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EDITED BY

Vikram Kulkarni,
SVKM's Narsee Monjee Institute of
Management Studies, India

REVIEWED BY

Bhushankumar Nemade,
Mumbai University, India

*CORRESPONDENCE

Marius Grandjean

✉ marius.grandjean@uclouvain.be

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Malingering in ADHD behavioral rating scales: recommendations for research contexts

Marius Grandjean^{1,2*}, Shachar Hochman¹, Raja Mukherjee³
and Roi Cohen Kadosh¹

¹School of Psychology, University of Surrey, Guildford, United Kingdom, ²Psychological Sciences Research Institute, UCLouvain, Louvain-la-Neuve, Belgium, ³School of Medicine, University of Surrey, Guildford, United Kingdom

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Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by persistent patterns of inattention, distractibility, hyperactivity, and impulsivity, which interfere with functioning or development (1). ADHD is associated with an elevated risk of other mental health disorders and adverse outcomes such as educational underachievement, employment difficulties, interpersonal relationship challenges, and potential involvement in criminal activities (2). These far-reaching impacts make accurate and reliable ADHD assessments critical for both clinical and research purposes.

Diagnosing ADHD involves various methods, including clinical interviews, continuous performance tests, and behavioral rating scales. Best practices recommends triangulating information via a comprehensive diagnostic approach that synthesizes information from multiple sources, such as structured interviews, cognitive assessments, and behavioral rating scales (3, 4). However, in research contexts—particularly studies exploring new treatment approaches—behavioral rating scales are often the preferred outcome measure due to their cost-effectiveness, ease of administration, and accessibility (5–10).

While this pragmatic choice is often driven by resource constraints that limit the feasibility of more comprehensive assessment procedures (11), it highlights a critical responsibility for researchers: ensuring the data collected through these scales accurately represent the genuine experiences of respondents. Selecting the appropriate scale is not just a matter of practicality—it is foundational to producing reliable, meaningful research outcomes. However, behavioral rating scales are not without their challenges. Their inherent subjectivity makes them vulnerable to feigned or exaggerated symptom reporting, which can compromise the validity of findings, and hinder scientific progress.

To mitigate these risks, researchers need to remain vigilant about advancements in ADHD assessment methodologies, particularly the development of tools designed to detect invalid or exaggerated symptom presentations. These tools play a crucial role in

distinguishing genuine cases from noncredible reports, ensuring that research findings are both reliable and meaningful. Without this level of scrutiny, studies risk being undermined by data that fail to accurately represent the true experiences of participants.

In this opinion paper, we aim to provide researchers with an overview of the most widely used ADHD rating scales, focusing specifically on their capacity to detect malingering—the intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives (1). Additionally, we offer practical recommendations to guide researchers in selecting assessment tools that maximize diagnostic accuracy, enhancing the reliability and validity of their research. By addressing the challenges of malingering and invalid symptom reporting, we aim to contribute to the development of more robust ADHD evaluation strategies to allow the needed scientific progress.

Why should we care about malingering?

Diagnosing ADHD presents unique challenges, primarily due to the commonality of its symptoms—such as inattention, impulsivity, and hyperactivity—among the general population (12). These symptoms are often encountered to varying extents, complicating the differentiation between genuine cases and instances of feigned or malingered presentations. Moreover, the ease with which ADHD symptoms can be feigned introduces another layer of complexity to the diagnostic process (13).

In recent years, the complexity of ADHD presentations and the prevalence of potential comorbidities have further extended the diagnostic challenges beyond intentional malingering to include unintentional misdiagnosis. Both malingering and misdiagnosis highlight the critical need for accurate assessment measures in ADHD diagnosis. The vulnerability of behavioral rating scales to falsification is a particularly concerning issue, given their subjective nature (14–17).

The susceptibility of questionnaires to feigned responses is heightened by the diverse motivations individuals may have for fabricating ADHD symptoms. These include attaining social acceptance, gaining access to ADHD medications, or even enhancing academic performance (14, 18, 19). The non-specificity of the ADHD symptoms outlined in the DSM-5 further facilitates the feigning of symptoms, especially in adults, particularly among college students who may attempt to manipulate their presentation during assessments (13, 15). Alarming, the prevalence of feigned ADHD symptoms among students ranges from 5% to 50% (20). However, this critical issue remains largely overlooked in the literature. Specifically, only half of the recent reviews on rating scales address this problem, and even within these discussions, the topic is often treated superficially, with only brief or incidental mention (3, 21–23).

Recognizing the potential consequences of ignoring feigned ADHD symptoms in research contexts is paramount. Neglecting this issue could lead to the mismanagement of resources, erroneous conclusions, and the failure of trials, development of biomarkers, or replications, as findings may be based upon inaccurate diagnoses.

Therefore, it is essential for researchers to detect feigned ADHD symptoms when utilizing behavioral rating scales to enhancing the integrity and reliability of their findings.

Addressing feigned ADHD symptoms in assessments

Among the most commonly used behavioral rating scales in adult ADHD assessment are the Adult ADHD Self-Report Scale (ASRS; 11), the Brown Attention-Deficit Disorder Scale (BADDs; 24), the Wender Utah Rating Scale (WURS; 25), the Barkley Adult ADHD Rating Scale (BAARS-IV; 26) and the Conners' Adult ADHD Rating Scales (CAARS; 27). Publicly available scales like the ASRS assess ADHD symptoms outlined in the DSM-4 (28) while the WURS retrospectively evaluates childhood ADHD symptoms. Commercial tools such as the BAARS and the CAARS offer more comprehensive assessments. Notably, the CAARS and BAARS-IV provide self- and observer-reported versions, enhancing reliability. These scales are valued for their ease of administration and ability to measure ADHD symptom severity across various domains of functioning (see Table 1). However, their reliance on self-reported data, without accounting for feigned symptoms, increases the likelihood that the score in these questionnaires could include intentional exaggeration or falsification of symptoms.

Fortunately, recent years have seen a surge in the development of tools aimed at identifying invalid ADHD symptom reports (29–31). These tools, commonly referred to as symptom validity tests (SVTs), can be incorporated into existing scales or used as standalone measures. In contrast with the scales previously mentioned, the CAARS stands out as the sole scale currently featuring two embedded validity indexes¹, the CAARS Infrequency Index (CII; 32) and the Exaggeration Index (EI; 33). The CII consists of items that are rarely endorsed by individuals with ADHD or by healthy controls, making it highly effective at identifying noncredible symptom reporting when responses exceed a specific threshold. The EI, on the other hand, combines items from the CAARS with additional items adapted from the Dissociative Experiences Scale (DES; 34), all of which are infrequently endorsed by individuals with genuine ADHD. A third validity index, the ADHD credibility index (ACI; 35) is still under development. The ACI uses ADHD-specific items designed to capture various patterns of noncredible symptom reporting. Together, these indexes help determine whether an individual's symptom reports align with expected behavioral patterns, providing a robust method for detecting malingering.

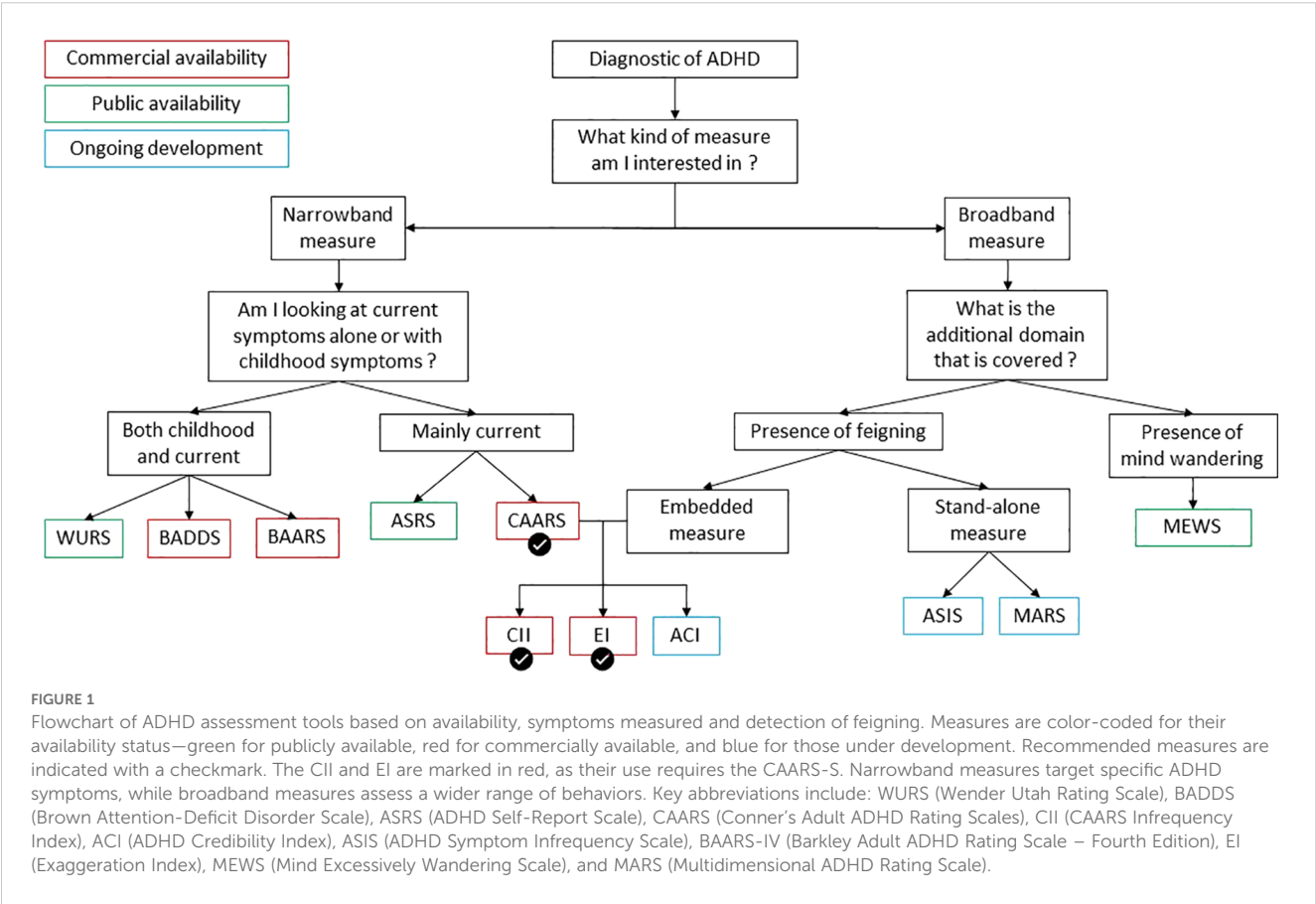
In addition to these embedded SVTs, there is also an increasing demand for standalone SVTs specifically designed to distinguish between genuine and feigned ADHD symptoms. Notable examples include the ADHD Symptom Infrequency Scale (ASIS; 36), which consists of two subscales: the ADHD subscale (aligned with DSM-5

¹ These two indexes were developed to be used with the CAARS-S:L. The CAARS-S:S and CAARS-S:L also have an Inconsistency Index but it only measures the consistency at which an individual is reporting similar symptoms.

TABLE 1 Description of the most widely used behavioral rating scales for diagnosing adult ADHD.

Scale	Description	Malingering detection capacity	Strengths	Limitations
ASRS	Self-report scale with two versions: a 6-item screener and an 18-item full version, both assessing ADHD symptoms based on DSM-IV criteria.	No	Brief and easy to administer. Widely used and validated.	Does not comprehensively assess functional impairment.
BADDS	Self-report scale consisting of 40 items, assessing DSM-IV ADHD symptoms and additional executive function impairments often associated with ADHD but not included in DSM diagnostic criteria.	No	Assesses a broader range of ADHD-related difficulties, including executive function deficits.	Not as widely used or validated as some other scales.
WURS	Retrospective self-report scale for childhood ADHD symptoms. Two versions are available: the 61-item version (WURS-61), providing comprehensive coverage of symptoms and potential confounders, and a shorter 25-item version (WURS-25) for greater efficiency.	No	Useful for gathering information about childhood history of ADHD symptoms. The long version offers a very comprehensive assessment.	Relies on retrospective recall, which can be unreliable. Not designed for assessing current symptoms.
BAARS-IV	Self- or other-report scale based on DSM-IV criteria. Includes two forms: one for current symptoms (30 items) and one for childhood symptoms (20 items). Both forms have quick screen versions, with 8 items for current symptoms and 6 items for childhood symptoms.	No	Allows for both self and other reports, providing a more comprehensive view. Includes both current and retrospective symptom assessment.	
CAARS	Self- or other-report scale based on DSM-IV criteria (CAARS-S or CAARS-O). Available in three versions: a 26-item short form (CAARS-S:S), a 30-item screening form (CAARS-S:SV), and a 66-item comprehensive form (CAARS-S:L).	Yes	Allows for both self and other reports. Comprehensive versions provide detailed information.	The comprehensive form is more time-consuming to administer than shorter scales.

ASRS, ADHD Self-Report Scale; BADDS, Brown Attention-Deficit Disorder Scale; WURS, Wender Utah Rating Scale; BAARS-IV, Barkley Adult ADHD Rating Scale – Fourth Edition; CAARS, Conner’s Adult ADHD Rating Scales.



diagnostic criteria) and the Infrequency subscale (designed to identify symptoms more likely to be endorsed by individuals feigning ADHD). Another scale is the Multidimensional ADHD Rating Scale (MARS; 37), which includes three categories of items: symptom items, impairment items, and symptom-validity items. The MARS also incorporates “catch” items to assess the test-taker’s effort and attention during the assessment. Although these scales show promise, further validation is needed to confirm their reliability and accuracy.

One significant advantage of using embedded SVTs over standalone measures is that they make the detection strategy less transparent to individuals who might attempt to feign symptoms. The subtlety of embedded SVTs minimizes the chances of test-takers altering their responses when they are aware of the detection process (32).

Discussion

The critical issue of feigning in ADHD assessments has long been overlooked, despite its significant impact on both clinical practice and research. Accurate assessments are essential for diagnosis and treatment planning, and it is crucial that the detection of feigned responses becomes a standard part of all behavioral rating scale protocols. As the field moves toward developing novel methods for identifying feigned responses, we expect substantial improvements in accuracy and precision. However, until these advancements become widely available, it is vital to continue using well-established tools that have proven their effectiveness over time. While the scope of providing recommendations on using SVTs in clinical settings is outside the scope of the current paper, we refer the reader to Marshall et al. (3), whose review also underscores their relevance to diagnostic procedures.

Based on current evidence, we strongly recommend using the long version of the CAARS self-report form (CAARS-S:L), due to its proven accuracy and widespread acceptance in the field (3, 23). The CAARS has consistently been identified as one of the most reliable tools for assessing ADHD symptoms. One of its key strengths is its ability to detect feigned responses, with its embedded validity indexes—the CII and EI—which help to identify invalid symptom reporting. We recommend using both of them as employing multiple SVTs effectively lowers the incidence of false positives in malingering evaluations (17). Additionally, unlike other scales such as the WURS or ASRS, the CAARS covers a broader range of ADHD symptoms, including those not specifically outlined in the DSM-5, enhancing its diagnostic utility. Moreover, the CAARS is particularly advantageous in monitoring treatment efficacy, as it tracks both the presence and severity of ADHD symptoms over time, unlike the WURS, which only addresses historical symptoms. Future research should clarify how these tools, including the ADHD Credibility Index (ACI), be further verified and customized for usage in varied demographics and circumstances. To conclude, we have outlined key assessment tools to address the challenge of feigned or malingering ADHD symptoms, considering their scope,

target populations, usage terms, and effectiveness. Figure 1 summarizes our recommendations. Although the CAARS is a commercial tool and not freely available, its comprehensive coverage of ADHD symptoms, ability to detect feigned responses through embedded validity indexes, and its utility in monitoring both symptom severity and treatment efficacy make it an invaluable resource for accurate and reliable ADHD assessment in research settings.

Author contributions

MG: Conceptualization, Writing – original draft, Writing – review & editing. SH: Conceptualization, Writing – review & editing. RM: Writing – review & editing. RC: Supervision, Writing – review & editing.

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Conflict of interest

RM has delivered presentations for several pharmaceutical companies specializing in ADHD, whereby the funds generated were specifically allocated to the neurodevelopmental teams, with no direct financial compensation received by the author.

The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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The author(s) declare that no Generative AI was used in the creation of this manuscript.

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References

- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. DSM Library American Psychiatric Publishing, Inc. (2022). doi: 10.1176/appi.books.9780890425787
- Sayal K, Prasad V, Daley D, Ford T, Coghill D. ADHD in children and young people : Prevalence, care pathways, and service provision. *Lancet Psychiatry*. (2018) 5:175–86. doi: 10.1016/S2215-0366(17)30167-0
- Marshall P, Hoelzle J, Nikolas M. Diagnosing Attention-Deficit/Hyperactivity Disorder (ADHD) in young adults : A qualitative review of the utility of assessment measures and recommendations for improving the diagnostic process. *Clin Neuropsychologist*. (2021) 35:165–98. doi: 10.1080/13854046.2019.1696409
- Sibley MH. Empirically-informed guidelines for first-time adult ADHD diagnosis. *J Clin Exp Neuropsychol*. (2021) 43:340–51. doi: 10.1080/13803395.2021.1923665
- Alyagon U, Shahar H, Hadar A, Barnea-Ygaël N, Lazarovits A, Shalev H, et al. Alleviation of ADHD symptoms by non-invasive right prefrontal stimulation is correlated with EEG activity. *NeuroImage : Clin*. (2020) 26:102206. doi: 10.1016/j.nicl.2020.102206
- Berger I, Dakwar-Kawar O, Grossman E, Nahum M, Cohen Kadosh R. Scaffolding the attention-deficit/hyperactivity disorder brain using transcranial direct current and random noise stimulation : A randomized controlled trial. *Clin Neurophysiol*. (2021) 132(3):699–707. doi: 10.1016/j.clinph.2021.01.005
- Dakwar-Kawar O, Mairon N, Hochman S, Berger I, Cohen Kadosh R, Nahum M. Transcranial random noise stimulation combined with cognitive training for treating ADHD : A randomized, sham-controlled clinical trial. *Trans Psychiatry*. (2023) 13:1–11. doi: 10.1038/s41398-023-02547-7
- McGough JJ, Sturm A, Cowen J, Tung K, Salgari GC, Leuchter AF, et al. Double-blind, sham-controlled, pilot study of trigeminal nerve stimulation for attention-deficit/hyperactivity disorder. *J Am Acad Child Adolesc Psychiatry*. (2019) 58:403–11.e3. doi: 10.1016/j.jaac.2018.11.013
- Paz Y, Friedwald K, Levkovitz Y, Zangen A, Alyagon U, Nitzan U, et al. Randomised sham-controlled study of high-frequency bilateral deep transcranial magnetic stimulation (dTMS) to treat adult attention hyperactive disorder (ADHD) : Negative results. *World J Biol Psychiatry*. (2018) 19:561–6. doi: 10.1080/15622975.2017.1282170
- Weaver L, Rostain AL, Mace W, Akhtar U, Moss E, O'Reardon JP. Transcranial magnetic stimulation (TMS) in the treatment of attention-deficit/hyperactivity disorder in adolescents and young adults : A pilot study. *J ECT*. (2012) 28:98. doi: 10.1097/YCT.0b013e31824532c8
- Kessler RC, Adler L, Ames M, Demler O, Faraone S, Hiripi E, et al. The World Health Organization adult ADHD self-report scale (ASRS) : A short screening scale for use in the general population. *psychol Med*. (2005) 35:245–56. doi: 10.1017/S0033291704002892
- DuPaul GJ, Schaughency EA, Weyandt LL, Tripp G, Kiesner J, Ota K, et al. Self-report of ADHD symptoms in university students : Cross-gender and cross-national prevalence. *J Learn Disabil*. (2001) 34:370–9. doi: 10.1177/002221940103400412
- Quinn CA. Detection of Malingering in assessment of adult ADHD. *Arch Clin Neuropsychol*. (2003) 18:379–95. doi: 10.1093/arclin/18.4.379
- Harrison AG, Edwards MJ, Parker KCH. Identifying students faking ADHD : Preliminary findings and strategies for detection. *Arch Clin Neuropsychol*. (2007) 22:577–88. doi: 10.1016/j.acn.2007.03.008
- Jachimowicz G, Geiselman RE. Comparison of ease of falsification of attention deficit hyperactivity disorder diagnosis using standard behavioral rating scales. *Cognitive Science Online*. (2004) 2:6–20.
- Lee Booksh R, Pella RD, Singh AN, Drew Gouvier W. Ability of college students to simulate ADHD on objective measures of attention. *J Attention Disord*. (2010) 13:325–38. doi: 10.1177/1087054708329927
- Sollman MJ, Ranseen JD, Berry DTR. Detection of feigned ADHD in college students. *psychol Assess*. (2010) 22:325–35. doi: 10.1037/a0018857
- Hinshaw SP, Scheffler RM. *The ADHD explosion : Myths, medication, money, and today's push for performance*. New York: Oxford University Press (2014). p. xxxii, 254.
- Suhr J, Wei C. Symptoms as an excuse : attention deficit/hyperactivity disorder symptom reporting as an excuse for cognitive test performance in the context of evaluative threat. *J Soc Clin Psychol*. (2013) 32:753–69. doi: 10.1521/jscp.2013.32.7.753
- Sadek J. Malingering and stimulant medications abuse, misuse and diversion. *Brain Sci*. (2022) 12:Article 8. doi: 10.3390/brainsci12081004
- Caroline S, S. S, Sudhir PM, Mehta UM, Kandasamy A, Thennarasu K, et al. Assessing adult ADHD : an updated review of rating scales for adult attention deficit hyperactivity disorder (ADHD). *J Attention Disord*. (2024) 28(7):1045–62. doi: 10.1177/10870547241226654
- Harrison AG, Edwards MJ. The ability of self-report methods to accurately diagnose attention deficit hyperactivity disorder : A systematic review. *J Attention Disord*. (2023) 27(12):1343–59. doi: 10.1177/10870547231177470
- Taylor A, Deb S, Unwin G. Scales for the identification of adults with attention deficit hyperactivity disorder (ADHD) : A systematic review. *Res Dev Disabil*. (2011) 32:924–38. doi: 10.1016/j.ridd.2010.12.036
- Brown TE. *Brown attention-deficit disorder scales*. San Antonio: TX: Psychological Corporation (1996).
- Ward MF, Wender PH, Reimherr FW. The Wender Utah Rating Scale : An aid in the retrospective diagnosis of childhood attention deficit hyperactivity disorder. *Am J Psychiatry*. (1993) 150:885–90. doi: 10.1176/ajp.150.6.885
- Barkley RA. *Barkley Adult ADHD Rating Scale-IV (BAARS-IV)*. New York: The Guilford Press (2011). p. x, 150.
- Conners CK, Erhardt D, Sparrow MA. *Conner's Adult ADHD Rating Scales (CAARS)*. New York: Multihealth Systems, Inc (1999).
- Adler LA, Spencer T, Faraone SV, Kessler RC, Howes MJ, Biederman J, et al. Validity of pilot Adult ADHD Self- Report Scale (ASRS) to Rate Adult ADHD symptoms. *Ann Clin Psychiatry*. (2006) 18:145–8. doi: 10.1080/10401230600801077
- Sagar S, Miller CJ, Erdodi LA. Detecting feigned attention-deficit/hyperactivity disorder (ADHD) : current methods and future directions. *psychol Injury Law*. (2017) 10:105–13. doi: 10.1007/s12207-017-9286-6
- Tucha L, Fuermaier ABM, Koerts J, Groen Y, Thome J. Detection of feigned attention deficit hyperactivity disorder. *J Neural Transm*. (2015) 122:123–34. doi: 10.1007/s00702-014-1274-3
- Wallace ER, Garcia-Willingham NE, Walls BD, Bosch CM, Balthrop KC, Berry DTR. A meta-analysis of Malingering detection measures for attention-deficit/hyperactivity disorder. *psychol Assess*. (2019) 31:265–70. doi: 10.1037/pas0000659
- Suhr JA, Buelow M, Riddle T. Development of an infrequency index for the CAARS. *J Psychoeducational Assess*. (2011) 29:160–70. doi: 10.1177/0734282910380190
- Harrison AG, Armstrong IT. Development of a symptom validity index to assist in identifying ADHD symptom exaggeration or feigning. *Clin Neuropsychologist*. (2016) 30:265–83. doi: 10.1080/13854046.2016.1154188
- Bernstein EM, Putnam FW. Development, reliability, and validity of a dissociation scale. *J Nervous Ment Dis*. (1986) 174:727. doi: 10.1097/00005053-198612000-00004
- Becke M, Tucha L, Weisbrod M, Aschenbrenner S, Tucha O, Fuermaier ABM. Non-credible symptom report in the clinical evaluation of adult ADHD : Development and initial validation of a new validity index embedded in the Conners' adult ADHD rating scales. *J Neural Transm*. (2021) 128:1045–63. doi: 10.1007/s00702-021-02318-y
- Courrégé SC, Skeel RL, Feder AH, Boress KS. The ADHD Symptom Infrequency Scale (ASIS) : A novel measure designed to detect adult ADHD simulators. *psychol Assess*. (2019) 31:851–60. doi: 10.1037/pas0000706
- Potts HE, Lewandowski LJ, Lovett BJ. The Multidimensional ADHD Rating Scale : A measure of symptoms, impairment, and symptom validity. *J Clin Exp Neuropsychol*. (2021) 43:426–36. doi: 10.1080/13803395.2021.1942795