



# The use of the Autism-spectrum Quotient in differentiating high-functioning adults with autism, adults with schizophrenia and a neurotypical adult control group

Saskia G.M. Wouters<sup>a,\*</sup>, Annelies A. Spek<sup>b,1</sup>

<sup>a</sup> Open Universiteit, John F. Kennedylaan 2, 5612 AB Eindhoven, The Netherlands

<sup>b</sup> Mental Health Institution (GGZ) Eindhoven, Boschdijk 625, 5600 WC Eindhoven, The Netherlands

## ARTICLE INFO

### Article history:

Received 22 September 2010

Received in revised form 5 January 2011

Accepted 7 January 2011

### Keywords:

Autism

Schizophrenia

Autism-spectrum Quotient

## ABSTRACT

The present study compared 21 high functioning individuals with autism, 21 individuals with schizophrenia and 21 healthy individuals in self-reported features of autism, as measured by the Autism-spectrum Quotient (AQ). The individuals with autism reported impairment on all AQ subscales, compared to the neurotypical group. The schizophrenia group reported deficits on all subscales except Attention to Detail, compared to the neurotypical group.

The autism group reported more impairment than the individuals with schizophrenia in Social skill, Communication and Attention switching.

© 2011 Elsevier Ltd. All rights reserved.

## 1. Introduction

Recently, interest in autism spectrum disorders in adults has increased substantially. There is a growing need for knowledge about how autism can be distinguished validly from other psychiatric disorders. Therefore, it is important to use reliable screening instruments prior to the diagnostic process. The most widely used screening instrument in adult groups is the Autism-spectrum Quotient (AQ; Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001). The AQ quantitatively assesses symptoms that are considered characteristic of autism spectrum disorders (ASD). The psychometric properties and validity of the AQ have been established by several publications (Baron-Cohen et al., 2001; Hoekstra, Bartels, Cath, & Boomsma, 2008; Kurita, Koyama, & Ossada, 2005). Baron-Cohen et al. (2001) suggested the following five subscales: Social skill, Communication, Imagination, Attention to detail and Attention switching. Although the subscales of the AQ are theoretically based, the five domain structure is still under debate (Austin, 2005; Hoekstra et al., 2008). In our study we chose to use the five domain version of the AQ to enable comparing our results with results of previous studies on the differential diagnostic ability of the AQ (Cath, Ran, Smit, van Balkom, & Comijs, 2008; Sizoo, van der Brink, Gorissen-van Eenige, Koeter, van Wijngaarden-Cremers, & van der Gaag, 2009).

Previous research indicated that the AQ, regardless of the number of subscales, can differentiate reasonably well between high functioning adults with autism and neurotypical individuals (Baron-Cohen et al., 2001; Hoekstra et al., 2008; Wakabayashi, Baron-Cohen, Wheelwright, & Tojo, 2006). Furthermore, research pointed out that the AQ can differentiate validly between autism and obsessive-compulsive disorder (OCD), social anxiety disorder (SAD), attention deficit disorder (ADHD) and schizophrenia (Cath et al., 2008; Hoekstra et al., 2008; Sizoo et al., 2009; Spek & Wouters, 2010).

\* Corresponding author. Tel.: +31 040 2852765.

E-mail addresses: [saskia.wouters@hetnet.nl](mailto:saskia.wouters@hetnet.nl) (Saskia G.M. Wouters), [aa.spek@ggze.nl](mailto:aa.spek@ggze.nl) (A.A. Spek).

<sup>1</sup> Tel.: +31 040 2613900; fax: +31 040 2613909.

However, little is known about whether individuals with other psychiatric conditions have elevated scores on the AQ. To assess whether autistic features, as measured by the AQ, are unique for autism, it is important not only to investigate how other psychiatric conditions with autistic features relate to autism, but also to a neurotypical group as well. To our knowledge, only one study compared psychiatric conditions other than autism with a neurotypical group in their AQ performance (Cath et al., 2008). This study showed that on the subscales Attention switching and Social skill as well as on the total AQ, participants with OCD or SAD reported more impairment than neurotypical individuals, whereas on the subscales Communication, Imagination and Attention to detail the participants with OCD or SAD scored similar to neurotypical individuals.

Since recent studies indicated that autism and schizophrenia may arise from similar neurodevelopmental vulnerability (Burbach & van der Zwaag, 2009; Rapoport, Chavez, Greenstein, Addington, & Gogtay, 2009), the distinction between these two disorders is particularly important. The distinction between autism and schizophrenia becomes particularly unclear when little or no positive symptoms are present (Werry, 1992). Several studies reported overlap in negative symptoms between the two disorders (Dykens, Volkmar, & Glick, 1991; Konstantareas & Hewitt, 2001; Petty, Ornitz, Michelman, & Zimmerman, 1984; Sheitman, Bodfish, & Carmel, 2004; Spek & Wouters, 2010). The negative symptoms of schizophrenia (lack of emotion and thoughts, poverty of speech and apathy) behaviorally look similar to the symptoms that are characteristic for autism (disinterest, social withdrawal, difficulty in understanding social situations, lack of fantasy, reduced reciprocal social interaction).

It is important to know whether the AQ can differentiate well between individuals with schizophrenia and high functioning individuals with autism and how their performance on the AQ relates to a neurotypical control group.

Therefore, the present study aims to examine the usefulness of the AQ in differentiating between high functioning adults with autism, schizophrenia and a neurotypical adult control group.

## 2. Method

### 2.1. Participants

The participants with schizophrenia or autism were recruited at GGZ (mental health institution) in Eindhoven and in Oss and the study was approved by the regional Ethics Committees of both centers. The individuals were randomly selected from a larger group of patients in treatment programs for autism or schizophrenia. The neurotypical control subjects were recruited from the general population by advertisements in newspaper and by word of mouth. Healthy controls were not included in the present study if they had a history of psychiatric illness or if autism ran in the family.

Participants with genetic conditions or relevant neurodevelopmental conditions other than schizophrenia or autism (e.g. ADHD, Tourette syndrome) were excluded, as were participants who were institutionalized. Those participants who met the inclusion criteria were asked to participate in the present study. In total, 63 participants agreed to take part and signed informed consent forms prior to their inclusion in the present study. The individuals were all male and ranged in age from 18 to 65 years. The group comprises 21 adults with autism, 21 adults with schizophrenia and 21 neurotypical adults. To warrant the ability of the participants to understand the items of the questionnaires, they were only included when their Verbal Comprehension score of the Wechsler Adult Intelligence Scale III (WAIS III; Wechsler, 1997) was 80 or higher.

### 2.2. Assessment of disorders

The diagnoses in the individuals with autism were established preliminary, by evaluation of history and current symptoms. To gather developmental information, parents or an older brother or sister were interviewed using the Dutch version of Autism Diagnostic Interview, Revised version (ADI-R) (Lord, Rutter, & Le Couteur, 1994). The ADI-R was administered by psychologists who were trained in the administration and scoring of this instrument. The ADI-R yields excellent reliability and validity when used by trained examiners (Lord et al., 1994). To gather information of current symptoms, a semi-structured interview was administered. This interview assesses the DSM-IV-TR criteria of autism (American Psychiatric Association [APA], 2000). For each diagnostic criterium, a standard primary question was asked, followed by questions to clarify whether the participant met the criteria of the given item. This semi-structured interview has been used for diagnostic classification in previous studies (Spek, Scholte, & van Berckelaer-Onnes, 2008; Spek, Scholte, & van Berckelaer-Onnes, 2009). Only those participants who met the DSM-IV-TR criteria of the autistic disorder were included in the present study.

The diagnoses of the participants with schizophrenia were established preliminary to the present study by psychiatric assessment following standard protocols. While the course of schizophrenia differs over time (Rabinowitz, Levine, Haim, & Häfner, 2007) the Structured Clinical Interview Schedule for DSM-IV has been administered (SCID-I; First, Spitzer, Gibbon, & Williams, 1997) to verify and confirm the diagnoses of the schizophrenia group at the present time. The reliability of the SCID-I in diagnosing specifically schizophrenia is high (Skre, Onstad, Torgersen, & Kringlen, 1991). Based on SCID-I criteria, all participants met the criteria for schizophrenia, paranoid type.

### 2.3. Instruments

#### 2.3.1. Autism-spectrum Quotient

To examine whether characteristics of autism are present in the participants, a Dutch translation of the Autism-spectrum Quotient (AQ) was used (Ponnet, Roeyers, & Buysse, 2001). The AQ is a 50 item self-administered questionnaire that assesses

Download English Version:

<https://daneshyari.com/en/article/370775>

Download Persian Version:

<https://daneshyari.com/article/370775>

[Daneshyari.com](https://daneshyari.com)