Are Aberrant Behavioral patterns associated with the adaptive behavior trajectories of teenagers with Autism Spectrum Disorders?

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A R T I C L E   I N F O

A B S T R A C T

This study aims to identify Aberrant Behavioral (AB) patterns in adolescents with Autism Spectrum Disorders (ASD) and to examine if these patterns are associated to their adaptive behavior trajectories. The Aberrant Behavior Checklist (ABC) was used to assess problems behaviors in a sample of 152 adolescents with ASD, whose adaptive behavior trajectories were described based on the Vineland communication and socialization scores. Clustering analyses were performed to identify AB patterns and univariate analyses to evaluate the association between AB patterns and adaptive behavior trajectories. We identified four clusters or AB patterns: (1) low scores in the ABC four domains, (2) high scores in irritability and hyperactivity, (3) medium scores in the four domains, and (4) medium level of irritability and high scores in stereotypy, lethargy and hyperactivity. These patterns were significantly linked to the adolescents' adaptive behavior trajectories. Most adolescents with a high trajectory (87%) were found in clusters 1 and 3, whereas adolescents with a low trajectory were equally distributed in the four clusters. Results suggest that while a high trajectory seems associated with a low level of AB, low trajectory is not necessarily associated with a high level of AB. Study limitations and clinical implications are discussed.

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1. Introduction

Autism Spectrum Disorders (ASD) is a group of developmental disorders characterized by significant impairments in social interaction and communication, and the presence of unusual behaviors and interests (American Psychiatric Association, 2000). ASD are particularly severe and long-lasting in comparison to other types of childhood psychopathology (Howlin, Goode, Hutton, & Rutter, 2004).

Aberrant or challenging behavior (AB), are "culturally abnormal behaviors of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behavior which is likely to seriously limit use of, or result in the person being denied access to ordinary community facilities" (Emerson, 1995). AB such as aggression, self-injury, stereotyped movements and extreme tantrums are frequent among patients with developmental

disorders (Emerson et al., 2001). In the ASD population, recent prevalence estimates range from 35.8% to 94.3% (Kozlowski, Matson, & Sipes, 2012). varying according to the assessment tools and the characteristics of studied populations. According to Green, O'Reilly, Itchon, and Sigafoos (2005) AB often emerge early and can be highly persistent in people with ASD during the pre-school years, but also in school (Baghdadli, Pascal, Grisi, & Aussilloux, 2003) and adult age (Smith & Matson, 2010).

AB has a negative impact on the quality of life of patients and their families. The difficulties in dealing with this kind of behavior, makes the treatment of AB one of the major priorities in developmental disability services (Green et al., 2005).

Those behaviors have a high impact on the overall development, such as stereotypes which interfere with social life and skill acquisition, and may be a precursor to self-injury (Guess & Carr, 1991). They have also been related to several clinical characteristics, such as intellectual disability, speech deficits, or autism severity (Baghdadli et al., 2003, 2008; Rojahn et al., 2009). For those reasons it seems reasonable to believe that a low level of AB may be associated with a positive clinical trajectory in patients with ASD, and vice versa. However, to the best of our knowledge there is still no empirical evidence to support this notion.

Finally, as there is a wide range of AB and the majority of individuals with ASD demonstrate at least one AB (Matson & Nebel-Schwalm, 2007), it is pertinent to explore whether it is possible to characterize adolescents with ASD according to their AB profiles. This might be useful for research purposes, for example in studies on pharmacological intervention, and also for clinical purposes, in the sense that identifying patterns of AB may help tailoring psychosocial interventions.

In this study we hypothesized that adolescents could be distinguished according to patterns of AB and that these patterns were linked to their adaptive behavior trajectories. To test these hypotheses we tried to identify AB patterns in teenagers with ASD from the EpiTED Cohort (Aussilloux, Baghdadli, Bursztejn, HochMann, & Lazartigues, 2001) based on the Aberrant Behavior Checklist (ABC) (Aman & Singh, 1994) rated by the parents of the adolescents. We then examined the association between the identified patterns and the adaptive behavior trajectories of these patients which were described in a previous article (Baghdadli et al., 2012).

2. Method

This cross-sectional study used a subset of data collected during the last point of a follow-up research (EpiTED cohort), when participants (N = 152) became adolescents as illustrated in Fig. 1 (Time 1: 5 years old ± 1.2; Time 2: 8 years old ± 1.3; Time 3: 15 years old ± 1.6). This cohort was established in 1997 to identify factors affecting the development of children with ASD (Aussilloux et al., 2001). Participants (125 males and 31 females) aged between 3 years and 7 years were recruited from 46 autism evaluation clinics in five geographical areas in France, and screened for autistic symptoms with the research criteria for childhood autism and atypical autism of the World Health Organization (1993). Among participants, 121 met criteria for childhood autism (85.5%) and 31 were diagnosed with atypical autism (14.5%).

A more detailed description of the procedure for selecting participants and descriptive data of the three times of assessment are available in Baghdadli et al. (2012).

2.1. Procedure

This research is a multicenter study coordinated by the Autism Resources Center of the Languedoc-Roussillon. An assessment protocol at three time points followed the same procedure. It included retrospective data collection, psychological testing, autism rating and measure of speech. Data were gathered by a team composed of 3 experienced psychologists. They had several years of experience in the field of autism, and were trained to use assessment tools and scales such as VABS and CARS.

The Local Human Subjects Protection Committee approved the research protocol. The study was carried out in accordance with the code of ethics of The World Medical Association (Declaration of Helsinki) (The World Medical Association, 2008). All parents received written and oral information regarding the study, and an informed consent was obtained from all of them before entering the study.
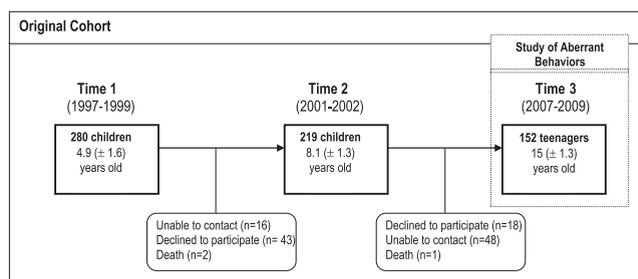

Fig. 1. Flow chart of cohort and subset of data of the present study.