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Methodological Challenges in Psychometric Assessment and Diagnosis of Individuals with Special Needs

التحديات المنهجية في القياس والتشخيص النفسي لذوي الاحتياجات الخاصة

- Dr/ Hadda Neche [*1]
د. حدة نش
University Mohamed Boudiaf of M'sila, Algeria [*1]
جامعة محمد بوضياف، المسيلة . الجزائر
البريد الإلكتروني: hadda.neche@univ-msila.dz **E-mail:**
رقم الهاتف: 0796386042 **Phone Number:**
- PHD/ Baalouj Tarek [2]
ط.د/ بعلوج طارق
University Abou l'Kacim Saadellah of Algiers, Algeria[2]
جامعة أبو القاسم سعد الله الجزائر2
baalouj.tarek@univ-alger2.dz
البريد الإلكتروني: hadda.neche@univ-msila.dz **E-mail:**
رقم الهاتف: 0560099860 **Phone Number:**

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Abstract:

Psychological diagnosis and psychometric assessment represent fundamental avenues for identifying individuals with special needs, thereby facilitating the provision of tailored psychological, educational, and healthcare services. Diagnostic assessment tools encompass both quantitative measures and qualitative descriptive instruments. The objectivity of the diagnostic process is directly contingent upon the validity and reliability of these instruments. Nevertheless, these tools encounter multifaceted challenges, ranging from construct validity and cross-cultural appropriateness to practitioner-related issues, such as a scarcity of trained experts and suboptimal testing conditions, particularly when assessing

*-Corresponding author حدة نش , e-mail: hadda.neche@univ-msila.dz

individuals with special needs. Consequently, this paper seeks to critically examine these prevailing challenges.
Keywords: diagnosis, psychometric assessment, individuals with special needs.

الملخص:

تشكل عملية التشخيص والقياس النفسي أهم المداخل الأساسية في الكشف عن ذوي الاحتياجات الخاصة من أجل تقديم الرعاية والخدمات النفسية والتربوية والصحية اللازمة لهم وفق احتياجاتهم ، وتشمل أدوات القياس المستخدمة في التشخيص على أدوات بعضها يعتمد على القياس الكمي والبعض الأخر يعتمد على الوصف الكيفي، وكلما كانت الأدوات المستخدمة في عملية التشخيص على درجة عالية من الصدق والثبات كلما كانت عملية التشخيص تمتاز بالموضوعية، وعليه فإن هذه الأدوات تواجه العديد من المشكلات سواء من ناحية البناء ومدى صلاحيتها وملائمتها للبيئة الثقافية أو من ناحية القائمين على تطبيقها والمتمثلة في نقص الخبراء المدربين على استخدامها والظروف المحيط بها أثناء التطبيق خاصة لدى فئات ذوي الاحتياجات الخاصة وعليه جاءت هذه الدراسة لتناقش بعض هذه المشكلات.

الكلمات المفتاحية: التشخيص ، القياس النفسي ، ذوي الاحتياجات الخاصة

Individuals:with special needs are characterized by their deviation from the normative mean of the general population. Each subgroup possesses distinct attributes and unique characteristics that are not readily identifiable through casual observation. The magnitude of this demographic varies across societies; notably, there is a lack of precise epidemiological statistics regarding the prevalence of these populations. This discrepancy is attributable to several factors, chief among them being the inherent complexities involved in accurately diagnosing these groups.

It is well established that early identification of individuals with special needs plays a pivotal role in mitigating the adverse impacts of disabilities. Consequently, educational and

psychological intervention programs have evolved in tandem with advancements in psychometrics, enabling the accurate diagnosis of these cases and the provision of tailored care based on individual needs and specific deficits. Given that understanding developmental characteristics and diverse developmental milestones is fundamental to establishing general indicators for designing these programs, diagnosis constitutes an indispensable element in the planning process that cannot be overlooked. Although diagnostic methods and instruments are diverse, each practitioner applies their own theoretical framework and professional competence to this critical process. Therefore, any flaw or error in the diagnostic procedure can have profound and lasting repercussions on the children involved.

Statement of the Problem:

The processes of assessment and diagnosis of populations in special education constitute a fundamental pillar of special education, as well as the education of exceptional children. The significance of this process lies in identifying and diagnosing these groups using specific assessment tools tailored to each category, thereby determining the appropriate educational placement and developing suitable educational programs and instructional methods. Consequently, driven by the flourishing movement of assessment and diagnosis in the field of special education, psychometric instruments have been developed for each subgroup within special education. These tools are equipped with established indices of validity and reliability, along with normative standards that underscore their effective utilization (Al-Rousan, 2013, p. 17).

However, a critical examination of the practical application of these tests and measures in the field of special education reveals a significant deficiency in adhering to the standards and conditions of their administration. This shortfall is evident both

in terms of practical implementation and in the interpretation of the obtained results, as well as in drafting the final diagnostic report for the case under evaluation.

Accordingly, based on the premises of diagnosis, a child may be classified as having a disability, while another child is described as typically developing. Such misclassifications can lead to numerous issues, particularly concerning social stigma and the psychological impact on the child's family. Therefore, the assessment and diagnostic processes must be highly precise to avoid diagnostic errors, which subsequently form the basis for providing care and intervention programs for this population.

In line with Leton (1966), diagnosis should facilitate and streamline decision-making regarding treatment and intervention. Kirk and McCarthy (1961) elaborated further on this concept, asserting that "diagnosis means that the child is evaluated in a way that helps him begin an educational or therapeutic program. If the examiner cannot evaluate the child in a way that leads to specific treatment, the evaluation cannot be considered a diagnosis" (as cited in Al-Kuwafih, 2003, p. 33).

Furthermore, specialists in psychology and mental health have focused on providing appropriate services to this population by emphasizing diagnosis and the treatment of various issues that individuals with special needs may face. This is achieved through diverse programs tailored to them, whether they are enrolled in specialized institutions or integrated into mainstream schools.

Evidently, improving the realities of exceptional children depends on the extent to which we respect their individuality and uniqueness. This can only be achieved by considering all contextual factors surrounding them during the assessment and diagnostic processes. These processes frequently suffer from multiple challenges that hinder the achievement of their intended objectives, whether at the level of the psychometric instruments themselves or the administration procedures.

This is precisely what will be discussed in this paper by addressing several issues and challenges related to assessment and diagnosis in the field of special education within the Algerian context, specifically by answering the following research questions:

- What are the objectives of the assessment and diagnostic processes?
- What is the significance of early diagnosis for individuals with special needs?
- What are the primary challenges associated with the assessment and diagnosis of individuals with special needs?
- What is the current reality of assessment and diagnosis for individuals with special needs in Algeria?

Operational Definitions of Study Terms

Measurement: Mehrens (1975) defines the measurement process as the procedure that enables the specialist to obtain quantitative information about a specific phenomenon. This conceptualization is corroborated by Guilford (1954), Kerlinger (1973), and Hopkins and Stanley (1981) (as cited in Al-Rousan, 2008, p. 25).

Diagnosis: Diagnosis refers to identifying the specific type of problem, disorder, disease, or difficulty an individual experiences, along with its severity. Originally a medical term, it has since been adopted in psychotherapy, psychological counseling, social work, and remedial education. Broadly, diagnosis entails identifying the pattern of a disorder affecting an individual based on symptoms, signs, tests, and examinations, as well as classifying individuals based on specific diseases, abnormalities, or sets of characteristics. In the context of special education, it refers to the judgment reached following a meticulous examination and assessment. Typically, diagnosis in special education is conducted by a multidisciplinary team that analyzes the underlying causes of a condition, situation, or

problem, and determines the nature of each (Abu Mughli & Salama, 2010, p. 55).

Individuals with Special Needs: This term is predicated on the premise that certain individuals in society differ from the general population. It attributes this distinction to the fact that these individuals possess unique needs that require specific programs, services, methods, instructional strategies, assistive devices, or environmental modifications dictated by their life circumstances. The nature, extent, and duration of these needs define the unique characteristics of each individual (Al-Mahi & Maki, n.d., p. 3). This category encompasses gifted individuals, individuals with disabilities, and exceptional children.

2. Objectives of Measurement in Special Education

The measurement process is fundamental to the work of specialists in assessment and diagnosis, particularly in the field of special education. According to Al-Kuwafih (2003, p. 29), the objectives of measurement include the following:

- Classifying exceptional students.
- Determining their position on the normal distribution curve concerning their actual abilities.
- Referring exceptional students to appropriate educational settings.
- Developing Individualized Education Programs (IEPs) for exceptional students.

  Developing Individualized Instructional Plans for exceptional students.
- Designing behavior modification programs, disability prevention programs, and tailored instructional methods for each category within special education.

3. Objectives of Diagnosis in Special Education

According to Abu Mughli and Salama (2010, pp. 55–56), the diagnostic process aims to achieve two primary objectives: one scientific-cognitive and the other practical-applied, as follows:

The Scientific-Cognitive Objective: This pertains to understanding the personality of individuals with special needs by uncovering the comprehensive indicators that encompass their specific behaviors, thereby formulating a final clinical profile of their personality.

- **The Practical-Applied Objective:** This involves developing a comprehensive strategy that includes actionable sub-plans tailored to the individual or individuals with special needs. Implementing this strategy aims to achieve optimal psychological and social adjustment, as well as the highest level of self-actualization.

In light of these aforementioned objectives, the processes of measurement and diagnosis extend beyond mere classification and identification. They encompass the establishment of specialized intervention programs tailored to the assessments derived from these processes, while respecting the unique characteristics of each subgroup of individuals with special needs. Consequently, these processes are of paramount importance, as they lead to judgments and decisions that can profoundly impact the lives and futures of these children.

4. Importance of Early Diagnosis in the Field of Special Needs

It is unequivocally established that early diagnosis and early intervention significantly facilitate a child's developmental progress. Specifically, a child is better equipped to adapt to environmental conditions more rapidly when their challenges are identified early, thereby creating opportunities to initiate programs that stimulate cognitive processes and other developmental tasks. In light of this premise, the necessity for early diagnosis can be summarized in the following points (Abu Mughli & Salama, 2010, p. 61):

- In light of what is termed "critical periods" in developmental psychology, a child's behavior dictates the optimal time for them to be ready to advance to a new developmental level. For instance, most children begin walking between 10 and 16 months of age. If a child with cerebral palsy or visual impairment fails to walk within this timeframe, it necessitates specific evaluation.
- To comprehend deviations from the normative standard, it is essential to recognize that development may vary significantly. For example, visual impairment might delay the ability to walk until between 18 and 22 months of age, or even later. Conversely, a child who is physically and sensorily typical but fails to walk by 22 months is considered developmentally delayed. However, a blind child whose impairment is diagnosed early may achieve walking milestones according to standard developmental schedules if provided with appropriate early intervention.
- While early diagnosis may not alter the timeline for when a child with an intellectual disability learns to walk, it can significantly impact the acquisition of other cognitive abilities, and so forth.

5. Challenges in the Measurement and Diagnosis of Individuals with Special Needs

Despite the substantial efforts invested in developing assessment and diagnostic methods in special education ensuring their validity, reliability, normative standards, and expected objectives—these methods continue to encounter numerous challenges. These issues pertain to the psychometric instruments themselves, specifically concerning their underlying philosophy, objectives, indices of validity and reliability, and administration procedures (Al-Rousan, 2013, p. 135). The following section outlines the most prominent of these challenges:

Educational Competencies of the Psychological Specialist

Before delving into the issues related to tests and measures, it is imperative to address a crucial point concerning the competencies possessed by the psychological specialist. As the individual responsible for administering these tests and interpreting the results, the specialist must meet specific professional requirements. According to Al-Namr (2006, p. 103), these competencies include:

- **Theoretical Preparation:** A solid theoretical foundation in psychology, psychometrics, test administration, and results interpretation. Many specialized testing agencies require the psychological specialist to hold a scientific qualification of at least a master's degree.
- **Practical Training:** Hands-on training in administering the specific tests to be used in their practice, utilizing normative data, and interpreting results. The specialist must also be well-versed in the conditions and requirements of test administration, calculating basal age, chronological age, and ceiling age, interpreting outcomes, and drafting the psychological report.
- **Professional Licensure:** Some assessment and diagnostic bodies require the psychological specialist to obtain a professional practice license and have the assessment results accredited by university assessment and diagnostic centers or scientific research institutions.
- **Rapport Building:** The ability to establish a positive and effective rapport with the child and their family. This is essential for achieving an accurate diagnostic assessment of the child's abilities and mitigating any test-related resistance or anxiety.

It is evident from these outlined competencies that their absence in a practitioner can lead to numerous problems in the assessment and diagnostic processes, ranging from the initial measurement

phase to the evaluation stage and the drafting of the final case report.

Furthermore, there are additional issues pertaining to the assessment and diagnosis of children with special needs. Numerous instruments have been specifically designed to identify each subgroup within this population in terms of their strengths and weaknesses, quantifying these traits numerically. This quantitative data empowers decision-makers to formulate diagnostic judgments for each child individually, classify them accordingly, and refer them to the most appropriate educational or therapeutic setting.

The Issue of Test Misuse

This refers to the inappropriate use of tests or assessment tools, deviating from their intended purpose, or their administration by unqualified individuals. Salvia and Ysseldyke (1996) highlight several domains of test misuse, including:

- Administering a test that is inappropriate for the specific case or cases being assessed, whether from a technical and procedural standpoint, or in terms of its validity, reliability, and normative standards.
- Misinterpretation of test results for the assessed case(s), which leads to inappropriate decisions that can have profound positive or negative implications for the examinee and their family.
- The repeated administration of the same test and the recurrence of clerical errors in drafting the examinee's report, which ultimately misrepresents the examinee's actual performance.

Furthermore, Fraenkel and Wallen (1993) identify other forms of test misuse, particularly those concerning ethical issues related to the examiner administering the tests and measures.

- The failure to provide appropriate physical and environmental conditions for test administration (Al-Rousan, 2013, pp. 134–135).
- The overreliance on traditional assessment and diagnostic methods, such as relying solely on observation and interviews, or restricting the approach to a single paradigm, such as the medical or psychometric model. This reliance on isolated, unidimensional methods poses significant challenges in diagnosing children. Adopting an integrative approach to assessment and diagnosis may offer the optimal solution. This multidisciplinary approach involves collaboration among teachers, parents, physicians, and special education specialists, aiming to construct a comprehensive and holistic diagnostic profile of the case.

Another issue highlighted by Al-Qamash and Al-Ma'aita (2006, pp. 64–65) concerning intellectual disability is the ambiguity regarding the primary objective of the diagnosis. Specifically, it raises the question of whether the goal is merely to assign a diagnostic label (e.g., classifying a child as having an intellectual disability) or to comprehensively assess their cognitive abilities and mental levels to design an appropriate intervention program. This ambiguity extends to the diagnosis of various other disabilities and disorders.

Furthermore, there is the challenge of result interpretation, which was previously alluded to in the section on the competencies of special education specialists. While the diagnostic process itself may be feasible, the critical challenge lies in accurately understanding and interpreting the findings—a task that requires specialized expertise and cannot be performed by just anyone.

- **Lack of comprehensiveness in diagnosis:** Most practitioners focus on assessing a single domain while neglecting others. Standardized tests often yield a singular

outcome—such as indicating the degree of intellectual disability but fail to identify the child's specific strengths and weaknesses. Moreover, they do not provide a functional profile of the child's acquired skills, detailing what the child knows and has mastered versus what they have yet to acquire.

6. The Current Reality of Assessment and Diagnosis for Individuals with Special Needs in Algeria

Following a comprehensive review of the primary challenges associated with the assessment and diagnostic processes...

According to the preliminary findings of a study by Boussalem (2015, p. 24), which aimed to explore the reality of test administration in psychological practice in Algeria through a sample of academic studies and interviews with psychologists working in various hospital centers and psychiatric clinics, the following was concluded:

- The majority of the tests are Western in terms of their construct and normative data.
- There is content overlap among tests concerning the specific traits they assess.
- The content of Arabized tests lacks cultural congruence with Algerian society.
- Many researchers and psychologists adapt specific tests for use with inappropriate populations.
- Practitioners often rely on a single instrument in a specific context for data collection, despite the scientific consensus that a valid and objective diagnosis necessitates the administration of multiple instruments to achieve a comprehensive, objective understanding of an individual's behavior and to provide a scientific interpretation.
- There is a proliferation of tests measuring the same trait. Due to a lack of proficiency in test administration, practitioners often lack clear scientific criteria to guide their selection of

one instrument over another for a specific context, ensuring alignment with the assessment's objectives and the sample's characteristics.

Furthermore, Al-Rousan (2013, p. 146) highlighted several issues related to the reality of assessment and diagnosis in Jordan. Despite the progress achieved in developing tests tailored to the Jordanian environment—reaching 25 tests from the early 1980s to the present—this process still faces certain challenges. This reflects the reality in almost all Arab countries, given their reliance on foreign tests that have been translated and adapted to the Arab context. Algeria, like these countries, suffers from this reality, which is manifested in the following:

- **Shortage of trained personnel in assessment tools:** Special education centers lack qualified specialists holding university degrees in special education or psychology. This deficiency negatively impacts the accurate classification of exceptional children and their appropriate referral.
- **Lack of local norms for many assessment and diagnostic methods:** Algeria has not developed localized versions of these tests, relying instead on measures available in the broader Arab context. These instruments sometimes lack established indices of validity and reliability, and they often fail to provide the local norms necessary for interpreting test performance accurately.

Conclusion

In conclusion, the foregoing discussion underscores that the processes of measurement and diagnosis, as the foundation for identifying the characteristics and traits of individuals and evaluating various aspects of their personalities, are indispensable for every specialist in the field of special education. Therefore, a rigorous set of conditions and procedures must be met to prevent deviation from their intended purpose,

which is to facilitate diagnosis aimed at developing care programs, supporting individuals with special needs, integrating them into social life, and enhancing their overall well-being and quality of life. Thus, for the process to be successful, it must involve a multidisciplinary collaboration among psychological and social specialists, parents, and teachers, under the supervision of statisticians who are rigorously and scientifically trained in this field to avoid the aforementioned challenges. Consequently, we propose the following:

Recommendations and Proposals

- Providing specialized training for practitioners in identifying and assessing the diverse categories of individuals with special needs.
- Developing and standardizing tests and measures specifically tailored to the Algerian cultural and linguistic context.
- Establishing specialized centers equipped with all the necessary tools and devices for the comprehensive screening and assessment of individuals with special needs.

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