, and this is true with respect to participation in treatment. It is often others in the adolescent's context (e.g., parents or school staff) who make decisions about the adolescent getting help. When adolescents are referred for treatment by other parties they may not experience their 'problem' as one needing treatment (McAdam, 1986; Rubenstein, 2003; Weisz & Hawley, 2002). Young people with anxiety may be afraid to give up inappropriate coping strategies (e.g., avoidance), play down or deny the negative consequences of their anxieties, and be reluctant to engage in treatment (Stallard, 2009). Adolescent 'egocentrism' and a reduced capacity for self-reflection are other developmental factors that can make it difficult for some young people to accept their difficulties (Bedrosian, 1981). According to Stallard (2002b), the adolescent's desire to function autonomously can lead to frustration regarding their inability to 'solve their own problems' which can lead to resistance, detachment or disengagement from treatment. As noted above, impairment in the therapeutic alliance can then affect the adoption and generalization of adaptive coping skills.

The adolescent client's motivation for treatment warrants early and continued attention. In the early phase of treatment, the clinician can assess motivation via self-report measures (Weisz & Hawley, 2002). Schmidt (2005) recommended incorporating an informal in-session investigation of motivation during CBT with young people. Strategies to assess and stimulate motivation recommended by Schmidt include: i) using a visual analogue scale to measure the willingness to change; ii) providing extra psychoeducation; iii) boosting the client's confidence in their ability to change; iv) questioning around discrepancies between values and current behaviours; and v) orienting the client to their own personal goals. With respect to this last point, Stallard (2002b) also noted that working together with the young person to set goals can increase motivation for engagement in treatment, as can encouraging the young person to offer input for the agenda for each session. Explaining clearly to the adolescent 'what's in it for them' in terms of the potential costs and benefits of treatment, and even proposing a time-limited agreement in which to evaluate the benefits of the sessions may help to engage even the most resistant young person in CBT (Angelosante, Pincus, Whitton, Cheron, & Pian, 2009; Bedrosian, 1981; Oetzel & Scherer, 2003; Wilson & Sysko, 2006). Clinical experience suggests that using 'adolescent-relevant' means of communication before and between sessions (e.g., an email to invite the young person to attend the first session) can enhance their motivation for treatment. Many of the foregoing points are reflective of Motivational Interviewing techniques which have been recommended for increasing the engagement of anxious clients (Stallard, 2009) and adolescent clients (Wilson & Sysko, 2006).

CBT is in itself already oriented towards enhancing client motivation for change and engagement in treatment. An essential characteristic of CBT is the "collaborative empiricist stance" of the CBT clinician (McAdam, 1986, p. 6), and this stance is regarded as a necessary ingredient for successfully building a therapeutic alliance (Friedberg & Gorman, 2007; Kingery et al., 2006). Because adolescents differ in the degree to which they are able to co-operate with the clinician as an 'equal partner', the clinician would ideally modify their approach accordingly. Adolescents with a greater ability to self-reflect and to control their impulses can be encouraged to collaborate more with the clinician (e.g., increased involvement in, and control over, the treatment planning process; Chronis et al., 2006; Forehand & Wierson, 1993). Less mature adolescents may benefit from the clinician's use of a more directive approach (e.g., setting the agenda and determining the session content; Friedberg & Gorman, 2007; Friedberg & McClure, 2002).

Oetzel and Scherer (2003) argued that a judicious use of empathy and positive regard is an essential tool to motivate adolescents for treatment. The clinician can help adolescent clients to 'save face' and to boost their self-esteem by empathically responding to their problems and paying attention to areas of the young person's life which are going well. By so doing, the clinician works with and not against the 'egocentrism' which often characterizes an adolescent's view of themselves and their position in the world (Stallard, 2002b). However, too much empathy can seem less than genuine. Because adolescents seem to be able to detect insincerity and 'fakeness' from a mile away, they may respond better to "disciplined, benevolent frankness" (Edgette, 1999, p. 40). The extent to which adolescent clients may be intrigued or else confused by such 'frankness' will vary, and the use of this motivational strategy needs to be carefully tailored to the individual client (Edgette, 1999; Oetzel & Scherer, 2003).

Clinical experience suggests a number of strategies that may help to motivate and engage young people in CBT for anxiety. Due to their strivings for autonomy, allowing adolescent clients to have input into the nature of exposure tasks to be conducted in-session and between-sessions, can enhance their co-operation with treatment plans (Kendall et al., 2005; Ollendick, 1995). For example, Heyne and Rollings (2002) recommended giving adolescents with anxiety-based school refusal more input into the decision-making about the type of exposure to be engaged in (i.e., graded school return vis-à-vis immediate full-time return). While having a say in the type of exposure tasks may be useful to motivate some young people, Angelosante and colleagues (2009) suggested that adolescents may also value increased clinician guidance of exposure tasks, to give them an extra 'push' to confront anxiety-provoking stimuli. The authors also recommend reminding the anxious adolescents of the potential positive effects of treatment to reduce resistance to engaging in exposure.

Heyne and Rollings (2002) also noted that it can be particularly challenging to engage anxious adolescent school refusers in treatment. They used an acronym (i.e., HARD GOING) to encapsulate behaviours and attitudes which the clinician can employ to increase the likelihood that an adolescent client will be engaged in treatment. These include: Honouring the client's perspectives; Active listening; Relating to the young person in an understanding and tolerant manner; Demystifying the young person's experiences of the intervention process; (attending to broader) Goals of the young person; (the fostering of positive) Opinions about the young person; (informed) Interpretations of a young person's behaviour in treatment; Negotiating with the young person about the process of treatment; and Going about engaging the young person in treatment in a cautious and realistic manner.

Tailoring treatment language, materials, activities, and the tempo of treatment delivery

It is often noted that many of the CBTs applied with adolescents have been downward extensions of treatment protocols designed for adults or upward extensions of protocols designed for children (D'Amico et al., 2005; Eyberg et al., 1998; Holmbeck et al., 2006; Weisz & Hawley, 2002). Characteristics of these adult and child protocols – including language, materials, activities, and tempo of treatment delivery – do not automatically 'fit' the developmental needs of the adolescent age group. Adult protocols can be too 'taxing' for the adolescent, and as noted by Southam-Gerow et al. (2001), the exercises and assignments associated with child protocols may be experienced by older youth as "somewhat childish" (p. 432). For treatment to be "real and relevant" for the young person (Friedberg & Gorman, 2007, p. 188), developmental tailoring would ideally occur with respect to language, materials, activities, and the tempo of treatment delivery. This tailoring can facilitate the adolescent client's engagement in treatment, which in turn increases the likelihood that the knowledge and skills addressed in sessions are understood and applied.

The question of language use in treatment has been discussed by many authors, including authors concerned with tailoring CBT for anxious adolescents (e.g., Siqueland et al., 2005). Complex therapeutic concepts can be made less adult-oriented and more 'adolescent-friendly' by employing the client's own vocabulary; using clear, simplified language; and by giving specific, task-orientated instructions (Ginsburg & Drake, 2002; Kingery et al., 2006; Wilson & Sysko, 2006). At the same time, adolescent 'slang' and idiom must be used carefully, as they may come across as unnatural or fake (Friedberg & McClure, 2002). Likewise, simplification in the form of concrete examples and basic terms may appear condescending for some mature adolescents (Oetzel & Scherer, 2003; Werner-Wilson, 2001). These mature adolescents may profit more from a detailed rationale for why the therapeutic techniques are useful (Braswell & Kendall, 2001; Ollendick et al., 2001; Zarb, 1992). A further language-based consideration arises out of the tendency for adolescents to think in 'black-and-white' terms (e.g., "good" versus "bad"; "right" versus "wrong") (Wilkes et al., 1994). Stallard (2002b) suggested that the clinician use terms which

imply dimensionality (e.g., "better" and "worse") rather than dichotomy, in order to neutralize such typical adolescent thinking. When delivering cognitive therapeutic interventions, the clinician may speak of "less anxiety-producing thoughts" and "more anxiety-producing thoughts."

Metaphors and mnemonic aids are other language-based strategies which can help young people to learn and remember the steps of certain therapeutic techniques (Kendall et al., 2002). Well known examples are the 'FEAR' and 'FRIENDS' acronyms representing the key steps for managing anxiety in respectively the Coping Cat (Kendall, 2000) and Friends for Youth (Barrett, Lowry-Webster, & Turner, 2000) CBT programs. Friedberg and McClure (2002) suggested the use of a 'caterpillar' (unhelpful) thoughts and 'butterfly' (helpful) thoughts metaphor for younger children. More adolescent-appropriate metaphors also exist. Automatic thoughts can be positioned as 'pop-ups', or 'spam' in your computer, and dealing with negative thoughts a process of "building a better firewall" (Stallard, 2009, p. 160). A mnemonic like WWW.Problem-solved.com may be particularly relevant for adolescents, representing the steps of problem solving (What is the problem?; What are the options for solving the problem?; Which will I choose?; Is the Problem solved?).

The extent to which therapeutic activities are verbally-based or non-verbally based can be adapted to match individual differences in adolescent clients. For example, increases in social perspective taking skills and fears of negative evaluation may lead some adolescents to feel embarrassed about talking about their anxieties (Hudson et al., 2002; Stallard, 2009). Some adolescents may therefore feel uncomfortable with face-to-face dialogues and with 'why' questions during treatment (Bedrosian, 1981). For these young people, the suggestions made by Bailey (2001) and Bedrosian (1981) seem fitting. That is, it may be useful to reduce the number of didactic explanations and the amount of 'deep and meaningful time' to avoid awkward silences, choosing instead to engage the adolescent in informal but therapeutically-relevant conversation during therapeutic activities. Other adolescents will be highly 'talkative' and their verbosity can have the potential to interfere with engagement in specific CBT-related activities. In these cases, the clinician can structure client ventilation through the application of interviewing skills such as summarizing, minimal encouragers, and reflections (Edgette, 1999, 2002; McAdam, 1986).

Treatment which is not solely verbally based, but which involves materials providing pictorial representations of treatment-related tasks, may help to engage children and adolescents in treatment and allow them to more effectively apply therapeutic tasks (Grave & Blissett, 2004). Visually-oriented materials which can be used when delivering CBT with adolescents include: i) handouts, for example, presenting somatic anxiety symptoms (e.g., Stallard, 2002b); ii) a flip-over or a whiteboard; iii) visual analogue scales for rating the strength of emotions or thoughts (e.g., Chorpita, 2007); iv) pictures/drawings to identify self-talk (e.g., thought bubbles; Kendall, 2000); and iv) diagrams when challenging maladaptive thoughts

(e.g., responsibility and tolerance pies, the awfulising scale; Friedberg & McClure, 2002). However, the clinician must ensure that these materials are matched to the developmental level of the young person; adolescents in particular may find some materials patronizing or juvenile (Stallard, 2009).

Just as visually-oriented materials can enhance engagement in treatment, so too can the use of enactive procedures. Activities involving real-life demonstrations, such as games, role plays or visualization exercises can stimulate active participation in the therapeutic process (Hoffman & Mattis, 2000; Siqueland et al., 2005). An activity like 'thought football' (Friedberg & McClure, 2002), used to detect automatic thoughts, may be particularly appropriate for adolescents due to its interactive and playful approach. The clinician asks the young person to throw balls of paper into a hoop, and the young person must say what they think and feel about every attempt they have made. When combined with guided questioning by the clinician, this activity can help the young person to more quickly become aware of their inner dialogue. For example, the client can be asked to observe what happens to their thoughts and feelings when the clinician increases the pressure on the young person by making negative predictions (e.g., "you'll miss it for sure"). Stallard (2009) suggested that drawing, writing poetry, or composing songs may also be therapeutic activities which may by useful in allowing adolescents to describe their thoughts and feelings. Role plays, in which the client and clinician apply therapeutic techniques, can be especially helpful in preparing the client for challenging situations in 'real life'. In the case of social anxiety, adolescents can engage in in-session role plays to practice activities they find anxiety-provoking, such as initiating conversations, asking someone out on a date, or giving a talk (Albano, Marten, Holt, Heimberg, & Barlow, 1995). However, the young person's level of abstract reasoning may limit their ability to participate in role plays (Holmbeck et al., 2000). In these cases, the clinician may choose to firstly work with cartoon sequences which tell a story, prior to engaging the young person in short and structured role plays.

Two recent developments focused on CBT for anxious adolescents incorporate developmentally-sensitive recommendations for treatment materials and activities. Cunningham and colleagues (2009) described the development of the Cool Teens program, CD-ROM-based CBT for anxious adolescents. This interactive media allows the adolescent to choose the order and tempo with which they cover the treatment modules. The high degree of personal control was regarded as particularly suited to adolescent clients in view of their strivings for independence. Further, the graphics (cartoons and animations), sound effects, and live video content were developed in consultation with adolescents to ensure that the materials would be relevant to the target age group. Another recent CBT for anxious young people is the BRAVE-ONLINE program developed by Spence et al. (2008). This program has a separate adolescent version for 13 to 17 year olds. Relative to the child version, the adolescent version includes more complex psychoeducational information, more advanced graphics, and

more interactive activities such as quizzes.

Other developmentally-oriented recommendations are found in the literature focused upon exposure, a major component of CBT for anxiety. Kendall et al. (2005) and Kingery et al. (2006) suggested that the clinician make developmentally-informed decisions about: i) the type of exposure tasks to focus upon (e.g., considering situations more likely to be avoided in adolescence, such as eating in the school canteen); ii) the complexity of information provided in the rationale for engaging in exposure tasks (e.g., less mature young people may benefit from a clear and concise explanation of how exposure 'works'; more mature young people may benefit from a detailed and theoretical explanation of the mechanisms of the technique, to increase their understanding of how they themselves can deal with their distress); and iii) the type of monitoring that the young person can carry out by themselves (e.g., less mature young people may require a simplified scale to indicate the intensity of anxious symptoms). Siqueland et al. (2005) also suggested that anxious adolescents may be encouraged to engage in more between-session exposure tasks relative to anxious children (Siqueland et al., 2005). The question of parental involvement in exposure tasks with adolescents is addressed in the following section.

Finally, consideration needs to be given to the tempo at which the CBT program is delivered with adolescent clients. According to Bailey (2001) and Bedrosian (1981), a reduced concentration span, combined with the cognitively demanding nature of self-disclosure and self-reflection, signal the value of conducting shorter CBT sessions with children, and with adolescents. Session agendas are a common element of CBT, and these agendas are important for the optimization of treatment time. The process of developing a session agenda with an adolescent needs to account for the range of developmental issues already mentioned (e.g., the extent of participation in setting up the agenda in line with the adolescent's level of autonomy development; attention to important adolescent tasks and transitions in terms of agenda points) (McAdam, 1986). An example in which clinicians have adjusted the tempo of a CBT program for anxious adolescents can be found in Siqueland and colleague's (2005) attachment-based family CBT. It was suggested that the primary skills addressed in the adolescent sessions (i.e., recognizing anxious symptoms; identifying anxious cognition; developing a plan to cope with the situation; and evaluating and reinforcing one's performance) can be taught more quickly to adolescents relative to children (i.e., in three to four sessions as opposed to the eight sessions specified in a related CBT manual for anxious children).

Involving parents in treatment

Parents play a significant role in the life and 'developmental trajectory' of their adolescent child. By the same token, parent and family factors may be associated with the development or maintenance of anxiety disorders (for a more detailed discussion of the role of parent and family factors in the aetiology of child anxiety, see Bögels & Brechman-Toussaint [2006] and Ginsburg & Schlossberg [2002]). Understandably, it is argued that it is fruitful, and sometimes even necessary to involve parents in interventions for anxious adolescents (Bögels & Siqueland, 2006; Ginsburg & Schlossberg, 2002; Kendall & Holmbeck, 1991).

Current conceptualizations of parent involvement in child and adolescent CBT can help to determine just what kind of role parents might have in the treatment of adolescent anxiety. A commonly cited conceptualization views the parent role as one of 'consultant' and 'facilitator', 'collaborator' and 'co-clinician', or 'co-client' (e.g., Barmish & Kendall, 2005; Kendall, 2000; Stallard, 2009). When parents are involved as 'consultants' they do not actively participate in treatment per se, but they receive psychoeducation about the treatment principles and strategies applied by the clinician and help the clinician by providing information about the young person (Stallard, 2009). This information is used to shape the course of treatment with the young person. Parents can also be responsible for getting the young person to treatment sessions (Kingery et al., 2006). As 'collaborators', parents can assist their child with the application of therapeutic skills outside of the clinical setting, conforming to the 'transfer of control' model (i.e., transfer of knowledge and skills from the clinician to the parents, and then from the parents to the young person; Silverman & Kurtines, 1996). For example, the parents can coach their child through the exposure task by preventing evasion of the task, and by prompting and rewarding them upon successful completion. They can also play a key role in monitoring treatment gains (Barmish & Kendall, 2005; Suveg, Roblek, et al., 2006). Parents can also be involved in CBT as 'co-clients'. The clinician works with the parents to enhance their use of behaviour management strategies aimed at modifying their child's problematic behaviours or their own behaviours which may be involved in the maintenance of the child's anxiety (Chronis et al., 2006; Hudson et al., 2002; Martin & Thienemann, 2005; Suveg, Roblek, et al., 2006). In addition, parental cognitions which impede the effective use of behaviour management strategies can be explored and challenged (Heyne & Rollings, 2002; Joyce, 1994; Suveg, Roblek, et al., 2006). Problematic thoughts and beliefs may relate to the developmental appropriateness of the child's behaviours, the perceived coping capacities of the child, and the ways in which parents should respond to a child's anxiety symptoms (Kingery et al., 2006; Nauta, Scholing, Emmelkamp, & Minderaa, 2003; Suveg, Roblek, et al., 2006).

Current parenting behaviours need to be considered when making decisions about the nature of parent involvement in treatment for adolescents. 'Over-involved' or intrusive parents may have the tendency to 'rescue' their children from anxiety-provoking situations, which can result in the young person having fewer opportunities to deal with challenges in an autonomous manner (Suveg, Roblek, et al., 2006; Wells & Albano, 2005; Wood et al., 2003). It may therefore be desirable to engage these parents as 'co-clients' so they can learn skills to address these behaviours which may be involved in the maintenance of their child's anxiety. 'Under-involved' parents

may believe that their teenage child is 'old enough and wise enough to solve their own problems' (Wells & Albano, 2005). These beliefs may prevent parents giving the young person the supportive and firm guidance that they may need when they are unable to 'face their fears' by themselves. If the beliefs and behaviours of under-involved parents prove to be rigid, the clinician can shift clinical attention to increasing the young person's coping repertoire and exploring the social network for other sources of support for the young person (Wells & Albano, 2005). In either case, extremes of parental under- or over-involvement are not conducive to treatment success, and a balance between the two is seen to be the most desirable (Suveg, Roblek, et al., 2006).

Developmental factors also warrant close attention when determining whether and how to involve parents in CBTs for young people's problems (Albano & Kendall, 2002; Barrett, 2000; Kendall & Choudhury, 2003; Stallard, 2009). The large individual differences across the adolescent period and amongst adolescents of the same age are likely to influence what is optimal with respect to parent involvement. Less mature adolescents are more likely to have a stronger emotional orientation to and connection with their parents; these young people may have significant problems in managing their own anxieties if their parents are under-involved (Forehand & Wierson, 1993; Martin & Thienemann, 2005). According to Wolpert, Elsworth, and Doe (2005), parental prompting and monitoring of the child's use of cognitive-behavioural skills (i.e., parent as 'collaborator') is suitable for "younger children", and especially those with anxiety-related difficulties (p. 113). More mature adolescents are likely to identify more strongly with peers and to attempt to increase their autonomy from parents; these young people may rebel and resist offers of help if parents are (over-) involved (Kingery et al., 2006). The limited parent involvement associated with the 'consultative' role can be particularly relevant for this group (Stallard, 2009). Indeed, adolescents may value highly the time spent alone with the clinician and become suspicious or resentful if the clinician meets regularly with their parents (Kingery et al., 2006). As noted by Wolpert et al. (2005), the limited involvement of parents has the potential advantage of empowering the young person. Wolpert and colleagues suggested that minimal parent involvement (i.e., parent as 'consultant') is best suited to "older children, who are highly motivated" (p. 112). Developmental factors may also influence decisions about which parent to involve: Bögels & Siqueland (2006) suggest that as fathers may be particularly important role models for adolescents, involving them in treatment may be essential in successfully combating adolescent anxiety.

In cases where parents of anxious adolescents have the tendency to be over-involved or under-involved, a number of recommendations may also be relevant. Wells & Albano (2005) recommended that the clinician working with over-involved parents recognize the parents' concerns, while simultaneously using psychoeducation to emphasize the developmental tasks of adolescence (e.g., autonomy development) and the implications for parenting (i.e., encouraging the young person in independent

problem solving rather than solving the problem themselves). In working with under-involved parents, the clinician can use psychoeducation to emphasize the fact that parents can play an important role in helping adolescents to 'face their fears'. For example, although the young person may seem 'all grown up' in terms of independence from their parents, they are still developing, and they need the guidance of parents to help them in this process (Hudson et al., 2002). In addition, young people who are anxious may sometimes act 'younger' than their chronological age (e.g., failing to see the consequences of their behaviour; displaying 'immature' behaviour such as crying or running away), due to their desire to avoid anxiety-provoking situations or stimuli.

In the treatment of adolescent anxiety, it is particularly important to consider the question of parent involvement with respect to exposure-based tasks. In an earlier study, Barlow and Seidner (1983) recommended that parents be involved in exposure practice in a CBT for adolescent agoraphobia. The authors reported that the adolescent participants seemed to be less able than adult clients to challenge their irrational cognitions related to the panic complaints (i.e., fears of dying). During exposure tasks, the adolescents turned to their parents for 'help' with dealing with the anxiety symptoms. How parents react to such requests from their children during exposure practices can range from 'directive' responses (e.g., physically guiding the execution of exposure practices between sessions), to 'supportive' and autonomy-granting responses (e.g., transporting the client to the exposure setting). Indeed, Siqueland and colleagues (2005) developed and evaluated a treatment in which the parents of anxious adolescents were helped to achieve a balance between 'directive' parenting and the granting of developmentally-appropriate autonomy. In the treatment, parents were engaged in discussions about their role in dealing with their teenage child's anxiety, and about the most appropriate type and level of involvement that the parents might have in their child's exposure practice. In addition, as co-clients, parents were helped to identify and re-examine beliefs about anxiety (i.e., as threatening, and something to be avoided) and beliefs about the role of parents with anxious children (e.g., to protect their adolescent child and themselves from anxiety-provoking experiences).

In a similar vein, a CBT program for anxiety-based school refusal in adolescence (Heyne et al., 2008) aims to help the parents of adolescent school refusers achieve a developmentally-appropriate balance between 'directive' parenting and 'supportive' autonomy-granting. Depending on the case formulation, and in particular the role that parenting may play in the maintenance of the school refusal, parents are helped to employ a more supportive, autonomy-granting role or, as required, a more 'directive', authoritative role. In the autonomy-granting role, parents issue gentle prompts for appropriate behaviour (e.g., successive steps towards return to regular school attendance) and reinforce such behaviour in a developmentally-appropriate way. At the same time, the adolescent is provided with opportunities to 'show that he/she can try to face the fear' without the direct involvement of parents. In the

more authoritative role, parents are helped to employ a firmer approach should this be required. In particular, they learn skills with which to extinguish inappropriate behaviour (e.g., arguments with parents about school return), and are helped to assume responsibility for determining the timing and process of their adolescent child's return to regular school attendance.

Involving peers in treatment

During adolescence, the peer group becomes increasingly influential in the life of the young person. Adolescents often seek the company of friends rather than parents, and it becomes more and more important for the young person to have skills to be able to 'fit in' (Geldard & Geldard, 2004; Holmbeck et al., 2006). Given the sense of social isolation that many anxious young people experience, opportunities for involvement with peers can be especially important (Scapillato & Manassis, 2002; Kearney, 2005). Peers can significantly influence and impact on adolescent attitudes and behaviour, and interventions that include peer involvement may have increased efficacy (Jelalian, Mehlenbeck, Richardson, Birmaher, & Wing, 2006). In addition, feedback from peers can be more reinforcing than that from adults (Forehand & Wierson, 1993) and it can be very useful to have source of constructive support in the treatment program for the young person aside from the parents and the clinician. To identify suitable peers (e.g., siblings, classmates, friends), the clinician can ask the young person to nominate a suitable 'peer assistant', or query parents or teachers. Well-functioning friends, classmates or siblings can be included in treatment sessions to provide an opportunity for life-like situations in which young clients can practice the skills learned in treatment while still under the supervision of the clinician (La Greca & Prinstein, 1999). Peers could also be involved in between-session 'real-life exposures' to avoided social situations (e.g., walking to school together; spending time together in the lunch break).

Though the use of peers can be a powerful tool in the enhancement of social competencies, the clinician is advised to consider the level of the young person's social competency before involving a peer in treatment. For example, to maximize the success of a practice opportunity, Chorpita (2007) recommended that an anxious child or adolescent should have a basic level of competency before engaging in role playing with peers. For some young people, involving peers may be the last thing they would want, due to their desire to 'fit in' and the embarrassment and shame associated with being 'in therapy'. It is therefore important to involve adolescent clients in the decision-making around the (non)involvement of their peers.

Another way in which the clinician may capitalize on the influential role of the peer group during adolescence is to deliver of CBT in group format rather than in individual format. The results of a number of treatment outcomes studies with anxious children and adolescents indicate that group treatment is as efficacious as individual treatment (e.g., Liber et al., 2008). Group CBT with adolescents permits normalization

of experienced difficulties and opportunities for positive social interaction (Scapillato & Manassis, 2002). In the case of social anxiety, group members may participate in each other's exposures (Albano & Barlow, 1996). Albano (1995) even argued that, given the nature of social anxiety disorder, individual treatment for socially anxious adolescents would be "counterintuitive and counterproductive" (pp. 276-277).

Future research directions

Future research into developmentally-appropriate CBT for anxious adolescents would ideally focus on three key research issues emerging from both the 'why' and the 'how' sections of the current review. The first of these issues is a need to continue to develop and test cognitive-behavioural models of adolescent anxiety. Empirically-supported models can then be used to inform further developments in adolescent-focused CBT protocols. Until now there have been very few models of anxiety which emphasize developmental psychopathological concepts when delineating anxiety in younger age groups, and the relevance of these models for anxious adolescents is still to be determined. There are some exceptions (e.g., Wood et al., 2003), but these models are yet to be systematically tested in the practice of CBT for anxious adolescents. The next generation of empirical studies into the aetiology of child and adolescent anxiety is underway, and such studies will ideally account for developmental factors (e.g., the relationship between autonomy strivings and avoidance behaviour), contextual factors (e.g., the role of parental factors in the maintenance of the problem), and the comorbidity common to adolescent anxiety (e.g., co-occurring depressive symptoms).

A second research implication concerns the systematic evaluation of developmentally-appropriate CBT for anxious adolescents. Researchers need to employ a developmental 'frame of mind' when planning clinical trials with this population. For example, barriers to adolescents' involvement in treatment outcome research need to be reduced. Parents, school staff and others in the community can be educated about the 'signs' of anxiety (e.g., avoiding class presentations; avoiding social contact with peers; avoiding school) and encouraged to refer adolescents showing such signs. Clinicians involved in such clinical trials can use 'adolescent-appropriate' means, such as regular e-mail contact during treatment to increase the likely uptake of treatment by adolescent clients and reduce drop-out. Developmentally-appropriate clinical trials will also modify clinical diagnostics and assessment (e.g., including developmentally-appropriate measures to assess pre- and post-treatment functioning); make use of developmentally-appropriate treatment manuals (e.g., modular treatments); account for developmental factors in determining treatment delivery mode (e.g., group versus individual CBT); and provide clinicians with training and supervision around the six key domains described in 'How can clinicians developmentally tailor CBT for anxious adolescents?' in this review. By monitoring the extent and quality of the clinicians' adherence to the six domains, researchers will be able to learn more about the merits

of designing and delivering developmentally-appropriate treatment.

Thirdly, it is important to explore the influence of developmental factors on the outcomes of developmentally-appropriate CBTs for adolescents. As noted, researchers frequently use age in analyses aimed at predicting treatment response. Young people of the same chronological age may vary greatly in developmental status. It is for this reason that Hudson et al. (2002) argued that more meaningful prediction analyses would make use of "measures specific to the important developmental forces" (p. 837). Wagner (2003) recommended that, alongside age, at least one other indicator of developmental status be included in developmentally-appropriate research and practice. Variables representative of these developmental forces include pubertal changes, changes in peer interactions, autonomy development, and changes in parenting behaviours (D'Amico et al., 2005). It is particularly important to assess CBT-relevant cognitive capacities with respect to their impact on treatment outcome. Development in CBT-relevant cognitive capacities may influence the extent to which a young person extracts meaning from, and applies cognitive therapeutic strategies. It might even be that the refinement of cognitive capacities due to engagement in cognitive therapeutic strategies mediates therapeutic gains (Holmbeck et al., 2006). Thus, development in cognitive capacities could be examined as both a mediator and a moderator of treatment outcome (Eyberg et al., 1998; Hudson et al., 2002). However, future studies are needed to elucidate exactly which cognitive capacities are relevant to adolescents' successful participation in the cognitive therapeutic strategies encompassed in CBT, in which way these capacities can best be measured, and how valid the currently available tasks or questionnaires are.

Conclusion

The purpose of this paper is to advance the use of developmentally-appropriate CBT for anxious adolescents. Having considered the question of 'why' it is important to use developmentally-appropriate CBT, we addressed the question of 'how' clinicians can best account for adolescent development. Our review of the literature suggested six key domains relevant to 'how' treatment can be designed or delivered in a developmentally-appropriate way. Each domain encompasses numerous clinical implications, and the implications vary in terms of their specificity to the topic: (a) how to conduct treatment with young people at different levels of development; (b) how to conduct CBT with young people at different levels of development; and (c) how to conduct CBT with anxious adolescents.

In terms of the implications for designing and delivering treatment with young people at different levels of development, several key points deserve to be highlighted. Tailoring treatment language, materials, and activities, as well as the tempo of treatment delivery according to the developmental level of the young person is essential when engaging both children and adolescents in treatment. Attention to motivation for treatment is indispensable when working with adolescent clients in

particular, given the influence that strivings for autonomy may have on engagement in the therapeutic process and on the therapeutic alliance. Peers may be able to play a supportive role in treatment, given the increasing influence of the peer group during the adolescent period. In addition, the flexibility that comes with modularized treatments may help the clinician respond to individual differences arising from biological, social-emotional, psychosocial, and cognitive development.

The clinical implications for designing and delivering CBT with young people at different levels of development are quite plentiful. The following key points are considered to be especially relevant to working with adolescents. When developing case formulations and determining targets for treatment, it is important that the cognitive-behavioural models take into account adolescent developmental tasks and transitions, contextual factors, and common comorbid disorders. Increased attention needs to be paid to the formal or informal assessment of CBT-relevant cognitive capacities. While the clinical judgments of some well-trained and highly-experienced clinicians may be valid, standardized assessment tools and procedures are likely to increase the validity and reliability of estimates of the capacity to engage in cognitive therapeutic interventions. Further, due to large intra- and inter-individual differences in the development of CBT-relevant cognitive capacities, it is prudent to retain a dimensional rather than a categorical perspective on the selection and delivery of the cognitive and behavioural therapeutic techniques contained in CBT. That is to say, the clinician can differentially emphasize the extent to which behavioural and cognitive techniques are selected and delivered to best match the capacities of the adolescent client.

A key clinical implication emerging from the review is that clinicians designing and delivering CBT keep in mind what anxious adolescents '*want* to do by themselves' and 'what they are *able* to do by themselves', in terms of both their developmental capacities and the tendency to avoid anxiety-provoking situations or stimuli. The interaction between adolescent strivings for autonomy on the one hand, and anxiety-motivated avoidance on the other, can lead to ambivalence toward the therapeutic process, and at worst, reluctance to collaborate with the clinician and carry out the therapeutic tasks. A developmentally-appropriate balance between 'supportive' and 'directive' treatment delivery may best facilitate adolescents' engagement in treatment, and in particular, in exposure tasks. This 'developmentally-appropriate balance' can be applied to all of the six key domains as described above. In particular, in view of the 'transfer of control' approach, the clinician should consider when it is best to involve parents in treatment in a more 'supportive', autonomy-granting role or a more 'directive', authoritative role in order to best stimulate the young person's participation in therapeutic tasks.

In short, the suggestions described in the current review are an important response to the calls in the clinical and research literature for developmentally-appropriate treatment. Suggestions associated with six domains of treatment design

and delivery may serve as a guide for clinicians working with anxious adolescents, and for researchers involved in the creation and empirical evaluation of developmentally-appropriate CBTs. In turn, the knowledge arising from empirical evaluations will allow for more informed and appropriate decisions as to 'how' one can best conduct developmentally-appropriate CBT with anxious adolescents.