



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكرو فيلم

# بسم الله الرحمن الرحيم



**MONA MAGHRABY**



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التوثيق الإلكتروني والميكروفيلم



# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

### قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



### يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



**MONA MAGHRABY**

# **Rapid Automatized Naming Assessment in Egyptian Children with Attention- deficit/Hyperactivity disorder**

*Thesis*

*Submitted for the Partial Fulfilment of  
doctorate degree in Phoniatics*

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*To the soul of my father.*

*Doaa Abd El-Hakim Gomaa*

## *List of Abbreviations*

|               |                                                                                      |
|---------------|--------------------------------------------------------------------------------------|
| <b>ADHD</b>   | : Attention-deficit/hyperactivity disorder.                                          |
| <b>ADHD-C</b> | : Attention-deficit/hyperactivity disorder predominantly combined type.              |
| <b>ADHD-I</b> | : Attention-deficit/hyperactivity disorder predominantly inattentive type.           |
| <b>ADHD-H</b> | : Attention-deficit/hyperactivity disorder predominantly hyperactive-impulsive type. |
| <b>ANT</b>    | : Attention network task                                                             |
| <b>CE</b>     | : Central executive.                                                                 |
| <b>COMT</b>   | : Catechol-O-methyltransferase.                                                      |
| <b>CTOPP</b>  | : The rapid naming subtests of the Comprehensive Test of Phonological Processing.    |
| <b>DSM-IV</b> | : Diagnostic and Statistical Manual of Mental Disorders, Forth Edition               |
| <b>DSM-V</b>  | : Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition.              |
| <b>ENT</b>    | : Otorhinolaryngology                                                                |
| <b>IQ</b>     | : Intelligence quotient.                                                             |
| <b>MADST</b>  | : Modified Arabic Dyslexic screening test                                            |
| <b>MAO-A</b>  | : Monoamine oxidase-A.                                                               |
| <b>ODD</b>    | : Oppositional defiant disorder.                                                     |
| <b>PFC</b>    | : Prefrontal cortex.                                                                 |
| <b>PH</b>     | : Phonology.                                                                         |
| <b>RAN</b>    | : Rapid automatizing naming.                                                         |

**RAN-RAS** : The Rapid Automatized Naming-Rapid Alternating Stimulus Tests.

**RD** : Reading disability.

**SPSS** : Statistical Package for Social Science

**TD** : Totally developed.

**VS** : Visuospatial.

**WM** : Working memory.

**YAs** : Young adults.

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## INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common mental disorders affecting children. As well as many adults. Symptoms of ADHD include inattention (not being able to keep focus), hyperactivity (excess movement that is not fitting to the setting) and impulsivity (hasty acts that occur in the moment without thought). An estimated 8.4 percent of children and 2.5 percent of adults have ADHD (*Danielson et al., 2018*).

Criteria for ADHD has two dimensions of inattention and hyperactivity-impulsivity symptoms that are used to define three nominal subtypes: predominantly hyperactive-impulsive type (ADHD-H), predominantly inattentive type (ADHD-I), and combined type (ADHD-C) (*Ayano et al., 2020*).

Rapid automatizing naming (RAN) is the ability to identify and recognize a given item through the activation and concomitant articulation of its name, which will later be stored in the mental lexicon (*Cohen et al., 2018*).

RAN tasks depend on automaticity within and among each individual component in the naming circuit. It is within this context RAN is being considered to be a universal processes that predict the young child's ability to connect and

automatize the sequences of letters and words with their linguistic information. Regarding speed and accuracy, the response could be “rapid and accurate”, “rapid and inaccurate”, “slow and accurate” or “slow and inaccurate” (*Gordon et al., 2020*).

RAN task requires a synchronization and integration across a wide range of processes (I) Attentional processes to the stimulus, (II) Bihemispheric visual processes responsible for initial feature detection, visual discrimination, and pattern identification, (III) Connection of visual features and pattern information with the already stored orthographic representations, (IV) Integration of visual and orthographic information with stored phonological representations, (V) Access to and retrieval of phonological labels, (VI) Activation and integration of semantic and conceptual information with all other input and (VII) Motoric activation leading to articulation (*De Chambrier et al., 2021*).

The association between ADHD symptoms and slow cognitive speed remains significant even when measures of other replicated deficits such as response inhibition, response variability, word retrieval and working memory (*Ryan et al., 2017*).



Although slow cognitive speed does not appear to be necessary or sufficient to cause ADHD. It is an important part of a comprehensive neuropsychological model of ADHD (*Creque and Willcutt, 2021*).

## **AIM OF THE WORK**

The present study aims to assess the rapid automatized naming deficits (in speed and accuracy) in cases of ADHD to investigate other cognitive deficits related to ADHD to be incorporated in management plan if proved.

## **ATTENTION DEFICIT HYPERACTIVITY DISORDER: NEURODEVELOPMENTAL DISORDER**

Attention deficit hyperactivity disorder (ADHD) is the most common behavioral condition and the second most common chronic illness in children. National survey data from 2016 revealed that 9.4% of US children received an ADHD diagnosis at some point and that 8.4% currently had ADHD (*Danielson et al., 2018*).

ADHD is characterized by problems paying attention, excessive activity, or difficulty controlling behavior which is not appropriate for a person's age. The symptoms appear before a person is twelve years old, are present for more than six months, and cause problems in at least two settings (such as school, home, or recreational activities) (*Muscari and Ngo, 2017*).

Children and adolescents with ADHD are more likely to experience a variety of negative outcomes compared to their peers without the disorder, including lower academic attainment, impaired social functioning, increased risk of hospital admissions and injuries, increased substance use and risk of substance use disorder, and reduced income and participation in labor markets as adults (*Fleming et al., 2017*).