

ASSESSING CHILDREN AT RISK IN UAE: PILOT USE OF THE MBC ARABIC VERSION IN PRIMARY SCHOOL SETTINGS

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Abstract

Children's emotional, behavioral and developmental problems can be properly identified and assessed based on observations from their teachers and parents. The Motor Behavior Checklist (MBC; Efstratopoulou, Janssen, Simons, 2012a) was designed to assist classroom teachers and Physical Education (PE) teachers in assessing their students' motor-related behaviors. The instrument has already been successfully translated and culturally adapted into six languages and used in a number of research studies internationally. The present study aimed to apply the newly developed Arabic version of the MBC checklist at mainstream Schools in UAE and assess the motor behavioral problems in typical school-aged children. A sample of 294 children aged 2- 18 years were assessed by their teachers in school settings using the 59 items checklist for children analyzing data on the 7 clusters (rules breaking, attention, hyperactivity, low energy, stereotyped behavior, social interaction, self-regulation). Findings indicated that boys were scoring higher on the Attention, Hyperactivity, and social problems scales. Gender differences and the possible effects of behavioral challenges are also explored and discussed in the study. Early assessment and Behavioral management strategies are recommended by the authors.

Keywords: *Children, teachers, assessment, physical educators, behavioral problems.*

1. Introduction

Neurodevelopmental disorders (NDD) constitute a group of disorders that commonly emerge during childhood or adolescence and usually affect behaviors that are significant for normal interactions, ranging from school to social occasions (American Psychiatric Association, 2013). NDD include Intellectual Disability Communication Disorders, Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), Specific Learning Disorder (SLD) and Motor Disorders. Signs of NDD manifest early in development, often before school entry age, affecting the child's personal, academic and social functioning and the range may vary from very specific limitations of learning or control of executive functions to global impairments of intelligence or social skills (APA, 2013).

1.1. Teachers and parents' involvement in the assessment process

Researchers have recognized the importance of parents' and teachers' roles in obtaining a more holistic and valid assessment of children's emotional and behavioral functioning. Especially, as regards the evaluation of EBP encountered by children with ADHD (e.g. inattention, lack of concentration, impulsivity, hyperactivity, learning problems, etc.), teachers and parents are often considered as the principal agents of the assessment process (Gardon, 2012). More specifically, with the use of several assessment scales, they are asked to rate their students/children's behaviors across a variety of settings (e.g. home, school, athletic activities, play, etc.) in common, everyday circumstances (Paiano, Teixeira, Cantiere, Efstratopoulou & Carreiro, 2019).

The majority of school-based behavioral assessment tools are structured for use by school psychologists and/or counselors, often use mental health terminologies, are time-consuming, and are not intended for use by teachers or physical educators in school settings. Rating scales are quite useful for rating symptoms that may be unnoticeable in novel and controlled environments, such as those encountered in clinic-based patient examinations (DuPaul & Stoner, 2014; Power, 1992).

Attention deficit hyperactivity disorder (ADHD) is a severe neurodevelopmental disorder that is frequently diagnosed in childhood and lasts into adolescence and adulthood. ADHD interferes with growth and performance, negatively impacting an individual's social, scholastic, or vocational activities (ADHD Institute, 2021; APA, 2013). Inattention and hyperactivity-impulsivity are the two primary domains of ADHD, and they can have a significant and long-term impact on one's life (APA, 2013). ADHD sequences

include limited social relationships, risky behaviors, academic failure, and job loss (Magnus, et al., 2020). Moreover, children with ADHD are more apt to have health problems, and accidents (Fleming et al, 2017), and less likely to engage in healthy lifestyle activities (Holton & Nigg, 2020).

1.2. Factors influencing student behavior rating

Some factors can affect teachers' rating of problematic behaviors beyond behavior symptoms themselves. Characteristics of students are one instance of these factors. Students' gender, age, race, and ethnicity may influence informants' ratings. In the same vein, instructors' characteristics such as years of experience and gender might have an impact on their ratings (DuPaul et al., 2014).

Research from Arab countries and the Gulf Cooperation Council, indicates that more boys than girls scored above the cutoff for ADHD symptoms. Bener et al. (2006), for example, used the Conners Teacher Rating Scale to rate students ages 6 to 12 and found that more boys than girls scored above the cutoff for ADHD symptoms (14.1%) versus (4.4). According to Miller et al (1999), there are higher rates of conduct disorder, attention deficit hyperactivity disorder, and post-traumatic stress disorder (PTSD) in Palestinian children and adolescents from the age of 6 to 16 who live in the Gaza Strip. In Al Ain, UAE, Eapen et al. (1998; 2004;2001) used screening measures completed by parents and school physicians, as well as interviews with a child psychiatrist, to explore emotional and behavioral disorders in children ages 6 to 15. According to the findings, 23.9% of children were reported to have a mental health condition by a parent or school health professional. Boys were reported to have greater issues than girls. Eapen et al. (2004) found that the most common psychiatric diagnoses in the study sample were anxiety and depression, with females outnumbering males in terms of mental illnesses. Finally, Eapen et al. (2009) evaluated ADHD prevalence in the UAE using questionnaires from parents and teachers, which revealed 4.1 % and 3.4% respectively.

Finally, according to Efstratopoulou et al. (2012a), PE teachers classified children in the ADHD group as having more severe problems on the Hyperactivity/Impulsivity and Lack of Attention scales, children in the CD group as having more severe problems on Rules Breaking items, and children in the AS group as having more severe problems on both Stereotyped Behaviors and Lack of Social Interaction items.

The present study aimed to apply the newly developed Arabic version of the MBC checklist at mainstream Schools in UAE and assess the motor behavioral problems in typical school-aged children by their teachers and their Physical Educators (PE) in school settings.

2. Method

2.1. The Motor Behaviour Checklist (MBC)

The Motor Behavior Checklist (MBC; Efstratopoulou, Janssen, Simons, 2012) is a practical, easy to administer, useful, and valid measure for observing motor behavior of children aged between 6 to 12 years, and for screening and assessing children with EBP problems and possible underlying disorders (e.g. Motor-development problems, Autism Spectrum disorders, ADHD, Learning Difficulties, etc.) in the school environment. Its first version was standardized in the British primary school-age population (initially including 150 items). In its final version, it includes 59 items describing observable 'problematic' behaviours and the instrument can provide separate scores for each of the seven factors and total externalizing/internalizing behavior scores.

Finally, administration and completion of the MBC checklist do not require verbal skills on the child's part and can provide a detailed individual profile on different areas of the child's development (e.g. social skills, self-regulation, aggressiveness, hyperactivity, etc.), while assessing deviant behaviors in school settings (Efstratopoulou et al., 2015). Previous studies on the evaluation of the psychometric properties of MBC for children have revealed that the MBC is a content-homogeneous instrument, with high temporal stability and high interrater agreement that can provide useful and reliable ratings on behavioral and emotional problems in children, especially when used by PE teachers in school settings (Efstratopoulou et al., 2012a; 2012b; 2015). Up to date, the Motor Behavior Checklist (MBC; Efstratopoulou, Janssen, Simons, 2012a) has already been translated into six languages (Greek, Arabic Polish, Urdu, Czech, Chinese, Brazilian/Portuguese) and has been used in several studies (Efstratopoulou, 2021; Paiano et al., 2019; Wood & Efstratopoulou, 2020; Efstratopoulou, Dunn, Augustyniak, & Andrzejewska, 2017).

2.2. Sample

The sample consisted of 294 children. Of the participants, 203 were boys and 90 girls with a male to female ratio of 81:36. The age of the children varied from two to eighteen, with an age mean of (MN= 8.0) and SD= Among these children, 65% (N=...) had no official diagnoses, whereas 35% (N=...) was diagnosed with Autism, ADHD, or other disorders. This shows that the sample was broadly representative of children of different ages and with varying diagnoses in the UAE.

3. Results

The study examined gender differences in Externalising and Internalizing Behaviour in children in UAE using the Arabic Version of the Motor Behaviour Checklist (MBC) for children. Findings indicated that there was a difference in the mean scores due to gender regarding the scales of the following problem: rules, low energy, stereotyped behaviors, and social problems. However, this difference increases in total attention, self-regulation, and especially hyperactivities as males tend to have higher mean scores than females. In Table 1 the analysis of the scores indicates that male students exhibited higher scores than females in both the total externalizing scale (49.91 versus 37.43) and internalizing scale (37.84 versus, 30.98) with a greater difference in externalizing scales (12.48 versus 6.86).

Table 1. Scores on MBC problems scale by gender.

	Gender	N	MN	SD
Rules	Boys	203	8.49	6.60
	Girls	90	6.14	5.85
Attention	Boys	203	24.21	13.12
	Girls	90	17.76	13.12
Hyperactivity	Boys	203	17.15	10.39
	Girls	90	13.47	10.64
Low energy	Boys	203	4.24	3.57
	Girls	90	3.79	3.97
Stereotyped	Boys	203	3.60	2.53
	Girls	90	2.62	2.41
Social	Boys	203	12.22	8.22
	Girls	90	10.32	8.84
Self-regulation	Boys	203	17.06	9.27
	Girls	90	14.08	10.03
Total Internalizing	Boys	203	37.84	21.54
	Girls	90	30.98	23.52
Total externalizing	Boys	203	49.91	27.42
	Girls	90	37.43	28.09

In addition, children with ASD scored high in externalizing total score, as expected, with a mean score of M=65 and SD=20 and total internalizing problem score with a mean score of M=53 and SD=15 (Table 2).

Likewise, children with ADHD scored even more elevated in total externalizing problems with a mean score of M=61 and internalizing problems M=44. Children with other disorders scored with a mean of M=51 in externalizing problems and M=47 in internalizing problems. On the other hand, typical children have a lower score as the mean is M=39 and SD=27 in externalizing problems and M=28 and SD=21 in internalizing problems.

4. Discussion

Gender remained a significant predictor of internalizing and externalizing problems in children (Lau et al., 2021). This study's findings reveal gender differences in internalizing and externalizing problems in children aged from two to eighteen in UAE. Males were found to have a higher score and there was a difference in internalizing and externalizing problems between males and females in all clusters. However, this variation increases total attention, stereotyping, rule-breaking, and hyperactivities.

The results of this study correspond with those of (Bener et al., 2006;; Eapen et al., 1998; Eapen et al., 2001; Eapen et al., 2009; Salmanian et al., 2017) in that the severity of ADHD symptoms is more likely to be found in boys than in girls. In the same way, the results correspond with Hassan et al. (2019) in asserting that the gender gap between boys and girls with ASD and the gender differences between males and females has widened to be 5:1. However, the findings of this study do not agree with Taylor et al. (2012) in terms of internalizing ASD symptoms related to gender. According to Taylor et al. (2012)'s research, there is no difference between girls and boys with ASD; even more, adolescent girls with ASD were shown to be much more impaired than boys.

According to the study's findings, in the UAE, males are more likely than girls to suffer from behavioral, developmental, and emotional problems. They have more external behavior challenges with inattention, hyper activities, inattention, and rule-breaking. Moreover, males are also more apt to have internal behavioral difficulties of ASD (stereotyped behavior, lack of social interaction, lack of self-regulation, and low energy).

Table 2. Scores on MBC problems scale with t-value.

	<i>F</i>	<i>Sig</i>	<i>t-value</i>	<i>DF</i>	<i>P-value (two sided)</i>
<i>Rules</i>	2.310	.130	2.90	291	.004
			3.04	191.03	.003
<i>Attention</i>	.170	.680	3.86	291	<.001
			3.84	168.47	<.001
<i>Hyper</i>	.151	.698	2.78	291	.006
			2.65	167.00	.007
<i>Low energy</i>	.969	.326	.97	291	.335
			.93	155.51	.355
<i>Stereotyped</i>	.000	.984	3.11	291	.002
			3.17	187.06	.002
<i>Social</i>	.442	.506	1.78	291	.076
			1.73	159.92	.085
<i>Self-regulation</i>	.719	.397	2.48	291	.014
				159.00	.017

Thus, school-based screening and identification of these disorders in male children are urgently required. The male should be targeted to more services and intervention programs for developing behavior management, self-regulation, and social interactions. On the other hand, the results show that children with ASD have a higher mean than children with ADHD, other disorders, and typical children. In addition, children with no diagnoses have a lower mean in externalizing and internalizing problems than children diagnosed with ASD, ADHD, and other problems. This finding is consistent with the findings of Efstratopoulou et al. (2012) implying the importance of the screening process for these disorders in the UAE region. The Arabic version of the MBC can be used in referring and diagnosing children with these disorders in UAE. Early assessments are highly recommended especially for male children by the researchers to identify children at risk of developmental, behavioral, and emotional disorders. It is also recommended that behavioral management strategies should be infused into students' programs early as possible to help them learn to manage their behavior. Public awareness of these disorders is required as well as using adapted culturally standardized identifying instruments for early identifications like MBC. Training courses should also be devoted to improving professionals' ability for identifying and diagnosing children with behavioral, developmental, emotional, and academic difficulties in schools.

5. Limitation and future research

Limitations of this study are related to using a single instrument and with only teachers as solo informants of these symptoms in UAE which restrict the study's results generalizations. The sample size is relatively small and does not represent the whole UAE's seven emirates therefore, the results should be used with caution. Further research, could include also collecting data from parents' reports to support and compare teachers' reports on students; behaviour. Samples that include adolescents can also be valuable as individuals with older age are found to suffer from more internalizing and externalizing problems than children due to academic demands and their increased social expectations (Lau et al., 2021). Further research studies are recommended with a larger sample size and different variables such as; students' age, and parents' education level to examine these variable effects which may present valuable suggestions and recommendations.

References

- ADHD Institute (2021, April 22). How is ADHD diagnosed?. [https://adhd-institute.com/assessment-diagnosis/diagnosis/Federal Competitiveness and Statistics Centre \(5th, November,2021\)](https://adhd-institute.com/assessment-diagnosis/diagnosis/Federal%20Competitiveness%20and%20Statistics%20Centre%20(5th,%20November,2021).). retrieved from :<https://u.ae/en/about-the-uae/fact-sheet>
- American Psychiatric Association (APA). (2013). *DSM V Diagnostic and Statistical Manual of Mental Disorders* (5th ed). Washington, DC: American Psychiatric Association
- Bener, A., Qahtani, R. A., & Abdelaal, I. (2006). The Prevalence of ADHD Among Primary School Children in an Arabian Society. *Journal of Attention Disorders*, 10(1), 77–82. <https://doi.org/10.1177/1087054705284500>
- DuPaul, G. J., Reid, R., Anastopoulos, A. D., & Power, T. J. (2014). Assessing ADHD symptomatic behaviors and functional impairment in school settings: impact of student and teacher characteristics. *School Psychology Quarterly*, 29(4), 409–409.

- DuPaul, G. J., Stoner, G. (2014). *Adhd in the schools : assessment and intervention strategies* (Third). Guilford Press. Retrieved October 22, 2021, from <https://ebookcentral.proquest.com/lib/uaeu-ebooks/reader.action?docID=1742842>
- Eapen, V., Ai-Sabosy, M., Saeed, M., & Sabri, S. (2004). Child psychiatric disorders in a primary care arab population. *International Journal of Psychiatry in Medicine*, 34(1), 51–60. <https://doi.org/10.2190/JW8N-PW2D-P63A-F5YV>
- Eapen, V., Al-Gazali, L., Bin-Othman, S., & Abou-Saleh, M. (1998). Mental health problems among schoolchildren in united arab emirates: prevalence and risk factors. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(8), 880–886.
- Eapen, V., Mabrouk, A. A., Zoubeidi, T., Sabri, S., Yousef, S., Al-Ketbi, J., Al-Kyomi, T., & Jakka, M. E. (2009). Epidemiological study of attention deficit hyperactivity disorder among school children in the united arab emirates. *Journal of Medical Sciences*, 2(3), 119–127. <https://doi.org/10.2174/1996327000902030119>
- Eapen, V., Swadi, H., Sabri, S., & Abou-Saleir, M. (2001). Childhood behavioural disturbance in a community sample in Al-Ain, United Arab Emirates. *Eastern Mediterranean health journal = La revue de sante de la Mediterranee orientale = al-Majallah al-sihhiyah li-sharq al-mutawassit*, 7(3), 428–434.
- Efstratopoulou, M & Sofologi, M. (2020). *Bring my Smile Back. Working with Unhappy students in Education* . Nova Publishers, NY Inc.
- Efstratopoulou, M. (2017). *The Enigma of Autism: Genius, Disability or just Different?* Nova Publishers, New York, Inc.
- Efstratopoulou, M., Delligianidou, S., & Sofologi, M. (2021). Exploring parents Experience on distance learning for students with ASD. *European Journal of Special Education*, 7 (1), 14-23. DOI: <http://dx.doi.org/10.46827/ejse.v7i1.352>
- Efstratopoulou, M., Janssen, R., & Simons, J. (2013). Assessing children at risk: psychometric properties of the motor behaviour checklist. *Journal of Attention Disorders*, 19(12), 1054–63. <https://doi.org/10.1177/1087054713484798>
- Efstratopoulou, M, Janssen R. & Simons, J.(2012a). Agreement among physical educators, teachers and parents on children’s behaviors: A multitrait-multimethod design approach. *Research in Developmental Disabilities* 33: 1343–51.
- Efstratopoulou, M, Janssen R. & Simons, J.(2012). Differentiating children with attention- deficit/hyperactivity disorder, conduct disorder, learning disabilities and autistic spectrum disorders by means of their motor behavior characteristics. *Research in Developmental Disabilities* 33: 196–204.
- Hassan, M., Omisakin, F., & Taylor, R. (2019). G486(p) is the gender gap in autism changing. *Archives of Disease in Childhood*, 104(Suppl 2), 195. <https://doi.org/10.1136/archdischild-2019-rcpch.470>
- Lau, T. W. I., Lim, C. G., Acharyya, S., Lim-Ashworth, N., Tan, Y. R., & Fung, S. S. D. (2021). Gender differences in externalizing and internalizing problems in Singaporean children and adolescents with attention-deficit/hyperactivity disorder. *Child and adolescent psychiatry and mental health*, 15(1), 1-11.
- Magnus, W., Nazir, S., Anilkumar, A. C., & Shaban, K. (2020). Attention Deficit Hyperactivity Disorder. In *StatPearls*. StatPearls Publishing
- Metzger, B., Simpson, C., G., & Bakken, J.,p. (2010). Early Identification Intervention: Is misinformation/ poor intervention impact students, teachers and families? In Obiakor, F., E., Bakken, J., P., & Rotatori. A., F. (Eds), *Current Issues and Trends in Special: Identification, Assessment and Instruction*(pp. 17-34). Emerald Publishing Group.
- Miller, T., el-Masri, M., Allodi, F., & Qouta, S. (1999). Emotional and behavioural problems and trauma exposure of school-age Palestinian children in Gaza: some preliminary findings. *Medicine, conflict, and survival*, 15(4), 368–393. <https://doi.org/10.1080/13623699908409478>
- Salmanian, M., Asadian-koohestani, F., & Mohammadi, M. R. (2017). A systematic review on the prevalence of conduct disorder in the middle east. *Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in Social and Genetic Epidemiology and Mental Health Services*, 52(11), 1337–1343. <https://doi.org/10.1007/s00127-017-1414-9>
- Taylor, S. L., Hinshaw, S. P., & Carter, C. S. (2012). Autism symptoms and internalizing psychopathology in girls and boys with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 42(1), 48–59.