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Socio-emotional intervention in attention deficit hyperactive disorder



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KEYWORDS

Attention deficit hyperactive disorder;
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Abstract Attention-deficit-hyperactivity disorder (ADHD) is a common neuro-behavioural disorder with onset in childhood. These children have impaired emotional self-control, self-regulation of drive and motivation. Numerous studies have reported cognitive disabilities in memory, executive functions, spatial abilities and language skills. The main objective of this work is to determine whether a socio-emotional intervention programme could improve executive functions in children with Attention Deficit Hyperactivity Disorder. The sample of this study consisted of 25 children (8 female and 17 male) aged between 8 and 12 years, diagnosed with ADHD and who were not taking any psychopharmacological treatment at the time of the study, and had not taken medication previously. Executive functioning was assessed through the Zoo Map test and Tower of Hanoi puzzle in pre-/post-test design. A socio-emotional intervention programme was implemented. The training consisted of 8 one-hour weekly sessions, on an individual basis. Results indicate that such a programme does lead to improved performance in the execution of tasks that evaluate executive functions. After the intervention, the children took less time to resolve the Zoo Map test. Results for the Hanoi Tower puzzle were also improved after intervention. The children needed a lower number of movements to complete the task. © 2015 European Journal of Education and Psychology. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

PALABRAS CLAVE

Trastorno por Déficit de Atención e Hiperactividad;
Programas de intervención;

Intervención socio-emocional en el trastorno de hiperactividad con déficit de atención

Resumen El Trastorno por Déficit de Atención e Hiperactividad (TDAH) es el trastorno más frecuentemente diagnosticado durante la infancia. Uno de los modelos explicativos es el desarrollado por Barkley (1990), que considera que la capacidad de inhibición de una respuesta estaría mediatizada por la capacidad de inhibir una respuesta hacia un objeto que atrae nuestra atención, la capacidad para interrumpir una conducta que se está llevando a cabo y la competencia

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para cambiar el foco de nuestra atención. De esta forma, una baja capacidad de inhibición repercutiría negativamente en las capacidades cognitivas. Desde este modelo, se considera que dicha incapacidad de inhibición está producida por una alteración en la Función Ejecutiva. La muestra de nuestro estudio está formada un grupo de 25 niños con edades comprendidas entre 8 y 12 años diagnosticados de déficit de atención que no están tomando medicación en la actualidad ni la han tomado anteriormente. Se realizó un programa de intervención socio-emocional de una duración de 8 semanas y una frecuencia semanal de una hora. Durante estas sesiones se trabajó el autocontrol, la tolerancia a la frustración y la resiliencia. Los resultados muestran una mejora en la Función Ejecutiva que se traducían en una mejor inhibición conductual.

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Introduction

Attention deficit hyperactivity disorder (ADHD), a common neurobehavioral disorder with onset in childhood (Weyandt, 2007), is characterized by developmentally inappropriate levels of hyperactivity, impulsivity in motor, emotional and social responses, a general lack of inhibition and pervasive inattention (DSM-5; American Psychiatric Association, 2013).

ADHD is associated with greater risks for low academic achievement (Rodríguez et al., 2009), poor school performance, retention in grade, school suspension and expulsions, poor peer and family relation, anxiety and depression, aggression, conduct problems and delinquency, early substance experimentation and abuse, driving accidents and speeding violations, as well as difficulties in adult social relationship, marriage and employment. Often, these children have impairment in emotional self-control, self-regulation of drive and motivation. Numerous studies have reported cognitive disabilities in memory, executive functions, spatial abilities and language skills (Barkley, 2006; Goldstein & Naglieri, 2006; Goldstein & Schwabach, 2004).

From a psychological perspective, many theories of ADHD have been proposed depending on whether they emphasize motivational or energetic factors ("bottom-up" theories) or emphasize some form of cognitive control ("top-down" theories). Classic bottom-up theories proposed that ADHD arises from a deficit in sensitivity to reinforcement (Haenlein & Caul, 1987) or as involving a steep reward-discounting gradient (Sagvolden, Johansen, Aase, & Russell, 2005). Early top-down theories were Still's (1902) notion of defective volitional inhibition and moral regulation of behaviour; and Douglas's (1972) theory of deficient attention, inhibition, arousal and preference for immediate reward. The most comprehensive articulation of a top-down model has come from Barkley (1997). He has outlined a theory of ADHD that attempts to integrate numerous observations into a more comprehensive theory. This author proposes that self-regulation requires the ability to inhibit a behavioural response, and that four other executive functions are dependent upon this for their own effective execution. These four executive functions provide for self-regulation, bringing behaviour progressively more under the control of time and the influence of future over immediate consequences. The interaction of these executive functions permits far more effective adaptive functioning towards

the social future (social self-sufficiency). In this model, the term Executive Function refers to this mainly private (cognitive) self-directed actions that contribute to self-regulation (Hughes, Russell, & Robbins, 1994).

The model developed by Barkley, DuPaul, and McMurray (1990) hypothesized that the ability to inhibit a response would be mediated by the competence to inhibit a response to an object that attracts our attention, the ability to stop a behaviour that is taking place and the capability to change the focus of our attention. Thus, low inhibition ability would have a negative impact on cognitive performances. According to this model, the ability to inhibit the behaviour would act as moderator for four executive mechanisms: self-regulation of emotion, motivation and arousal; internalization of speech; nonverbal working memory and reconstitution. These executive functions influence the motor system in the service of goal-directed behaviour.

In this sense, recent studies have reported that children with ADHD have many difficulties in self-regulation of affect, motivation and arousal (Pacheco, Díez, & García, 2010). Several studies have found that these children show a lower motivation, effort capacity and reward discounting (Barber, Milich, & Welsh, 1996; Barkley et al., 1990; Douglas, 1988). This difficulty in self-regulation of motivation may explain the need for short-term reinforcers (Haenlein & Caul, 1987; Sagvolden, Wultz, Moser, Moser, & Morkrid, 1989). Neuroimaging research had suggested brain underactivity, particularly in functioning related to the frontal lobes (Klorman, 1992; Rothenberger, 1995).

Self-directed speech is believed to provide a means for reflection and description, by which the individual covertly labels, describes, and verbally contemplates the nature of an event or situation prior to responding to that event. Private speech also provides a means for self-questioning through language, creating an important means for self-interrogation of the past and thereby a source of problem-solving ability, as well as a means of formulating rules and plans. Children with ADHD have greater difficulty following directions (Luk, 1985) and rules (Hinshaw, Simmel, & Heller, 1995), using strategies for achieving a goal (August, 1987) and deficient rule-governed behaviour (Conte & Regehr, 1991). These difficulties related to planning are also well documented in patients with damage in the frontal lobe (Gershberg & Shimamura, 1995; Kesner, Hopkins, & Fineman, 1994). Studies focusing on brain morphology have

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