



# Skittish, shielded, and scared: Relations among behavioral inhibition, overprotective parenting, and anxiety in native and non-native Dutch preschool children



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## ABSTRACT

This study examined behavioral inhibition and overprotective parenting as correlates and predictors of anxiety disorder symptoms in preschoolers with a multi-cultural background ( $N=168$ ). Parents of 3- to 6-year-old children completed a set of questionnaires twice, 12 months apart. Parents were also interviewed with the Anxiety Disorders Interview Schedule for DSM-IV at the 12-month point to assess the clinical severity of children's anxiety symptoms. Behavioral inhibition consistently emerged as a significant concurrent correlate of anxiety symptoms and this was particularly true for social anxiety symptoms. Overprotective parenting also emerged as a significant correlate of anxiety, but only in the case of non-social anxiety symptoms and mainly in non-native Dutch children. Prospective analyses revealed that behavioral inhibition was a significant predictor of social anxiety symptoms, while overprotective parenting did not explain significant variance in the development of children's anxiety over time. The support for an interactive effect of behavioral inhibition and overprotective parenting was unconvincing. Finally, it was found that children who exhibited stable high levels of behavioral inhibition throughout the study ran the greatest risk for developing an anxiety disorder.

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## 1. Introduction

Anxiety disorders belong to the most prevalent types of psychopathology among children and adolescents: about 5% of all youths meet the diagnostic criteria of an anxiety disorder and cumulative figures indicate that almost 20% suffer from a clinically significant anxiety problem before the age of 16 (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Verhulst, van der Ende, Ferdinand, & Kasius, 1997). However, the internalizing nature of anxiety means that this problem often remains hidden, thereby hindering referral to clinical treatment settings (Angold, Costello, Farmer, Burns, & Erkanli, 1999). Nevertheless, there may be clear markers of anxiety problems that are already visible during the early stages of development. One important candidate in this regard is behavioral inhibition, which refers to the temperament characteristic of being unusually shy and withdrawn when confronted with new and unknown stimuli and situations (Kagan, 1994).

Research has provided support for an intimate link between behavioral inhibition and anxiety problems in children and adolescents (Fox, Henderson, Marshall, Nichols, & Ghera, 2005). For example, cross-sectional data have indicated that higher levels of behavioral inhibition are accompanied by higher levels of anxiety in preschoolers (Biederman et al., 1990, 2001; Dyson, Klein, Olino, Dougherty, & Durbin, 2011; Hudson, Dodd, & Bovopoulos, 2011; Shamir-Essakow, Ungerer, & Rapee, 2005; White, McDermott, Degan, Henderson, & Fox, 2011), primary school aged children (Muris et al., 2009; Van Brakel, Muris, & Bögels, 2004; Van Brakel, Muris, Bögels, & Thomassen, 2006; Vreeke & Muris, 2012), and adolescents (Carpentier, Elkin, & Starnes, 2009; Muris, Meesters, & Spinder, 2003; Muris, Meesters, van Melick, & Zwambag, 2001; Muris, Merckelbach, Wessel, & Van de Ven, 1999). More importantly, prospective research has shown that behavioral inhibition constitutes a risk for developing anxiety problems over time. An exemplary study was conducted by Biederman et al. (1993), who followed a sample of inhibited and uninhibited preschool children throughout their early childhood years. Results indicated that at the first assessment, inhibited children already displayed significantly more anxiety disorders than uninhibited children. Interestingly, at the re-assessment, 3 years later, the inhibited children had displayed a significant increase in anxiety problems from baseline

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to follow-up, whereas such a marked increase was not observed in the uninhibited group. Other studies have generally replicated these results (Brozina & Abela, 2006; Hudson, Dodd, Lyneham, & Bovopoulos, 2011; Kagan, Snidman, Zentner, & Peterson, 1999), thereby underlining that behavioral inhibition should be viewed as a vulnerability factor for anxiety disorders in youth, with some studies suggesting that this temperament characteristic is of particular relevance to the development of social anxiety disorder (Biederman et al., 2001; Chronis-Tuscano et al., 2009; Hayward, Killen, Kraemer, & Taylor, 1998; Hirshfeld-Becker et al., 2007; Muris, Van Brakel, Arntz, & Schouten, 2011; Schwartz, Snidman, & Kagan, 1999).

While it is clear that behavioral inhibition is associated with a heightened risk for developing anxiety pathology, it is also true that not all temperamentally vulnerable children develop anxiety problems. For example, in the aforementioned study by Biederman et al. (1993) a clear majority of the inhibited children did not develop this type of psychopathology. This fits nicely with recent etiological models of childhood anxiety which stress the importance of an interplay between child temperament and environmental risk factors (e.g., Lahat, Hong, & Fox, 2011; Muris, 2007; Rapee, 2001; Rubin, Coplan, & Bowker, 2009). One of the environmental risk factors thought to be involved in the pathogenesis of childhood anxiety is overprotective parenting. Parents with this parenting style try to shield their child from potential danger and distress by intrusively providing unnecessary help to the child and restricting its exposure to a broad range of situations. The net effect is that the child's fear and anxiety are enhanced because parents increase the awareness of danger, reduce the level of perceived control, and promote avoidance behavior in their offspring (Rapee, 1997).

Research has indeed demonstrated that overprotective parenting is associated with or even predictive of anxiety problems in youths (e.g., Hudson & Rapee, 2001, 2002; Lieb et al., 2000; see for reviews McLeod, Wood, & Weisz, 2007; Van der Bruggen, Stams, & Bögels, 2008), and this may be especially true during the preschool years when the family environment plays a dominant role in children's life (Baumrind, 1967). However, few studies have actually addressed the additive and/or interactive role of behavioral inhibition and parental overprotection in the development of anxiety problems in young children. One exception is an investigation by Edwards, Rapee, and Kennedy (2010) who examined temperamental and parental predictors of anxiety symptoms in preschool children ( $N=638$ ). Mothers and fathers completed a survey containing measures of children's behavioral inhibition, parents' overprotective parenting, and anxiety disorders symptoms in the offspring. The assessment was carried out twice, 12 months apart, so that it became possible to study prospective links among these variables. Results showed that children's anxiety symptoms were fairly stable over time. Nevertheless, it was found that behavioral inhibition (as indicated by mothers) and overprotective parenting (of both parents) made significant unique contributions to children's anxiety symptoms at time 2. Unfortunately, interactive effects of behavioral inhibition and overprotective parenting were not investigated in this research.

Two other studies were conducted by Hudson, Dodd, and Bovopoulos (2011) and Hudson, Dodd, Lyneham, et al. (2011). The first was a cross-sectional investigation (Hudson, Dodd, & Bovopoulos, 2011) exploring concurrent additive and interactive influences of observed and parent-rated behavioral inhibition and maternal overprotective parenting (which was defined as overinvolvement) as well as a number of other environmental variables on anxiety diagnoses in 202 high- and low-risk children aged between 3 and 5 years. It was found that behavioral inhibition was a significant correlate of children's anxiety problems. Further, parental overprotection was also associated with anxiety, but no longer had a significant impact after controlling for other environmental

factors. Finally, no evidence was found indicating that behavioral inhibition and overprotection had an interactive effect on anxiety. Hudson, Dodd, Lyneham, et al. (2011) followed these children for 2 years in order to examine the contributions of behavioral inhibition and maternal overprotective parenting in the development of anxiety over time. The results showed that after controlling for baseline anxiety levels, behavioral inhibition was associated with an increased likelihood of children meeting the criteria for an anxiety disorder at follow-up. However, again no additive or interactive effects of maternal overprotective parenting were observed. Yet, the data did show that this parenting style enhanced children's level of behavioral inhibition over time, which suggests there still might be an (indirect) effect on anxiety in later childhood.

Given the paucity of studies examining additive and interactive effects of temperamental vulnerability and family environment on anxiety in young children, the present study further explored concurrent and prospective relations among behavioral inhibition, overprotective parenting, and anxiety symptoms in a sample of preschool children in the Netherlands. An important difference with previous research was that the children in the present study had a multi-cultural background, which provided the opportunity to compare native and non-native Dutch children. Previous studies on the relations between behavioral inhibition, overprotective parenting, and anxiety during early childhood have been conducted in predominantly white/Caucasian samples with relatively little ethnic/cultural diversity (Edwards, Rapee, & Kennedy, 2010; Hudson, Dodd, & Bovopoulos, 2011; Hudson, Dodd, Lyneham, et al., 2011). Nevertheless, a comparison across children with different ethnic/cultural backgrounds can be considered as interesting for a number of reasons. To begin with, there is evidence to suggest that the construct of behavioral inhibition may have a different connotation in various ethnic/cultural groups. For example, Rubin et al. (2006) used a structured observation procedure to compare levels of behavioral inhibition in preschool children of five nations. The authors found that children in China and South-Korea were more inhibited than children in Australia and Italy, which may well have to do with the fact that in Eastern, collectivistic cultures shyness and inhibited behavior are more valued than in Western cultures. In a similar vein, there are also indications that rearing behaviors vary across cultures (Lansford & Bornstein, 2011; Rubin, 1998), and this may also be true for overprotective parenting. For instance, Chen et al. (1998) noted that parents of Chinese children displayed higher levels of protection and concern toward their offspring than parents of Canadian children. Finally, there is also evidence indicating that anxiety levels differ significantly across children from various cultural backgrounds, with children from non-Western countries generally displaying higher levels than children of Western nations (e.g., Essau, Leung, Conradt, Cheng, & Wong, 2008; Muris, Schmidt, Engelbrecht, & Perold, 2002). Even within Western countries, it has been shown that children from non-native, ethnic minorities exhibit higher levels of anxiety as compared to white/Caucasian children from native inhabitants (Hale, Raaijmakers, Muris, & Meeus, 2005), although this is certainly not always the case (Safren et al., 2000).

Thus, in the current study, behavioral inhibition, overprotective parenting, and anxiety symptoms were assessed by asking parents of 3- to 6-year-old native and non-native Dutch children to complete a set of questionnaires twice, approximately 12 months apart. Regression analyses were conducted to investigate the unique contributions of behavioral inhibition and overprotective parenting as well as their interaction to children's anxiety symptoms, both cross-sectionally and prospectively. Because some studies have indicated that behavioral inhibition is especially relevant for social anxiety disorder (Chronis-Tuscano et al., 2009; Hayward et al., 1998; Hirshfeld-Becker et al., 2007; Muris et al., 2011; Schwartz et al., 1999), a distinction was made between this type of

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