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Nighttime fears of preschool children: A potential disposition marker for anxiety?

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Abstract

Objective: To examine if children who suffer from significant Nighttime Fears (NF) experience higher degree of general fears and behavioral problems and to explore whether effortful control mediates NF association with internalizing problems.
Methods: One-hundred and nine preschool children (64 boys) between the ages 4 and 6 years suffering from significant NF and 30 healthy children (16 boys) were evaluated using parental reports of behavioral problems [Child Behavior Checklist (CBCL)], parental and child report of fears [Fear Survey Revised for Parents (FSS-PC), Koala Fear Questionnaire (KFQ)], and a measure of effortful control derived from the Child Behavior Questionnaire (CBQ).
Results: Children with severe NF also suffer from an increased level of a wide variety of fears other than NF, and exhibit more behavioral problems than controls both on parental and children's measures of general fears, and main CBCL scale scores (Internalizing, Externalizing, Total score). Additionally, children with NF had lower abilities of effortful control (as manifested in CBQ attention and inhibitory control scales). Attention control mediated NF association to internalizing problems scale.
Conclusions: NF may serve as a marker for anxiety vulnerability, and this vulnerability might be mediated by abnormal attentional control. Our finding also highlights the need for a more comprehensive assessment of behavioral problems, fears and anxiety phenomena among children referred with NF.

1. Introduction

Temperamental vulnerabilities play an important role in the development of anxiety disorders [1]. For example, previous studies have demonstrated that some children present from early age temperamental bias that predisposes them to be highly reactive to unfamiliar stimulation as infants and to be fearful of or avoidant to unfamiliar events and people as young children [2,3]. By the time they reach adolescence, about one-third of this group of children exhibit signs of serious social anxiety manifestations [2,3]. These findings suggest that temperamental factors from a very young age render some children especially susceptible to develop clinical symptoms of fear and anxiety [1,3–6]. Although early anxiety manifestations may remit over time, the vast majority of children and adolescents who develop anxiety symptoms will suffer from the same condition or other mental disorders over the further course of life [1].

Emotional regulatory skills may have a key role in the development of fear and anxiety Symptoms [7]. In children, attentional control is considered a component of self-regulatory processes that fall under the definition *Effortful control (EC)*. EC is considered a temperamental factor that has been defined as "the ability to inhibit a dominant response to perform a subdominant response" [7–10]. EC is generally thought to include two main components: inhibitory control, which refers to the ability to inhibit one's behavior when necessary, and attentional control, which is defined as the ability to focus and shift attention when needed [11]. EC competencies emerge during the second year of life [12]. At this age individual differences in EC can already be seen, and the capacity to self-regulate attention and behavior continues to develop throughout childhood [13–17].

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Accumulating evidence suggests that lower levels of EC are related to higher levels of emotional and behavioral problems in children [8,9,18–24]. It has been suggested that EC and, in particular, attentional control play an important role in the pathogenesis of childhood anxiety disorders [25,26] through the influence on attentional biases to threat-evoking stimuli [21,27]. When children become anxious and aroused in the face of threat, high levels of EC may function as a buffer through the employment of self-regulative processes in the form of attention regulation and other flexible coping behaviors. However, when EC is low, the child is less capable of such self-regulation, and prone to develop high anxiety levels [8].

Mild and time-limited nighttime fears (NF) are very prevalent in normal development, and most children overcome or outgrow them [28,29]. However, nighttime and going to sleep pose a serious challenge for many young children [28,30,31] and persistent anxiety symptoms and severe NF that interfere with daily functioning are common [28,31,32].

In the context of NF, when a child is coping with a specific fear-related thought or image (e.g., being alone at night), a high level of EC would enable him or her to disengage from this specific stimulus and focus on an alternative one (attentional control). It could also enable the child to inhibit (inhibitory control) a prepotent response (e.g., seeking parental help) and using alternative modes of coping (e.g., playing with a favorite toy).

It has been demonstrated that childhood fears frequently occur in the context of other anxiety disorders[33]. Although NF do not constitute a formal diagnostic entity their phenomenology is likely to manifest in other diagnoses such as anxiety disorders. For instance, in a study of normal school children, Muris et al. (2001) found that NF were associated with a diagnosis of at least one anxiety disorder in more than 10% of subjects [30].

Considering the high prevalence of NF in childhood, its potential adverse impact, and its link to other anxiety phenomena, the aim of the study was to examine if children who suffer from significant NF also experience higher degree of general fears and behavioral problems. Considering the role of EC in regulating emotion and its potential link to childhood fears and anxiety disorders another aim was to explore the role of EC as a mediator between NF and an overall tendency for internalizing problems. It was hypothesized that children with NF would exhibit higher degree of general fears and that EC, particularly attentional control, would significantly mediate the link between NF and internalizing problems.

2. Methods

2.1. Subjects

139 children from clinical and control samples participated in the study. The clinical group of children with severe NF consisted of 109 preschool children (64 boys and 45 girls between the ages 4 and 6 years, mean age = 58.91 ± 8.32 months). 30 healthy children from the same age group, not meeting criteria for nighttime fears were included in the control group (16 boys and 14 girls, mean age = 58.93 ± 7.62 months). Comparison of the demographic variables revealed no group differences on any of the variables (child's gender, age, birth order and parental age, education, work load, and the number of children in the family) [34].

2.2. Measures

Fear Survey Revised for Parents (FSS-PC) — The FSS-PC is a revised version of the FSSC-R [35,36] which includes 52 items [35–39]. In the design of the FSS-PC items were selected and other items were added that seemed more appropriate for a sample of local preschool Israeli children (e.g., fear of terror attacks, fear of war) [35,36]. Parents were asked to rate their children's fear level, on a 1–4 scale (1 = not scary at all, 4 = very scary), on items such as ghosts, snakes, and getting lost from parents. Adding the scores for all responses across the 52 items yields the total fear score reflecting a global index of fear level. The internal reliability of the FSS-PC, based on Cronbach's alpha, for the clinical group and control group was 0.77 and 0.86 respectively.

Koala Fear Questionnaire (KFQ)[40] — The KFQ was used to directly assess children's fears. It consists of 31 picture illustrated stimuli and situations that can potentially elicit fear. KFQ stimuli and situations were derived from the top self-reported intense fears among children aged 4–12 [41,42] and from items constructing the Fear Survey Schedule for Children [37]. Children rated their level of fear from each stimulus or situation on a visual scale depicting Koala bears that express three levels of fear. Previous research has demonstrated that the KFQ is reliable in terms of internal consistency (as in the 0.80–0.90 range), test–retest stability (r was 0.84), and possesses adequate validity as evidenced by its positive correlations with alternative measures of childhood fear and anxiety [40].

Child Behavior Questionnaire (CBQ) — To measure the construct of effortful control, the Child Behavior Questionnaire (CBQ) was used [43]. The CBQ is a widely used temperament assessment tool intended for early to middle childhood (3–7 years). Temperament dimensions for the CBQ scales have been developed from dimensions studied in both adults and infants. The CBQ assesses three temperamental factors: Negative Affectivity, Surgency Extraversion, and Effortful Control, constructed of 15 scales [43]. The questionnaire consists of 195 items rated by parents on an eight-point scale. Internal consistency estimates of the CBQ scales have been reported in a number of sources, presenting mean levels Cronbach's alpha coefficients of 0.77 across all 15 scales [43,44]. Two scales of the CBQ were used in this study: attentional control and inhibitory control.

The Child Behavior Checklist (CBCL) — The CBCL was used to assess behavior problems as perceived by parents