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Social anxiety in pre-adolescent children: What do we know about maintenance?

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ABSTRACT

The cognitive theory of social anxiety disorder (SAD) is one of the most widely accepted accounts of the maintenance of the disorder in adults, yet it remains unknown if, or to what extent, the same cognitive and behavioral maintenance mechanisms that occur in adult SAD also apply to SAD among pre-adolescent children. In contrast to the adult literature, current models of SAD in children mostly account for etiology and maintenance processes are given limited attention. Consequently, their clinical utility for the treatment of SAD in children may be limited. This narrative review, first, critically examines the different theoretical conceptualizations of the maintenance of social anxiety in the child and adult literature and illustrates how these have resulted in different treatment approaches and clinical understanding. Second, it reviews the available evidence relating to hypotheses about the maintenance of SAD in children as derived from adult cognitive and etiological models. Third, it highlights the need to attend directly to child specific maintenance mechanisms in SAD, to draw on cognitive theory, and to account for the influence of childhood-specific contextual (e.g. family and school-based interactions) and developmental factors on children's social experiences.

Social anxiety disorder (SAD) is one of the most common mental health disorders (Kessler, Chiu, Demler, Merikangas, & Walters, 2005), with approximately 13% of the population meeting diagnostic criteria for SAD during their life (Beesdo et al., 2007). If left untreated, SAD typically runs a chronic course and total remission is rare (Bittner et al., 2007). Although the age of onset is typically in early adolescence (median 13 years) (Kessler, Berglund, et al., 2005; Wittchen & Fehm, 2003), clinically anxious pre-adolescent children are commonly diagnosed with SAD (e.g. Hirshfeld-Becker et al., 2010; Ollendick & Hirshfeld-Becker, 2002; Spence, Donovan, & Brechman-Toussaint, 2000) and SAD is often present in pre-adolescent children referred for treatment for an anxiety disorder (e.g. 45%- Waite & Creswell, 2014, p. 82%- Kendall et al., 2010). Children with SAD are commonly treated with a generic form of Cognitive Behavioral Therapy (e.g. Kendall & Hedtke, 2006). However, children who have SAD benefit less from these treatments than children with non-SAD forms of anxiety disorders (e.g. 40.6% vs. 72.0% remission rate; Ginsburg et al., 2011). The reasons for why children with SAD benefit less from generic treatments than children with other anxiety problems remain unclear.

Disorder-specific treatments, that is, treatments that were specifically developed to treat childhood SAD, are effective in comparison to waitlist control conditions or active, non-disorder specific interventions (e.g. Beidel, Turner, & Morris, 2000; Donovan, Cobham, Waters, & Occhipinti, 2015; Öst, Cederlund, & Reuterskiöld, 2015; Spence et al., 2000). However, these treatments typically require a relatively high number of sessions and resources – characteristics that create obstacles for dissemination in routine clinical practice – and 30–50% of children[1] retain their SAD diagnosis post-treatment. In contrast, highly effective treatments have been developed for adults with SAD (e.g. Clark et al., 2006; Mörtberg, Clark, Sundin, & Åberg Wistedt, 2007; Stangier, Heidenreich, Peitz, Lauterbach, & Clark, 2003) which can be delivered efficiently (Stott et al., 2013) due to the identification of clearly defined and carefully tested maintenance mechanisms that are specifically targeted in treatment (e.g. Clark & Wells, 1995; Clark, 2001; McManus et al., 2009; Rapee & Heimberg, 1997). Critically, these maintenance mechanisms explain why SAD persists in adults despite repeated exposure to social situations (Clark,

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[1] From now on, 'children' refers to pre-adolescent children.

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2001; McManus, Sacadura, & Clark, 2008). In order to improve the effectiveness and efficiency of treatments of childhood SAD, an equally clear understanding of the psychological processes that maintain the disorder in children is required. However, in contrast to the adult literature, there are no maintenance models of childhood SAD. Instead current conceptualizations of SAD in children are typically models of etiology (Ollendick & Benoit, 2012; Ollendick & Hirshfeld-Becker, 2002; Rapee & Spence, 2004; Spence & Rapee, 2016) which do not specifically set out to inform treatment and its components and, as such, potential maintenance processes are given limited attention.

There are two main reasons why adult maintenance models of SAD may not apply directly to children. The first relates to cognitive maturation. Human brain development undergoes vast developmental changes between childhood and adulthood (Supekar, Musen, & Menon, 2009). However, it remains unclear at what age the processes outlined in adult models of social anxiety come 'online' in children. For example, children's cognitive capacity to see themselves as other's see them does not develop until late childhood (Cole, Jacquez, & Maschman, 2001) and children and adults use different neurocognitive strategies when making self-referential judgements (Pfeifer, Lieberman, & Dapretto, 2007). In addition, children may differ in the stage at which they develop the skills required for successful social interactions, potentially putting some children more at risk of negative social encounters (and subsequently social anxiety) than others (Rapee & Spence, 2004; Spence & Rapee, 2016). The second reason why adult models may need to be adapted for children relates to social context. Children rely extensively on parents and caregivers for guidance, instruction and to create social opportunities. There is increasing literature on the bidirectional effects of parenting and child outcomes (e.g. Paschall & Mastergeorge, 2016) in which child characteristics elicit particular parenting behaviours which may further promote particular child characteristics and which are entirely consistent with cognitive maintenance models. For example, in the case of child anxiety, parental overcontrol has been shown to be elicited by parental anxiety (Hudson, Doyle, & Gar, 2009), but also to have a heightened anxiogenic effect among high, versus low, anxious children (Thirlwall & Creswell, 2010). Children also typically spend up to a half of their waking time at school where the influence of teacher and peer relationships can be critical to their wellbeing (Silver, Measelle, Armstrong, & Essex, 2010). As well as living in quite different social-environments to adults, there is also evidence that the influence at particular people (e.g. peers, parents) on children's developing cognitions changes markedly throughout development (Cole, Maxwell, & Martin, 1997; Cole et al., 2001) highlighting the need to specifically consider children of particular developmental stages. Further clarification of the maintenance processes that are specific to childhood SAD is essential for improving treatments for social anxiety in children.

1. Adult maintenance models of SAD

The most widely cited and well-established disorder-specific cognitive behavioral models of adult SAD are those of Clark and Wells (1995) and Rapee and Heimberg (1997). Both models propose that dysfunctional beliefs and assumptions provoke a person with SAD to appraise social situations as dangerous and to interpret social events in an excessively negative fashion (Clark & McManus, 2002; Clark & Wells, 1995; Heimberg, Brozovich, & Rapee, 2010; Rapee & Heimberg, 1997). Two types of biases have been described. First, it is hypothesized that people with SAD interpret ambiguous social events in a negative fashion, and, second, that they catastrophize in response to unambiguous, mildly negative social events (Clark & McManus, 2002; Clark, 2001; Stopa & Clark, 2000). Several maintenance processes are then hypothesized to 'keep the problem going': (i) Increased self-focused attention and self-monitoring linked with reduced observation of other people's behaviors and responses facilitates access to negative thoughts and feelings, interferes with performance and prevents belief disconfirmation; (ii) Use of misleading internal information (in particular anxious feelings, intrusive distorted and negative images/mental representations, and diffused body perception of 'felt sense') to make (erroneous) inferences about how one comes across to others produces self-generated evidence for fears and prevents access to disconfirmatory information (Clark, 2001); (iii) Safety-seeking behaviors (SSBs) that the person engages in to deal with the perception of threat and/or its consequences - including avoidance and escape from social situations and also overt and covert behaviors carried out whilst in social situations (e.g. mentally reviewing what to say) - lead the individual to ascribe the non-occurrence of a feared catastrophe to the SSB/s rather than adjusting their threat appraisal (Salkovskis, 1991). In addition, SSBs can create some of the symptoms that socially anxious people fear (e.g. trying to hide a shaking hand by tensing one's arms excessively produces more hand shaking), increase self-focused attention and self-monitoring that draws other people's attention to the socially anxious person, and/or influence other people in a way that reinforces the socially anxious person's negative beliefs (Clark, 2001); (iv) The use of detailed and catastrophic anticipatory and post-event cognitive processing triggers feelings of anxiety, brings up memories of past social failures and negative self-images, and provides yet more apparent proof of social incompetence (Clark & Wells, 1995; Clark, 2001).

The Rapee and Heimberg (1997) model, and their updated model (Heimberg et al., 2010), can be distinguished from Clark and Wells (1995) in three ways. First whilst Clark and Wells (1995) consider SSBs to be a core feature, Rapee and Heimberg (1997) do not specifically illustrate SSBs in their model and focus mainly on the dysfunctional nature of avoidance. Second, Clark and Wells (1995) and Clark (2001) assert that some processing of external cues takes place, but propose that the core attentional bias is the person's shift to monitoring *internal* cues (e.g. arousal, thoughts, behaviors, images). In contrast, Rapee and Heimberg (1997) describe a more interactive process between internal and external information in which individuals allocate their attentional resources to monitoring and adjusting their distorted mental representation of the self while also directing attention externally in search of any threat cues or negative evaluation. Third, Heimberg et al. (2010) suggest that people with SAD fear and attend to *any* evaluation-related cues, whether they are negative or positive, rather than focusing specifically on fear of negative evaluation.

2. Etiological models of childhood SAD

Etiological models of SAD typically propose that a mixture of genetic, temperamental, environmental and cognitive factors increase the risk for the development of SAD (e.g. Kearney, 2005; Kimbrel, 2008; Ollendick & Benoit, 2012; Ollendick & Hirshfeld-Becker, 2002; Rapee & Spence, 2004; Spence & Rapee, 2016). Here we review the three factors that are described as potentially also playing a role in the *maintenance* of childhood SAD in these models, i.e. performance factors, peer interactions, and parental practices.

Rapee and Spence (2004) propose that two performance factors, in interaction with peer factors, may lead to repeated experiences