

Using the Minnesota Multiphasic Personality Inventory-2 and Mini Mental State Examination-2 in Cognitive Behavioral Therapy: Case Studies

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Abstract—From a psychological perspective, psychopathology is the area of clinical psychology that has at its core psychological assessment and psychotherapy. In day-to-day clinical practice, psychodiagnosis and psychotherapy are used independently, according to their intended purpose and their specific methods of application. The paper explores how the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) and Mini Mental State Examination-2 (MMSE-2) psychological tools contribute to enhancing the effectiveness of cognitive behavioral psychotherapy (CBT). This combined approach, psychotherapy in conjunction with assessment of personality and cognitive functions, is illustrated by two cases, a severe depressive episode with psychotic symptoms and a mixed anxiety-depressive disorder. The order in which CBT, MMPI-2, and MMSE-2 were used in the diagnostic and therapeutic process was determined by the particularities of each case. In the first case, the sequence started with psychotherapy, followed by the administration of blue form MMSE-2, MMPI-2, and red form MMSE-2. In the second case, the cognitive screening with blue form MMSE-2 led to a personality assessment using MMPI-2, followed by red form MMSE-2; reapplication of the MMPI-2 due to the invalidation of the first profile, and finally, psychotherapy. The MMPI-2 protocols gathered useful information that directed the steps of therapeutic intervention: a detailed symptom picture of potentially self-destructive thoughts and behaviors otherwise undetected during the interview. The memory loss and poor concentration were confirmed by MMSE-2 cognitive screening. This combined approach, psychotherapy with psychological assessment, aligns with the trend of adaptation of the psychological services to the everyday life of contemporary man and paves the way for deepening and developing the field.

Keywords—Assessment, cognitive behavioral psychotherapy, MMPI-2, MMSE-2, psychopathology.

I. INTRODUCTION

THE psychopathology, also called abnormal psychology, studies mental disorders and unusual or maladaptive behaviors [1] and is situated halfway between psychology and psychiatry [2]. Classification of psychopathology is a contentious topic. Historically, it has been driven primarily by psychiatric authority. In clinical psychology, classification of psychopathology is the basis of applied work and research [3]. However, the two most frequently used psychiatric classification systems are the International Statistical Classification of Diseases and Related Health Problems (ICD) [4], produced by the World Health Organization, and the

Diagnostic and Statistical Manual of Mental Disorders (DSM) [5], edited by the American Psychiatric Association. Studies on the classification of psychopathology have continued and currently, the attention of researchers in the psychiatric and psychological departments focuses on a joint project to design a new dimensional alternative to traditional nosologies. The Hierarchical Taxonomy of Psychopathology (HiTOP) is the new classification of mental illness. The aim of HiTOP is to develop an empirically driven classification system based on advances in quantitative research into the organization of psychopathology [6].

Psychological assessment, psychological intervention, interdisciplinary and intraprofessional consultation, and research are procedures by which psychopathology is understood and approached in the field of clinical psychology. Although all of these methods contribute to knowing and deepening the same discipline, each of them offers different answers.

Psychological assessment is a complex activity, a process that integrates test findings with information from other sources: interview and observational data, clinical evaluation and medical records. The main component of a thorough psychological assessment is psychological testing. Only the qualified test users can select, administer, score, analyze, and interpret the tests and psychometric instruments in compliance with the international standards [7] and American Psychological Association (APA) guidelines [8]. According to Pearson policies regarding qualifications, individuals should use only those tests for which they have the appropriate training and expertise [9].

Psychological interventions combine a wide variety of psychotherapeutic methods and techniques conceived to treat mental disorders. The most commonly used method of psychological intervention is psychotherapy, by which psychologists apply scientifically validated methods to assist people of all ages establish healthier habits and live more productive lives [10]. Psychotherapy is focused also on changing faulty behaviors, thoughts, perceptions and emotions that may be associated with specific disorders [11].

Routinely, in applied clinical psychology, psychodiagnosis and psychotherapy are used separately and rarely together, because each of the two psychological services requires separate competencies and qualifications for those who provide them. Sometimes the legislative framework also contributes to this approach, as is the case in Romania. On the one hand, the Romanian College of Psychologists provides distinct practice licenses for clinical psychology and

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psychotherapy [12], and on the other hand, the Framework Contract on Health Care of the National Health Insurance House stipulates that CBT can be conducted only by psychiatrists [13].

The reference point for the combined diagnostic and therapeutic approach is attributed to Stephen Finn. In 1993, Stephen Finn and his colleagues developed a semi-structured approach called Therapeutic Assessment, a paradigm in which psychological testing is used to help people understand themselves better, find solutions to their persistent problems and make positive changes in their lives [14]. This type of assessment procedure is described in *Manual for Using the MMPI-2 as a Therapeutic Intervention* [15].

The purpose of this paper is to show the contribution of the MMPI-2 and MMSE-2 in increasing the efficiency of CBT. Anxiety and mood disorder enter the psychopathological area best suited for this approach with a high rate of remission of symptoms.

II. METHODS

A. Assessment

Two psychological tests, the MMPI-2 and MMSE-2, have been used to implement this approach. The choice of the two instruments was based on the following reasons: both are recognized internationally; are adapted, calibrated, published and distributed in Romania; have contributed to the shaping of the psychological profile of the Romanians in a cognitive and evidence-based monograph [16]; and evaluate different psychological characteristics, the personality and cognitive functions.

MMPI-2 is a psychological test that assesses a number of the major patterns of personality and psychological disorders. The MMPI is currently commonly administered in one of two forms: the MMPI-2 [17] and the newer measure, the MMPI-2-RF [18]. Both MMPI forms enjoy excellent additional interpretive guidelines useful for practitioners consistent with the commitment to deliver quality psychological services [19]-[23]. The MMPI-2 is still the more widely used test because of its large existing research base and familiarity with psychologists. The Romanian MMPI-2 Extended Score Report, which was used in this paper, incorporates: Validity Indicators, Superlative Self-Presentation Subscales, Clinical Scales, Restructured Clinical Scales, Clinical Subscales, Content Scales, Content Component Scales, Supplementary Scales, Special Indices and Scores [24].

MMSE-2 is one of the most widely used brief screening instruments for cognitive impairment. It was conceived and developed as a practical quantitative cognitive examination to determine the severity of cognitive impairment from mild to severe and to document improvement or decline [25]. MMSE-2 consists of three versions: brief (MMSE-2: BV), standard (MMSE-2: SV) and expanded versions (MMSE-2: EV), and each of them has two forms, blue and red. The 90-point MMSE-2: EV, which was used in this paper, has in its structure 13 tasks: Registration, Orientation to Time, Orientation to Place, Recall, Attention & Calculation (Serial

7s), Naming, Repetition, Comprehension, Reading, Writing, Drawing, Story Memory and Processing Speed. The first four tasks compose MMSE-2:BV. The following seven tasks are added to the first and form MMSE-2:SV, and all tasks constitute MMSE-2:EV.

B. Psychotherapy

CBT is a time-sensitive, structured, present-oriented psychotherapy directed toward solving current problems and teaching clients skills to modify dysfunctional thinking and behavior [26]. CBT uses a variety of cognitive and behavioral techniques. Focusing on the thoughts makes up the cognitive part of CBT. Focusing on the actions is the behavioral part. For all disorders, the CBT therapist starts by educating clients about their diagnosis and about CBT. Then they help clients set treatment goals and teach them essential thinking and behavioral skills.

III. CASE PRESENTATIONS

A. 1st Case

Identifying Information

Ms. is a 41-year-old, married woman, has a child and works in a private company. She was referred by the psychiatrist, with the diagnosis of depression disorder, for admission into the individual psychotherapy program, about one and a half months after starting outpatient psychiatric treatment. No one else in the family is accompanying her to the doctor, yet her husband and some girlfriends know about the psychological and psychiatric treatment that she follows.

Reason for Referral

At the suggestion of her mother, she went to the doctor for the following complaints: altered, superficial and fragmented sleep: "It's hard for me to fall asleep and wake up whenever I turn from one side to another"; feeling tired quasi permanently; sadness; frequent and easy crying; weight gain of 11 kg in one year: "At night when I cannot sleep, I read books and eat sweets"; nervousness; social withdrawal: "There are moments when I do not want to see anyone, I refuse to go out to tea or coffee with my friends who invite me"; difficulty concentrating and a poor memory: "I call my mom telling her where I put the house keys or for remembering the PIN of my health card"; culpability: "I hurt others, I scream and have a rather aggressive tone"; useless and worthless feelings: "I am a model that should not be followed"; worrying, weight sensation in the back of the neck and headache. She denies that she currently has self-destructive thoughts: "I always think about my child". She has had all these symptoms for a long time and considers them to be her normal condition.

Observational Data

At the psychological consultation she was presented in a clean and appropriate outfit. She established eye contact, was cooperative, open and motivated for treatment. Despite the emotional states described above, she strived to take care of herself: "I do not love me; I did my makeup just to avoid offending others." She displayed the image of a "pretty lady".

Although the content of her oral history was detailed, she encountered difficulties in linking ideas or pronouncing words. During the consultation, sometimes she cried but most of the time she was smiling.

History of Presenting Problem

She comes from a broken family; the eldest of two siblings. Her parents divorced when she was two years old. The two siblings were raised by their mother and their maternal grandparents. Her mother was being treated for recurrent depression. She took on all the responsibilities of the house, but she described her teenage years as being pleasant, "I liked learning." After graduating from high school, she missed admission to university, so stayed home and prepared for the next admission: "I felt my mother did not support me, I was tired of my mother, I did not want, I could not," and "I took the sleeping pills." She was admitted to a Sanatorium of Neurosis. Since returning home she has worked all the time even during her university studies.

Medical Records

She is in good physical health. Two or three years ago she suffered repeated episodes of lipothymia, combined with a loss of consciousness resulting in a nasal pyramid fracture. The results of two computerized tomography (CT) scans of the head do not reveal changes in the brain structures. She does not smoke or drink coffee or alcohol.

Test Findings and Therapeutic Approach

The therapeutic cognitive-behavioral approach began with

the conceptualization of the case. Taking into account the complaints outlined above, the cognitive screening with MMSE-2: EV was administrated in the first session (see Table I).

The following two evaluations were made one month after the initial assessment, with the first follow up three months later. All three evaluations indicate that z scores are between less than one standard deviation below the mean, highlighted in yellow ($z = -0.44$, Table III) and over one and half standard deviation below the mean, highlighted in orange ($z = -1.84$, Table I). For standardized tests, as is MMSE-2, scores one standard deviation or more below the mean are deemed to frame in the mild deficit range [27], [28]. Cognitive screening results indicate that concentration and short-term memory are affected and this is due to depressive disorder. Although hypomnesia and hypoprosexia are diagnostic criteria for both disorders, degenerative disorder is excluded for these reasons: other cognitive functions are not affected, the cognitive impairment is not continuous but changes depending on the mood, CT scans do not highlight cerebral atrophy, and all symptomatology is best explained by depressive disorder. Figs. 1 and 2 illustrate loss of concentration during the examination, which can be classified as qualitative attention disorder rather than quantitative.

MMPI-2 was applied in one session, one week after the first psychological consultation. The lady's working capacity was affected by the insomnia that she had had the night before, but she answered all items.

TABLE I
1ST CASE, MMSE-2 RESULTS, INITIAL ASSESSMENT

MMSE-2 Version Blue Form	Date of examination	Age/Years of school completed	Level of consciousness	Raw score	M	SD	T	z
MMSE-2:BV	October 13, 2017	41/18	Alert/Responsive	14/16	15.63	1.07	35	-1.52
MMSE-2:SV	October 13, 2017	41/18	Alert/Responsive	26/30	28.89	2.12	36	-1.36
MMSE-2:EV	October 13, 2017	41/18	Alert/Responsive	44/90	62.43	10.01	32	-1.84

M = mean, SD = standard deviation, T = T score, z = z score. M, SD and T score are provided by the MMSE-2 Pocket Norms Guide for Romania.

TABLE II
1ST CASE, MMSE-2 RESULTS, 1ST FOLLOW UP

MMSE-2 Version Red Form	Date of examination	Age/Years of school completed	Level of consciousness	Raw score	M	SD	T	z
MMSE-2:BV	November 13, 2017	41/18	Alert/Responsive	15/16	15.63	1.07	44	-0.58
MMSE-2:SV	November 13, 2017	41/18	Alert/Responsive	27/30	28.89	2.12	41	-0.89
MMSE-2:EV	November 13, 2017	41/18	Alert/Responsive	50/90	62.43	10.01	38	-1.24

M = mean, SD = standard deviation, T = T score, z = z score. M, SD and T score are provided by the MMSE-2 Pocket Norms Guide for Romania.

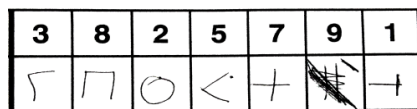
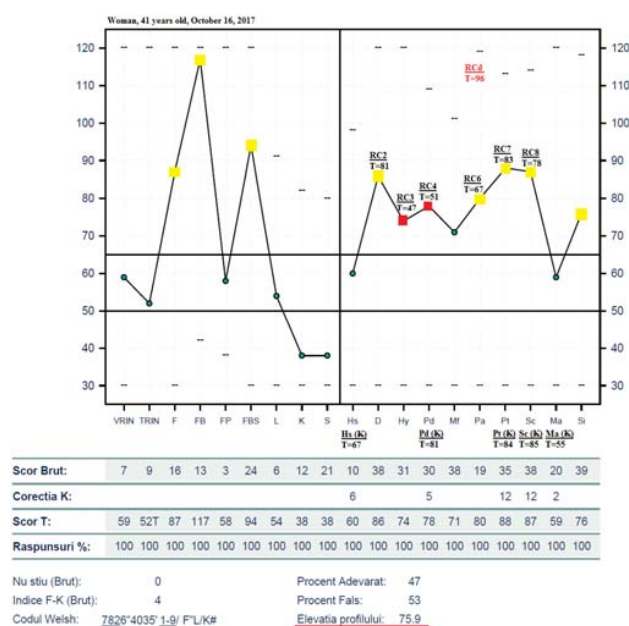
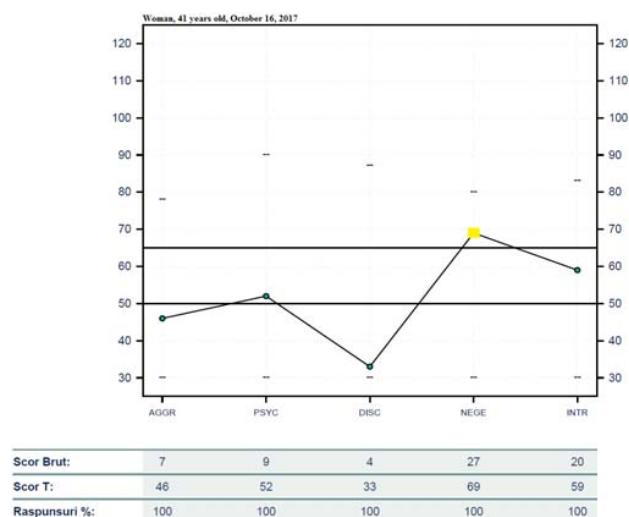
TABLE III
1ST CASE, MMSE-2 RESULTS, 2ND FOLLOW UP

MMSE-2 Version Blue Form	Date of examination	Age/Years of school completed	Level of consciousness	Raw score	M	SD	T	z
MMSE-2:BV	February 16, 2018	42/18	Alert/Responsive	14/16	15.63	1.07	35	-1.52
MMSE-2:SV	February 16, 2018	42/18	Alert/Responsive	26/30	28.89	2.12	36	-1.36
MMSE-2:EV	February 16, 2018	42/18	Alert/Responsive	58/90	62.43	10.01	46	-0.44

M = mean, SD = standard deviation, T = T score, z = z score. M, SD and T score are provided by the MMSE-2 Pocket Norms Guide for Romania.

An extended MMPI-2 report ranges from 14 to 17 pages. Therefore, in Fig. 3, the Validity Indicators, Clinical Scales with and without K correction, Restructured Clinical Scales,

are compressed in one profile. Fig. 4 shows the profile of the PSY-5 scales.

Fig. 1 MMSE-2 Drawing Task, Initial assessment, 1st CaseFig. 2 Section of MMSE-2 Processing Speed Task, Initial assessment, 1st CaseFig. 3 Validity Indicators, Clinical Scales with and without K Correction, RC Scales in Romanian MMPI-2 Profile, 1st CaseFig. 4 PSY-5 Scales in Romanian MMPI-2 Profile, 1st Case

The profile may be exaggerated, but is likely to be valid (F, T = 87; FBS, T = 94). It is interpretable apart from the content scales and its components (Fb, T = 117, F-Fb = 30). It reflects a possible "cry for help" and a severe psychopathology.

The lady described herself as experiencing significant (RCd, T = 96) and acute (Profile elevation = 75.9) emotional distress. She feels despairing, overwhelmed and unable to cope with current circumstances. She tends to have thoughts of guilt, death, of being worthless, finds few pleasures in life and can conclude that life is not worth living (D, T = 86). She does not have the energy to motivate herself or to put things right, describes a high internal tension, is deeply worried, lives in excessive insecurity (RC7, T = 83; Pt, T = 88). She is sensitive to criticism and perceives evaluations as negative (RC6, T = 67; Pa, T = 80) when none is offered. She has difficulty concentrating, feeling that her memory is weak. The results of the test indicate extreme isolation, aversion and avoidance of activities involving crowds and avoiding contact with other people (Si, T = 76). It is possible to develop somatic symptoms during periods of stress and to perceive life as stressful all the time.

In Fig. 4, an increase can be observed in the NEGE scale (T = 69) that reveals a personality predisposed to experiencing negative effects and emotions.

An important part of interpreting an extended MMPI-2 report administered in a clinical setting is the analysis of critical items that provide additional information about the respondent and deserve to be discussed. Because the confidentiality of the results is of paramount importance, they are not listed in this paper. Of 185 Koss-Butcher and Lachar-Wrobel critical items, 100 were endorsed, about 54%.

In a psychotherapeutic context, these critical items have managed to bring to the surface the automatic thoughts and self-destructive behaviors that were not expressed during the interview: "I do not see what value I have in this existence", "I am a hollow person", "I harshly judged my parents, I screamed at my child and wanted to kill myself", "I've collected a lot of sleeping pills to have them there", "When I'm alone at home, I seem to hear someone whispering in a corner", "At night I saw shadows that passed or a moving black dot".

What was surprising about the extended MMPI-2 report was also of great clinical importance: the severity of depression, but above all the existence of self-destructive thoughts. Not only did she make a stock of sleeping pills at home but she also grew attached to them. She was unwilling to deposit them at a pharmaceutical incineration point or donate them to a medical institution that would need them. This alarm signal about the loss of control over thought processes and the possibility to conclude that life is not worth living, has reconfigured the treatment. A major depressive episode with psychotic features was identified. The case was classified as a psychiatric emergency and was approached as such.

B. 2nd Case

Identifying Information

Mr. is a 50 year-old, married man, has a child and is retired. He was referred by the psychiatrist for a cognitive screening.

Reason for Referral

He came to the doctor of his own initiative, for the following complaints: difficulty concentrating, a poor memory, sadness, nervousness, and reduced tolerance of frustration, "I do not feel well". He is not in a position to be assessed by the medical expertise commission for his capacity to work on grounds of disability and he has not been injured in any criminal case.

Observational Data

At the psychological consultation he was presented in a clean and appropriate outfit. He sat in the chair, giving the feeling that he wanted to leave, not to stay. He did not maintain eye contact consistently during the consultation. He was skeptical about psychological evaluation and did not understand why he was sent. He has the feeling that he is

being passed from one doctor to another instead of being treated. He described a number of medical conditions he had and did not understand why psychological assessment was needed. Indisposed and irritable, he responded briefly to what was asked. And to highlight his displeasure, he wrote the following sentence during the MMSE-2 Writing Task: "I'm going mad after coming to the psychologist".

History of Presenting Problem

He comes from an organized family, being an only child. When he had to enroll in college he accidentally discovered that he was adopted but did not discuss this with his family. In his exposure, he reminisces fondly about his mother, about whom he says that she was a good woman. After graduating from school, he worked continuously and retired last year. He said the problems started a year ago, "I realized I'm getting older," "I feel useless about the child, I cannot help," "I cry like a fool." A year ago, over a period of a few months, he lost both of his parents, "I took care of my father, went to the hospital with him, my mom died before him" and two cousins, "one very close and the other trustworthy".

TABLE IV
2ND CASE, MMSE-2 RESULTS, INITIAL ASSESSMENT

MMSE-2 Version Blue Form	Date of examination	Age/Years of school completed	Level of consciousness	Raw score	M	SD	T	z
MMSE-2:BV	December 5, 2017	50/16	Alert/Responsive	14/16	15.49	1.12	37	-1.33
MMSE-2:SV	December 5, 2017	50/16	Alert/Responsive	28/30	28.68	2.16	47	-0.31
MMSE-2:EV	December 5, 2017	50/16	Alert/Responsive	47/90	61.04	10.07	36	-1.39

M = mean, SD = standard deviation, T = T score, z = z score. M, SD and T score are provided by the MMSE-2 Pocket Norms Guide for Romania.

TABLE V
2ND CASE, MMSE-2 RESULTS, 1ST FOLLOW UP

MMSE-2 Version Red Form	Date of examination	Age/Years of school completed	Level of consciousness	Raw score	M	SD	T	z
MMSE-2:BV	January 5, 2018	50/16	Alert/Responsive	15/16	15.49	1.12	46	-0.43
MMSE-2:SV	January 5, 2018	50/16	Alert/Responsive	29/30	28.68	2.16	51	0.14
MMSE-2:EV	January 5, 2018	50/16	Alert/Responsive	46/90	61.04	10.07	35	-1.49

M = mean, SD = standard deviation, T = T score, z = z score. M, SD and T score are provided by the MMSE-2 Pocket Norms Guide for Romania.

After all this, he began to renovate the parental house. He gave up because he felt like he had attacked all his memories and could not give up things in the house that he did not need anymore. But what bothers him most at the moment is that he has become aggressive with his teenage child. He took the view that what had happened to him was not normal and went to the doctor.

Medical Records

He was diagnosed with, and is undergoing treatment for, high blood pressure, non-insulin-dependent diabetes, obesity, euthyroidism, dyslipidemia and ulcer. He has a congenital facial hemispasm. At the writing of this paper he has not undergone the CT scan of the head.

Test Findings and Therapeutic Approach

Two cognitive screenings were performed at one month (Tables IV and V). Except the red form MMSE-2:SV (z = 0.14, Table V), both evaluations indicate that z scores are between less than one standard deviation below the mean,

highlighted in yellow (z = -0.31, Table IV) and one and half standard deviation below the mean, highlighted in orange (z = -1.49, Table V). After the first cognitive screening, the next appointment was scheduled and it was proposed him to take the MMPI-2 personality test to identify the psychological problems. MMPI-2 was applied in one session and he answered all items. Figs. 5-7 show the results of initial testing.

In this first MMPI-2 application, the validity indicators F (T = 102), FBS (T = 98) and K (T = 30) suggest that the profile may be invalid and may reflect random/fixed responding or severe psychopathology or faking badly. The score of F-K Index is 15 and can be generally interpreted as faking or claiming excessive psychological problems. An overview of clinical, RC, content and PSY-5 scales shows that the pathology is not only severe but also very diverse. The profile may be invalid and uninterpretable. When the results were communicated, the critical items on the deviant beliefs, experience and thinking were also discussed because these aspects are not previously reported. This approach has clarified the situation. Seeing and hearing things that others do

not see or hear were understood as the ability to anticipate the unfolding of future situations or events. Following the results, the suggestion was to go through MMPI once again if he wants to do so. He considered that a second retest was necessary. Figs. 8-10 show the results of initial testing. And this time, MMPI-2 was applied in a single session and he answered all items.

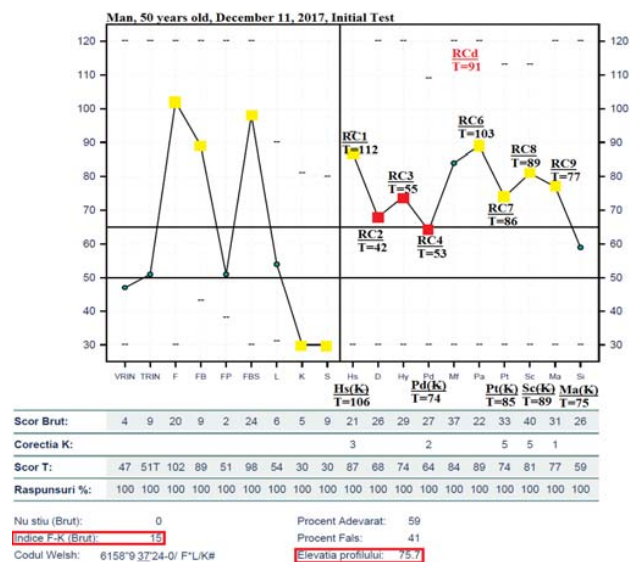


Fig. 5 Validity Indicators, Clinical Scales with and without K Correction, RC Scales in Romanian MMPI-2 Profile, 2nd Case, Initial Test

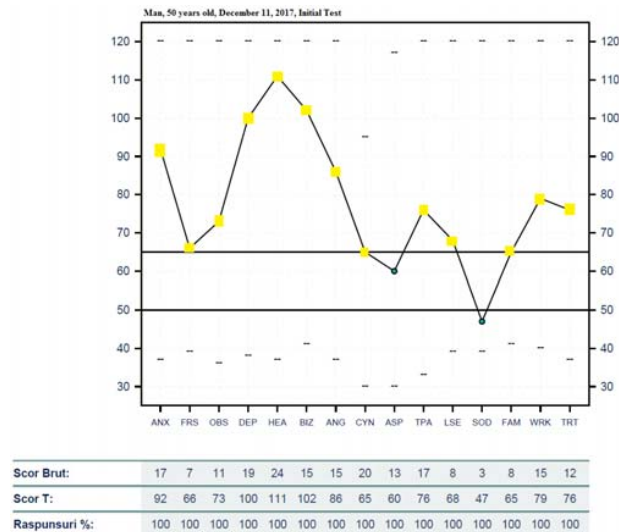


Fig. 6 Content Scales in Romanian MMPI-2 Profile, 2nd Case, Initial Test

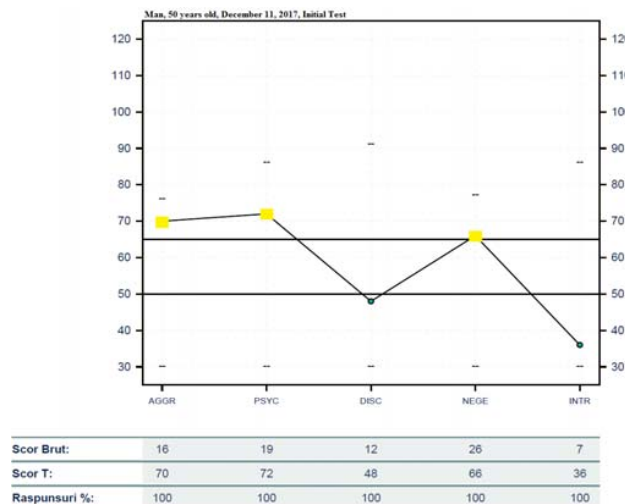


Fig. 7 PSY-5 Scales in Romanian MMPI-2 Profile, 2nd Case, Initial Test

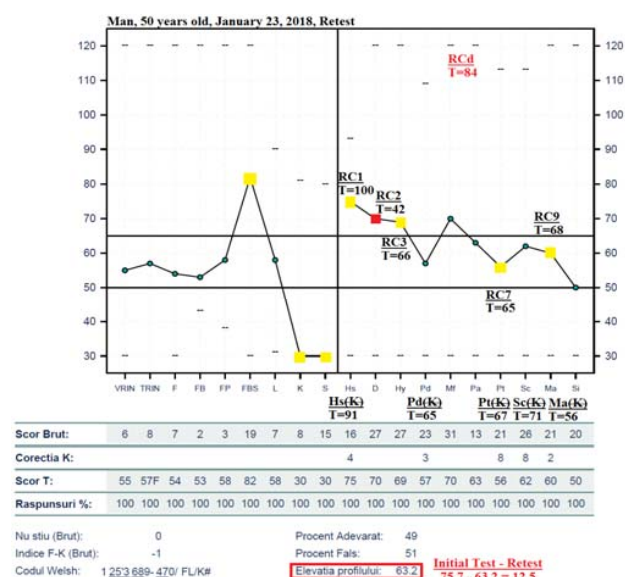


Fig. 8 Validity Indicators, Clinical Scales with and without K Correction, RC Scales in Romanian MMPI-2 Profile, 2nd Case, Retest

Of the validity indicators, FBS (T = 82), K (T = 30) and S (T = 30) suggest that the profile may be invalid, but this combination of responses may occur in people with serious medical problems. Analyzing the other validity indicators that are within normal limits, the conclusion of the validity is that the profile is valid and interpretable. He describes himself as going through general, significant emotional discomfort, through a state of helplessness, feeling unable to cope with the current circumstances (RCd, T = 84). He has a large number of somatic complaints, is excessively preoccupied with his health and rejects efforts to account for psychological factors (RC1, T = 100; Hs, T = 75; Hs without K correction, T = 91; HEA, T = 87; HEA1, T = 120). Scores indicate a degree of cynicism, he believes people are not trustworthy; they are

liars, indifferent, they only care about themselves and exploit others. He indicates feeling of fatigue and weakness, discomfort, poor health, difficulty concentrating (RC3, T = 66; Hy, T = 69; Hy3, T = 79; Hy, T = 72). The results show that he goes through anxiety, irritability, nervousness or other aversion reactions. He can feel guilty and is afraid of many stimuli (RC7, T = 65; Pt, T = 56; Pt without K correction, T = 67; ANX, T = 82; FRS, T = 66; DEP, T = 74; D3, T = 92; FRS2, T = 72; DEP2, T = 98). In response to MMPI-2 he also presented irritability and hostility. He can be grumpy, rebellious, and intolerant of others, gets angry easily, has no patience with others or others easily annoy him (RC9, T = 68; ANG, T = 83; ANG2, T = 82; TPA, T = 68; TPA1, T = 68; TRT, T = 73; TRT1, T = 79). He gets satisfaction from intimidating others and uses offensive aggression as a tool to achieve his own goals (AGGR, T = 67).

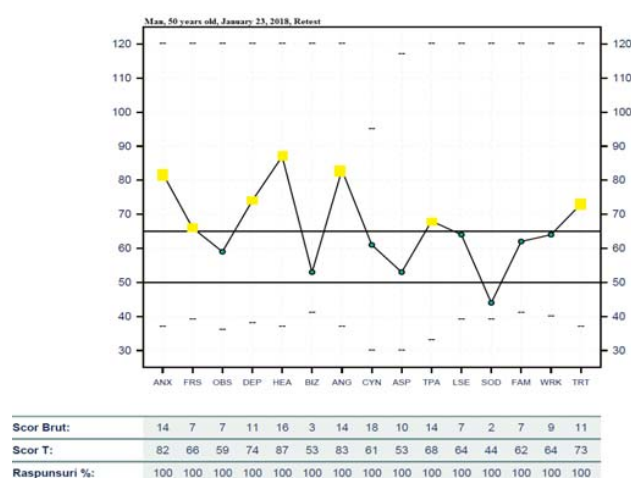


Fig. 9 Content Scales in Romanian MMPI-2 Profile, 2nd Case, Retest

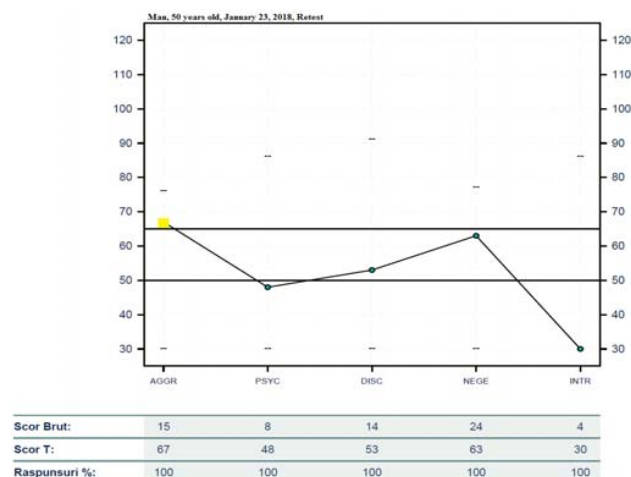


Fig. 10 PSY-5 Scales in Romanian MMPI-2 Profile, 2nd Case, Retest

The results of MMPI-2 and MMSE-2 have been exploited by the psychiatrist who prescribed medication for both cognitive impairment and mixed anxiety-depressive disorder.

IV. RESULTS

The results obtained following the application of MMSE-2 and MMPI-2, have established not only the diagnosis but have also determined the therapeutic direction.

The important role played by MMPI-2 consisted of: reporting potential behaviors that could threaten life; capturing of the predominant elements in the clinical picture; recognizing and more easily expressing states, emotions, thoughts and behaviors when it is hard to express them in words; the impact of disease severity on quality of life.

By establishing the cognitive deficit with MMSE-2, the belief that cognitive deficit is due to a degenerative disease, such as Alzheimer's disease, has been restructured.

V. CONCLUSION

The combined approach, therapeutic and diagnostic, of the psychopathology strengthens the relationship between the client and the psychologist; increases the trust and involvement of the client in the process; relieves him or her from repeated appointments and visits to different doctors; but especially retelling of the same problems several times. So, the well-being and quality of life improve.

REFERENCES

- [1] The Encyclopædia Britannica, *Psychopathology*, from the World Wide Web <https://www.britannica.com/science/psychopathology>.
- [2] N. Sillamy, *Dictionnaire de la psychologie*, Paris, Larousse, 1992, p. 188.
- [3] R. F. Krueger, J. L. Tackett, & A. MacDonald, "Toward validation of a structural approach to conceptualizing psychopathology: A special section of the *Journal of Abnormal Psychology*," *Journal of Abnormal Psychology*, 125(8), 1023–1026, November 2016, from the World Wide Web <http://www.apa.org/pubs/highlights/spotlight/issue-85.aspx>.
- [4] ICD-10 *Clasificarea tulburărilor mentale și de comportament. Descrieri clinice și îndreptare diagnostică*, București, Editura Trei, 2016.
- [5] DSM-5 *Manual de diagnostic și clasificare statistică a tulburărilor mentale*, București, Editura Medicală Callisto, 2016.
- [6] R. Kotov et al., "The Hierarchical Taxonomy of Psychopathology (HiTOP): A dimensional alternative to traditional nosologies," *Journal of Abnormal Psychology*, 126(4), 454–477, March 2017, from the World Wide Web <http://dx.doi.org/10.1037/abn0000258>.
- [7] TestCentral, *Certificare*, from the World Wide Web <http://romania.testcentral.ro/ro/licentiere/certificare/>.
- [8] American Psychological Association, *Report of the Task Force on Test Users Qualifications*, from the World Wide Web <http://www.apa.org/science/programs/testing/qualifications.pdf>, <http://www.apa.org/practice/guidelines/index.aspx>, 2000.
- [9] Pearson, *Qualifications Policy*, from the World Wide Web <https://www.pearsonclinical.com/psychology/qualifications>.
- [10] American Psychological Association, *Understanding psychotherapy and how it works*, from the World Wide Web <http://www.apa.org/helpcenter/understanding-psychotherapy.aspx>.
- [11] American Psychological Association, *Glossary of Psychological Terms*, from the World Wide Web <http://www.apa.org/research/action/glossary.aspx?tab=16>.
- [12] Romanian College of Psychologists, *Acte normative*, from the World Wide Web <http://colegiulpsihologiloroficial.ro/legislatie/>.
- [13] National Health Insurance House, *Contract-Cadru*, from the World Wide Web <http://www.cnas.ro/search?search=contract+cadru>.
- [14] S. Finn, *Overview of Therapeutic Assessment*, from the World Wide Web <https://www.therapeuticassessment.com/question1.php>.
- [15] J. N. Butcher, J. R. Graham, Y. S. Ben-Porath, A. Tellegen, W. G. Dahlstrom, B. Kaemmer, *MMPI-2 (Minnesota Multiphasic Personality Inventory-2) Manual for Administration, Scoring, and Interpretation*, University of Minnesota Press, 2001, adapted in Romania by C.-E. Munteanu, R. Livinți, D. Iliescu, 2013.

- [16] D. David, *Psihologia poporului român. Profilul psihologic al românilor într-o monografie cognitiv-experimentală*, Iași, Polirom, 2015.
- [17] Y. S. Ben-Porath, A. Tellegen, *MMPI-2-RF (Minnesota Multiphasic Personality Inventory-2-Restructured Form)*, University of Minnesota Press, 2008, from the World Wide Web <https://www.pearsonclinical.com/psychology/products/100000631/minnesota-multiphasic-personality-inventory-2-rf-mmip-2-rf.html>.
- [18] M. F. Folstein, S. E. Folstein, T. White, M. A. Messer, *MMSE-2 (Mini Mental State Examination-2)*, Psychological Assessment Resources, 1995, adapted in Romania by C.-E. Munteanu, D. Iliescu, R. Liviți, 2013.
- [19] D. Iliescu, *Adapting Tests in Linguistic and Cultural Situations*, Cambridge University Press, 2017.
- [20] J. N. Butcher, C. L. Williams, *Essentials of MMPI-2 and MMPI-A Interpretation*, University of Minnesota Press, 2000.
- [21] J. R. Graham, *MMPI-2: Assessing Personality and Psychopathology*, Oxford University Press, 2011.
- [22] Y. S. Ben-Porath, *Interpreting the MMPI-2-RF*, University of Minnesota Press, 2012.
- [23] M. Sellbom, D. B. Wygant, *Forensic Applications of the MMPI-2-RF: A Case Book*, University of Minnesota Press, release April 2018, from the World Wide Web <http://downloads.pearsonclinical.com/videos/091917-MMPI-2-RF-Forensic/MMPI-2-RF-Forensic-Practice-BriefingHandouts-MS-2017.pdf>.
- [24] J. N. Butcher, J. R. Graham, Y. S. Ben-Porath, A. Tellegen, W. G. Dahlstrom, B. Kaemmer, *MMPI-2, Profil și scale*, University of Minnesota Press, 2001, adapted in Romania by C.-E. Munteanu, R. Liviți, D. Iliescu, 2013, from the World Wide <http://Romania.testcentral.ro/ro/produse/teste-clinice/evaluare-psihiopatologica-pe-axa-i-%C8%99i-axa-ii-mmip-2/#13191>.
- [25] Psychological Assessment Resources, *Meet the MMSE&MMSE-2 Authors: Marchal F. Folstein, MD & Susan Folstein, MD*, June 2010, from the World Wide Web <https://parincblog.wordpress.com/2010/06/08/meet-the-mmse-mmse-2-authors-marshall-f-folstein-md-susan-e-folstein-md/>.
- [26] Beck Institute for Cognitive Behavior Therapy, *What is Cognitive Behavior Therapy (CBT)*, from the World Wide Web <https://beckinstitute.org/get-informed/what-is-cognitive-therapy/>.
- [27] R. L. Wanlass, *The Neuropsychology Toolkit*, Springer, 2012, p. 90.
- [28] C.-E. Munteanu, *Diagnostic Contribution of the MMSE:2-EV in the Detection and Monitoring of the Cognitive Impairment: Case Studies*, *International Science Index, Psychological and Behavioral Sciences* Vol:9, No:6, 2015 waset.org/Publication/10002099.

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