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Research Article

The Emotional Intelligence (E.I.) and "Perrotta Human Emotions - Questionnaire - 1" (PHE-Q-1): Development, regulation and validation of a new psychometric instrument

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Abstract

Background: Based on the Perrotta Human Emotions Model (PHEM-2), a psychometric tool was modelled that could help the therapist gain a deep understanding of the patient's emotional capacity, and thus his emotional intelligence, also concerning follow-up and achievements during the psychotherapeutic course.

Aim: To check whether the PHEM-2 can be structured into a psychometric tool that assesses the subject's emotional intelligence to calibrate the most appropriate psychotherapeutic intervention for the specific case.

Methods: Clinical interview, based on narrative-anamnestic and documentary evidence, and battery of psychometric tests.

Results: The PHE-Q-1 demonstrated its clinical usefulness during psychotherapy sessions to improve the patient's emotional capacity and confirmed its validity relative to statistical comparison, reporting an R = 0.999 and $p \leq 0.001$.

Conclusion: The validity of PHE-Q-1 in investigating the emotional component of human intelligence and its clinical utility concerning one's level of cognitive-emotional dissonance and PHEM-2, during psychotherapeutic encounters conducted according to the brief or otherwise integrated strategic approach, is confirmed.

Background

The concept of "intelligence"

In the literature, the noun "intelligence" refers to the complex of psychic and mental faculties that, through cognitive processes (such as learning, memory, reasoning, comprehension, and reflection, including the skills of logic, abstraction, planning, creativity, critical thinking and problem solving), enable one to understand concepts and organize one's behaviour accordingly, both concerning the ideational and realization stages, to achieve a specific goal in the shortest possible time [1].

However, the scientific community does not have a uniform and shared definition to this day, as well as for its assessment [2-4], which is left to individual scholars in the field. Models for its assessment or measurement have been developed; however, it should be pointed out that these models assess only specific aspects of the intellectual capacity of individuals: The results of intelligence tests should be considered valid judgments only concerning individual aspects, and not the intelligence of the subjects tested as a whole [5].

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Alfred Binet (1911) and later Lewis M. Terman at Stanford University (1916) constructed a test that took into account only those aspects of intelligence used in the school setting, thus consisting of (different) tests strictly inherent to the school setting itself; the test's contemporary heir are the Stanford-Binet Intelligence Scales. The key concept was intelligence quotient (IQ) as the ratio of mental age to chronological age multiplied by 100 (understood as the population mean value). The Stanford-Binet test measures only one factor of "intelligence", and offers tests divided by age group but has no validity for subjects older than 14 years [6].

The Wechsler Adult Intelligence Scale (WAIS, 1939) takes the Stanford-Binet task types, as well as the IQ concept, and reconstructs them for adults. It consists of multiple sub-tests, each of which is composed of items of progressive difficulty. The WAIS, in contrast to the Stanford-Binet, does not have only one general intelligence factor but also includes several dimensions, internally consistent by type of evidence, that make up the test: verbal tests (general culture, comprehension, analogies, digit memory, arithmetic reasoning), the performance tests (figure rearrangement, figure completion, cube drawing, figure reconstruction, symbol or number association). For both of these tests (Stanford-Binet and WAIS) the importance, on the final measure, of the subject's level of schooling is clear. Some studies then show how the presence of some psychiatric disorders, such as depression, affects performance on the WAIS-R intelligence test: the more severe the disorder the more the performance on the test is deficient [7].

Thus, "culture-free" intelligence tests, unaffected by the type of upbringing and culture of the subject put under analysis, have been designed; the best known are Raven's (1938) Progressive Matrices, numerical matrices to be completed, and Cattell's Culture fair intelligence test (1949). Studies of these tests would seem to show that they do not adequately discriminate against subjects with above-normal intelligence, whereas they would seem better suited to assess disadvantaged subjects [8].

The definition of intelligence in terms of problem-solving represents the first step taken by psychologists from a scholastic view of intelligence to more differentiated concepts, such as Raymond Cattell's (1949) fluid-crystallized intelligence or Max Wertheimer's (1965) logical-creative intelligence, which begins to distinguish a logical intelligence (expressed, for example, in analytical reasoning) from a creative intelligence (oriented toward synthesis and construction of the new) [8]. With Howard Gardner (1983, 1999), however, we come to distinguish as many as 9 fundamental manifestations of intelligence, arising from different structures of the brain and independent of each other [9]:

a) **"Linguistic intelligence":** This is the intelligence related to the ability to use clear and effective vocabulary. Those who possess it usually know how to vary their language register as needed and have a tendency to reflect on language.

b) **"Logical-mathematical intelligence":** Involves both the left brain hemisphere, which remembers mathematical symbols, and the right brain hemisphere, in which concepts are processed. This is the intelligence that concerns deductive reasoning, schematization, and logical chains.

c) **"Spatial intelligence":** Concerns the ability to perceive shapes and objects in space. Those who possess it normally have a developed memory for environmental details and outward features of figures, can orient themselves in intricate places, and recognize three-dimensional objects based on rather complex mental schemes. This form of intelligence is essentially manifested in the creation of figurative art.

d) **"Bodily-kinesthetic intelligence":** Involves the cerebellum, the fundamental ganglia, the thalamus, and various other points of our brain. Those who possess it have a mastery of the body that enables them to coordinate movements well. It can generally refer to those who make creative use of the body, such as gymnasts and dancers.

e) **"Musical intelligence":** Normally located in the right hemisphere of the brain, but people with musical culture process melody in the left one. It is the ability to recognize the pitch of sounds and harmonic and contrapuntal constructions. Those with it usually have a marked talent for using one or more musical instruments or for singing modulation of their voice.

f) **"Intrapersonal intelligence":** Concerns the ability to understand one's individuality, to know how to place it in the social context to achieve better results in one's personal life, and also to know how to empathize with personalities other than one's own.

g) **"Interpersonal intelligence":** Involves the whole brain, but mainly the pre-frontal lobes. It concerns the ability to understand others, their needs, fears, and hidden desires, to create favourable social situations, and to promote beneficial social and personal patterns. It can be found specifically in psychologists, more generally in those who possess marked empathy and social interaction skills.

h) **"Naturalistic intelligence":** Consists of being able to identify certain natural objects, classify them in a specific order, and grasp the relationships between them. Some human groups living at a still "primitive" stage, such as aboriginal gatherer-hunter tribes, show great ability in being able to orient themselves in the natural environment by recognizing even the smallest details.

i) **"Existential or theoretical intelligence":** Represents the ability to consciously reflect on the major themes of theoretical speculation, such as the nature of the universe and human consciousness, and to derive from sophisticated processes of abstraction conceptual categories that can be universally valid.

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Emotional intelligence and psychometric tools to calculate it

Emotional intelligence is a component of intelligence, which consists of the ability to perceive, evaluate, understand, use, and manage emotions [1].

It was Peter Salovey and John D. Mayer, in 1990, who first spoke about it, stating that this type of intelligence consisted of three main branches: a) Appraisal and expression of emotions; b) Regulation of emotions; and c) Utilization of emotions. This initial definition was later updated as it appeared inaccurate and lacked reasoning about feelings, dealing only with the perception and regulation of emotions. It was then defined as follows: Emotional intelligence involves the ability to perceive, evaluate, and express emotion; the ability to access feelings and/or create them when facilitating thoughts; the ability to understand emotion and emotional knowledge; the ability to regulate emotions to promote emotional and intellectual growth [10].

The topic of emotional intelligence was later addressed in 1995 by Daniel Goleman, who defined it as a competence consisting of the set of practical skills necessary for an individual's self-efficacy in social transactions that elicit emotions. Emotional intelligence is defined as the ability to monitor one's feelings and those of others to achieve goals, and therefore emotional competence presupposes the presence of knowledge of one's own and others' emotions and the skill of behaviour understood as the ability to manage and regulate one's emotions to deal with different situations that arise. Through these elements, the individual can engage in positive relationships with others and foster socializing behaviours. Developing emotional competence means fostering communicative exchanges, problem-solving skills, and stimulating constructive thinking. The development of emotional competence also concerns the regulation of one's emotions (also closely related to their control) in which the individual produces optimal and socially acceptable levels, of behaviour. It is through interaction with other individuals that emotional behaviour deemed appropriate in different contexts is shaped, and it is socialization that establishes the norms within which emotions must manifest to be considered appropriate [11].

Specifically, according to Goleman, the structure of emotional competence is composed of "personal competence" and "social competence". The former is how we control ourselves through self-awareness by recognizing our own emotions and how they affect performance, through knowledge of our strengths and weaknesses and reflection learned from experience; the latter is how we manage relationships with others through empathy, understood as the ability to listen to and understand the needs and feelings of others, and through social skills that foster collaborative bonds, building consensus and support around oneself, facilitating communication and managing conflict. Again for Goleman, the 5 basic characteristics of emotional intelligence, which every human encodes inwardly are: a) Self-awareness, understood as the ability to produce results by recognizing one's own emotions; b) Self-domination, understood as the ability to use one's feelings for a purpose; c) Motivation, understood as the ability to discover the true and deep motive that prompts action; d) Empathy, understood as the ability to feel others by entering into a flow of contact; e) Social skill, understood as the ability to be with others by trying to understand the movements that happen between people [12].

Several psychometric instruments have been devised to assess emotional intelligence, which can make specific contributions. In detail, the main ones are:

a) **"Mayer, Salovey, Caruso Emotional Intelligence Test" (MSCEIT):** Measures the effective use of emotional skills, for an adult population [13-16].

b) **"Six Seconds Emotional Intelligence Test" (SEI-4):** Based on the EQ-in-action model, measures 8 emotional skills, including literacy, navigation, motivation, and empathy, for both an adult and young adult population [17].

c) **"Emotional and Social Competency Inventory" (ESCI):** Uses Goleman's 4-quadrant model (awareness of self and others, coping with self and others), measuring a spectrum of specific skills but has no psychometric assessment [18].

d) **"Emotional Quotient Inventory" (EQ-i-2):** Measures an individual's emotional, social, and personal competence by combining what could be called "mental skills" (e.g., self-awareness) with aspects of personality, such as personal independence, self-esteem, and mood; in more detail, the EQ-i allows for five main scales and fifteen subscales: a) Emotional-Intrapersonal Quotient, which is related to self-awareness, considers dimensions such as Self-considerations, Emotional Self-awareness, Assertiveness, Independence, Self-realization; b) Emotional-Interpersonal Quotient, which detects the ability and focus in being in relationship with others, through the dimensions Empathy, Social Responsibility, Interpersonal Relationships; c) Emotional-Adaptability Quotient, which examines the ability to process and manage information from the environment. It is broken down into Reality Examination, Flexibility, and Problem-Solving; d) Emotional Quotient-Stress Management, through the dimensions of Stress Tolerance and Impulse Control; and e) Emotional Quotient-General Mood, through the dimensions of Optimism and Happiness. This results in an "emotional quotient" that gives a measure of a person's competence in recognizing and managing his or her own emotions and those of others [19-29].

The relationship between the Perrotta Human Emotions Model (PHEM-2) and emotional intelligence

In the first edition, the *Perrotta Human Emotions Model* (PHEM-1) was structured to foster a better understanding of the emotional subject matter by linking basic emotions with feelings derived from them by connection. Applied this model

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during psychotherapy sessions, in the period 2021-2022, the need was felt to innovate it in both its structure and operation to be able not only to investigate the emotional dimension but also the cognitive-behavioural dimension, and connections with both functional and dysfunctional personality traits, according to the PICI-model in the second edition. In the second edition, the *Perrotta Human Emotions Model (PHEM-2)* is restructured to allow a better understanding of the emotional element of the cognitive-behavioural profile. Thus, 225 possible adaptive trajectories are identified, divided according to 2 adaptive modes (anguish and pleasure): from the first mode originate 6 emotions (guilt, disgust, frustration, fear, anger, and sadness), while from the second mode originate 4 emotions (affect, joy, interest and decency), which in turn give rise to 19 sentiments for the first mode and 15 feelings for the second mode. In total, the new model identifies 2 adaptive modes, 10 emotions, and 34 sentiments. For each of these, the model recognizes a whole series of adaptive reactions, as many as there are trajectories. Finally, for each trajectory, the model identifies several 21 adaptive responses (5 for the first mode and 16 for the second) and 8 behavioural styles (4 for the first mode and 4 for the second), correlating them with different 8 functional (4 for the first mode) and dysfunctional (4 for the second) personality traits. The validation study of the clinical utility of PHEM-2, conducted between 2022 and 2023, then confirmed the correctness of the changes made [30-32].

Based on these assumptions, it was decided to model a psychometric test based on the PHEM-2, which could help the therapist to understand in depth the patient's emotional capacity, and thus his emotional intelligence, also concerning follow-up and achievements during the psychotherapeutic course.

Aim and objectives of the study

The purpose of the present study is to test whether the PHEM-2 can be structured into a psychometric instrument that assesses the subject's emotional intelligence to calibrate the most appropriate psychotherapeutic intervention for the specific case. The objectives are to test whether the PHE-Q-1, as a new psychometric instrument, can meet the technical needs required concerning the EQ-i-2 (primary) and whether it is a valid, efficient, and effective instrument, both in its construction and in its administration and evaluation of outcomes (secondary).

Materials and methods

The present research work drew from the materials used in the writing of the second edition of the Perrotta Human Emotions Model (PHEM-2) [32] and the theorizations of the Strategic Short and Integrated Approach [33-37] to devise the Perrotta Human Emotions - Questionnaire (PHEM-Q-1) [All. 1], used on the selected research sample.

Three (successive) methods were used: 1) questionnaire design, based on PHEM-2; 2) clinical interview, based on narrative-anamnestic and documentary evidence, based on Perrotta's Human Emotions Model (PHEM-2) [32]; 3) administration of the PHE-Q-1 and EQ-i-2. The stages of the research were divided as follows: a) questionnaire design (PHE-Q-1); b) selection of the population sample, according to the parameters given in the next paragraph; c) clinical interview, with the population sample, and administration of the EQ-i-2; d) data processing and comparison of the data obtained.

The PHEM-2 [32] is structured in 2 distinct parts: the structural and the functional; the former is composed of 226 adaptive trajectories, which are expressed in 2 possible modes, giving rise to 10 different emotional states and 34 feeling states; the latter is composed of 226 reactions and 22 responses, within a framework of 6 different behavioural styles and 6 different clusters of functioning.

The EQ-i-2 [21-24], on the other hand, is a questionnaire designed by Israeli psychologist Reuven Bar-On, based on the studies of Goleman and Mayer, and Caruso and Salovey, and is currently one of the most effective and widely used instruments in this field. Bar-On published a study in 2014 in which he described this tool that aims to assess emotionally and socially intelligent behaviours. It can be applied from the age of 16 and would take just over half an hour to administer. With it we can obtain information about our emotional skills associated with relationships, work, and life in general; specifically, the EQ-I 2.0 inventory assesses 15 skills that are organized into 5 very specific areas. This is a consistent test with good validity that has been effective in any culture. Thus, it is an easy-to-apply tool that can provide us with very useful information, especially to know which areas we need to improve to invest in well-being and happiness.

Based on the Perrotta Human Emotions Model (PHEM-2), to validate at least its clinical usefulness, the PHE-Q-1 (in section E) was compared with the "Emotional Quotient Inventory" (EQ-i-2), as it is structured with 2 items for subdimensions, taking into account the 5 main dimensions on which the EQ-i-2 is structured (self-perception, self-expression, stress management, decision making and interpersonal). The first 4 sections of the PHE-Q-1, on the other hand, are used as knowledge parameters to assess psychotherapy progress (Table 1).

In addition, the questionnaire makes it possible to compare the first 4 skills (Emotional Perception, Emotional

Table 1: Key points of PHE-Q-1.

Key-points of PHE-Q-1	
Emotional Intelligence	The questionnaire identifies emotional intelligence as the product of mental skills related to emotional states, such as perception, understanding, representation, and management of internal and external relationship
Construct	The questionnaire is structured to investigate the subject's abilities in cognitive, narrative, iconic, and semantic profiles related to emotional intelligence
Operation	The questionnaire assumes knowledge of emotional language, so it identifies any deficiencies that necessarily impact the subject's overall emotional intelligence
Final Result	The questionnaire does not identify a specific pathology but shows any emotional deficiencies of the subject to be able to adhere to a rehabilitation strategy during psychotherapy

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Understanding, Emotional Representation, and Emotional Management, with a maximum score of 80/80 points) with the last skill (Emotional Relationship, with a maximum score of 90/90 points), to be able to both assess the subjective emotional level but also to diagnose the possible "dysfunctional condition of cognitive-emotional dissonance", understood as the subject's tendency to be influenced by his perception and interpretation of reality as a result of his structural rigidities that affect his ability to perceive, understand, represent and manage emotions. To arrive at the diagnosis, it is sufficient, as per the questionnaire's instruction manual, to compare the score of the first 4 skills with the score of the last skill, assessing their alignment, with a maximum differential of 10%; if the differential is higher, the outcome should be interpreted as follows: "Although the subject has xxx emotional skills (indicating their level), he/she appears to be in cognitive-emotional dissonance concerning his/her Emotional-Relational skills". Example: if the score is 40/80 points in the sum of the first 4 skills, the score of the last skill (to be aligned and avoid the diagnosis of cognitive-emotional dissonance) will have to be 45/90 points, with a minimum-maximum range of 36-54 points.

To evaluate the clinical utility of the PHE-Q-1, 2 different steps were taken:

1) Data comparison between the results of the administration of the EQ-i-2 and the PHE-Q-1 (section E);

2) First-session and fifth-session administration of the PHE-Q-1 (sections A-B-C-D), with the use of a symptom severity rating scale (subjective rating on a 0-10 scale, scaling technique [33-34]) and the score expressed in eightieths of the first four sections, to monitor the progress or failure of the psychotherapeutic intervention.

The requirements decided for the selection of the sample population (inclusion criteria) are:

1. Age Range: 8 - 90 years;
2. Gender: M/F defined;
3. Physical healthy and robust constitution;
4. Absence of psychopathological diagnosis of personality, major depression, bipolar and psychosis, or absence of psychiatric symptoms referable to these nosographic categories.

The following exclusion criteria were also considered:

1. Psychopathological diagnosis of personality, major depression, bipolar and psychosis, or presence of psychiatric symptoms referable to these nosographic categories or neurocognitive disorders, even mild ones.
2. Partial, corrupt, incomplete, or absent informed consent.
3. Patients with foreign citizenship, not of Italian origin, and with language difficulties.

The selected setting, taking into account the protracted pandemic period (already in progress since the beginning of the present research), is the online platform via Skype and Video call WhatsApp, both for the clinical interview and for the administration.

The present research work was carried out from January 2021 to September 2023 (33 months). Since the research is not financed by anyone, it is free of conflicts of interest.

There were 1,930 patients included, while those excluded from the study were 1,326 (Figure 1):

The selected population clinical sample, which meets the requirements, is 1,930 participants, divided into eight groups (Table 2); the following table shows individual clinical reasons (Table 3).

Results

Regarding the first operation (data comparison between the results of the administration of the EQ-i-2 and the PHE-Q-1 - section E), below are the data obtained from the comparisons, concerning the individual fifth-session administrations, broken down by sexual gender of the selected population sample (Table 2). The table also takes sexual gender into account in the intragroup differences because for validation purposes it was necessary to investigate this profile in more detail. The statistical method employed was a descriptive analysis and comparison of averages.

It was not possible to compare the EQ-i-2 data with the PHE-Q-1 data because the age of the sample was not compatible with the administration of the first questionnaire, although in clinical session the sample responded in a manner compatible with neuropsychological expectations; in contrast, the 69-79 and 80-90 age groups were merged to facilitate data analysis tasks.

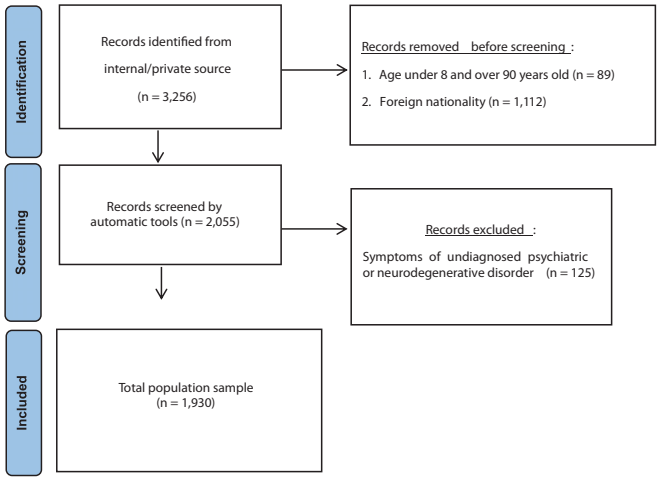

Figure 1: Flowchart of the population sample selection process.

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Table 2: Mean scores_scoring: EQ-i-2 / PHE-Q-1 (Sec. E).

Age	EQ-i-2_Male (Mead_point)	EQ-i-2_Female (Mead_point)	PHE-Q-1(e)_ Male (Mead_point)	PHE-Q-1(e)_ Female (Mead_point)
18-28	81.85	84.90	31.75	35.30
29-38	87.42	89.70	38.22	40.60
39-48	95.93	98.51	45.96	48.52
49-58	105.19	106.91	56.12	58.31
59-68	103.56	105.82	55.71	58.52
69-90	101.20	103.67	53.46	54.78

Mead_point = The average score obtained from the summation of all results by specific age group. PHE-Q-1(e): Sec. E

Table 3: Population sample (numerousness).

Age	Male	Female	Total
8-18	110	121	231
19-28	101	116	217
29-38	108	123	231
39-48	130	146	276
49-58	154	152	306
59-68	130	155	285
69-79	109	135	244
80-90	60	80	140
Total	902 (47.5%)	1,028 (52.5%)	1,930 (100%)

Statistical comparison of the data obtained from the administration of the EQ-i-2 and the PHE-Q-1 (section E) reported an R=0.999, with p≤0.001, in the proposed graphic format (Figure 2). In particular, it can be seen that the exact coincidence of parameters is preserved both in the overall final score and in the values of individual dimensions, maintaining the same proportion.

Related to the second operation (first-session and fifth-session administration of the PHE-Q-1), in the first and fifth sessions, the population sample was administered the PHE-Q-1 (sections A-B-C-D), along with the PHEM-2, to verify its clinical effectiveness in psychotherapy. The five sessions, during the application of PHEM-2, were conducted according to the therapeutic modality of the brief strategic approach [35-39] and supplemented by the cognitive-behavioural and dynamic correctives [40-48]. Below are tabulated values obtained, with reference graphs (Table 4, Figures 3]. The table also takes sexual gender into account in the intragroup differences because for validation purposes it was necessary to investigate this profile in more detail. Statistical method: descriptive analysis and comparison of averages.

Discussions and limits

The Perrotta Human Emotions - Questionnaire - 1 (PHE-Q-1) is structured to assess emotional intelligence, according to a numerical parameter 0-170, with the first four sections devoted to the recognition of emotional states and the last section devoted to the emotional relationship with the surrounding environment. Precisely because of its peculiar structure, it is not possible to make a full comparison with the psychometric instruments used today to investigate the emotional dimension of intelligence; this is because the PHE-Q-1 differs from the other instruments precisely because of its purely clinical utility, and entirely secondary to commercial applications.

Despite the particular structuring of the Perrotta Human Emotions - Questionnaire - 1 (PHE-Q-1), which precludes validation by structure with other psychometric instruments

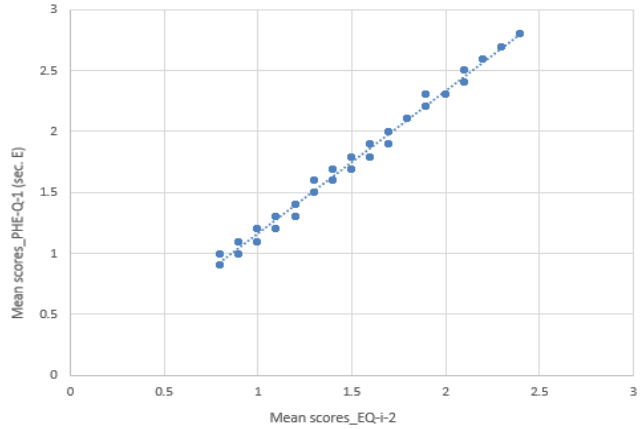

Figure 2: Difference in averages for scores related to the results after the 5 sessions, between PHEM-1/PHEM-2 administrations.

Table 4: Mean scores_scoring: PHE-Q-1 (Sec. A-B-C-D) in the first and fifth sessions.

Age	PHE-Q-1 (sec. A-B-C-D) _Male_1° session (Mead_ point)	PHE-Q-1 (sec. A-B-C-D) _Female_1° session (Mead_ point)	PHE-Q-1 (sec. A-B-C-D) _ Male_5° session (Mead_point)	PHE-Q-1 (sec. A-B-C-D) _Female_5° session (Mead_ point)
8-17	17.1	23.3	24.0	30.1
18-28	23.8	28.3	29.8	34.3
29-38	30.2	29.7	36.2	35.7
39-48	37.9	40.6	43.9	45.6
49-58	48.1	48.1	54.1	54.1
59-68	47.7	45.8	52.8	51.8
69-90	44.7	47.6	49.4	52.1

Mead_point = It is the average score obtained from the summation of all results by specific age group.

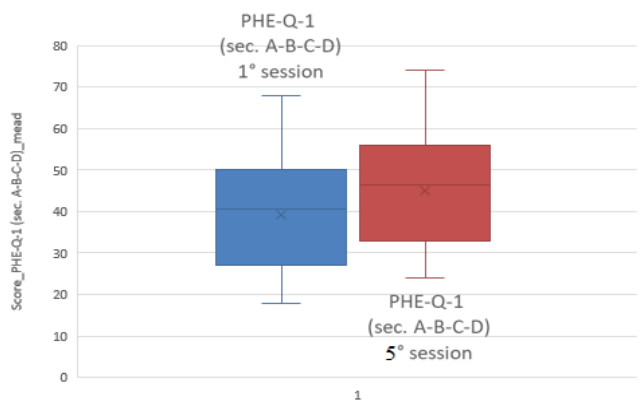

Figure 3: Difference in averages for scores related to the results between the first and fifth sessions, with the administration of the PHE-Q-1 (sections A-B-C-D).

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that measure the emotional component of intelligence, it nevertheless has full functional validation concerning clinical utility, as it emerges from the comparison of the data both the exact correspondence in proportion with the values obtained from the EQ-i-2 and the numerical match determined by the values expressed in eighths of the first four sections of the PHE-Q-1. In particular, it emerges that the differential between the first and fifth sessions averages + 5.82 points for men and + 5.77 points for women, with a greater qualitative differential peculiar to the youngest age group (18-28 yy), which also appears to be the one most lacking in emotional intellectual abilities; this alarming finding is confirmed by the fact that the trend is downward concerning age of birth, and therefore the greater the age the greater the score obtained. Therefore, even the youngest age group appears to be the most deficient it is also true that it is the same group that responds with higher quality to psychotherapeutic intervention, showing that the lack of intellectual ability of the emotional type may depend on a poor level of communication in the social sphere (family, school, friendship). The greater the age the lower the qualitative effect of psychotherapeutic intervention, in the first five prescribed sessions, with greater responsiveness in the 39-48 yy group.

The statistical comparison then between the data obtained from the administration of the EQ-i-2 and the PHE-Q-1 (relative to section E only) reported as already described an R=0.999, with $p \leq 0.001$, confirming the validity of the psychometric instrument, although only for the single section.

The validation study shows the functional usefulness of administering the proposed questionnaire in psychotherapy to assess but also monitor the progress of his emotional profile. It is a questionnaire that certainly does not diagnose any psychopathology or cognitive deficits but that promotes a better understanding of the intellectual phenomenon, with the limitation of having to be administered by the therapist and not measuring any manipulation of the subject in the initiated responses; in particular, in the presence of a strongly psychopathological subject, the responses could be distorted by his or her perceptual plane and therefore the therapist before administering the questionnaire must have assessed the subject in structural and functional personality profile to avoid compromising the quality of the PHE-Q-1 result.

Prospects will be geared toward refining the questionnaire to have a valid psychometric tool in terms of the subjective conditioning brought about by one's altered perceptual state.

Conclusion

In conclusion, this research confirms the validity of the PHE-Q-1 in investigating the emotional component of human intelligence and thus its clinical usefulness compared to the PHEM-2, during psychotherapeutic encounters conducted according to the brief or otherwise integrated strategic approach, to improve the patient's awareness of his or her emotional dimension, thus refining the skills he or she masters dysfunctionally and/or pathologically. In addition, the questionnaire also makes it possible to assess the patient's degree of "cognitive-emotional dissonance", understood as the condition whereby the subject is easily conditioned by his/her subjective perception and presents dysfunctional structural rigidities that affect his or her ability to perceive, understand, represent, and manage emotions.

Institutional review board statement

All participants were assured of compliance with the ethical requirements of the Charter of Human Rights, the Declaration of Helsinki in its most up-to-date version, the Oviedo Convention, the guidelines of the National Bioethics Committee, the standards of "Good Clinical Practice" (GCP) in the most recent version, the national and international codes of ethics of reference, as well as the fundamental principles of state law and international laws according to the updated guidelines on observation studies and clinical trial studies.

Informed consent statement

Subjects who gave regularly informed consent agreements were recruited; moreover, these subjects requested and obtained from GP, as the sole examiner and project manager, not to meet the other study collaborators, thus remaining completely anonymous.

Data availability statement

The subjects who participated in the study requested and obtained that GP be the sole examiner during the therapeutic sessions and that all other authors be aware of the participant's data in an exclusively anonymous form.

Acknowledgement

The authors who contributed to the work are 2. We report below the contribution of each author: GP was responsible for the design and execution (recruitment, data collection, statistical analysis) of the study; VB supervised the drafting of the manuscript and the development of the sections and translations, concerning the updates of the new model. All authors read and approved the final manuscript.

(Questionnaire)

References

1. Perrotta G. General psychology. Luxco Ed; 2019.
2. Gottfredson LS. Mainstream science on intelligence: An editorial with 52 signatories, history and bibliography, in Intelligence. Psycnet.apa.org, 1997; 24(1):13-23.
3. Canestrari R, Godino A. Introduction to general psychology. Mondadori. 2006.
4. Legg S, Hutter M. A collection of definitions of Intelligence. Technical Report. 2007; IDSIA-07-07.
5. Mecacci L. History of twentieth-century psychology. Third; 1999.
6. Herrnstein RJ. IQ in the meritocracy. Atlantic Monthly Press Book. 1973.
7. Mandelli L, Serretti A, Colombo C, Florita M, Santoro A, Rossini D, Zanardi R, Smeraldi E. Improvement of cognitive functioning in mood disorder

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patients with depressive symptomatic recovery during treatment: an exploratory analysis. Psychiatry Clin Neurosci. 2006 Oct;60(5):598-604. doi: 10.1111/j.1440-1819.2006.01564.x. PMID: 16958944.

8. Clemente E, Danieli R, Como A. General and applied psychology. Pearson; 2012.

9. Gardner H. Intelligence Reframed: Multiple Intelligences for the 21st Century. New York: Basic Books; 1999.

10. Salovey P, Mayer JD. Emotional Intelligence. Imagination, Cognition and Personality. 1990; 9(3):1-27.

11. Goleman D. Emotional Intelligence, what it is and why it can make us happy. Rizzoli; 1994.

12. Goleman, D. Emotional intelligence. Rizzoli; 1997.

13. Brackett M, Mayer JD. Comparing measures of emotional intelligence. Third Positive Psychology Summit. 2001.

14. Mayer JD, Salovey P, Caruso DR. Mayer-Salovey-Caruso Emotional Intelligence Test: MSCEIT. Item booklet. MHS; 2002.

15. Mayer JD, Salovey P, Caruso DR. Emotional intelligence: Theory, findings, and implication. Psychological Inquiry; 2004; 15(3):197–215.

16. Mayer JD, Salovey P, Caruso DR, Sitarenios G. Measuring emotional intelligence with the MSCEIT V2.0. Emotion. 2003 Mar;3(1):97-105. doi: 10.1037/1528-3542.3.1.97. PMID: 12899321.

17. SixSecond. Source: italia.6seconds.org/learn/tool/misurazione-ie/sei-av-assessment/.

18. HayGroup. Source: eiconsortium.org/pdf/ESCI_user_guide.pdf. Accessed on date: 18.08.2023.

19. Webb CA, Schwab ZJ, Weber M, DelDonno S, Kipman M, Weiner MR, Killgore WDS. Convergent and divergent validity of integrative versus mixed model measures of emotional intelligence. Intelligence. 2013; 41:149-156.

20. Franco M, Tappatà LT. Emotional Quotient Inventory (Bar-On:EQ-i): Manuale. Giunti. 2009.

21. Bar-On R. Bar-On Emotional Quotient Inventory: User's manual. Toronto: Multi-Health Systems; 2002.

22. Bar-On R. Bar-On Emotional Quotient Inventory: A measure of emotional intelligence. Technical manual. North Tonawanda; 2004.

23. Bar-On R. The Bar-On model of emotional-social intelligence (ESI). Psicothema. 2006;18 Suppl:13-25. PMID: 17295953.

24. Bar-On R. The impact of emotional intelligence on health and wellbeing. In A. Di Fabio (Ed.), Emotional intelligence. InTech. 2012: 78-92

25. Day AL, Therrien DL, Carroll SA. Predicting psychological health: Assessing the incremental validity of emotional intelligence beyond personality, Type A behaviour and daily hassles. European Journal of Personality. 2005; 19(6):519-536.

26. Dawda D, Hart SD. Assessing emotional intelligence: Reliability and validity of the Bar-On Emotional Quotient Inventory (1997; 2000) in university students. Personality and Individual Differences. 2000; 28:797-812.

27. Gerits L, Derksen JJL, Verbruggen AB, Katzko M. Emotional intelligence profiles of nurses caring for people with severe behaviour problems. Personality & Individual Differences. 2005; 38(1):33-43.

28. Kafetsios K, Loumakou M. A comparative evaluation of the effects of trait emotional intelligence and emotion regulation on affect at work and job satisfaction. International Journal of Work Organisation and Emotion. 2007; 2(1):71-87.

29. Slaski M, Cartwright S. Emotional intelligence training and its implications for stress, health and performance. Stress & Health. Journal of the International Society for the Investigation of Stress. 2003; 19(4): 233-239.

30. Perrotta G. The "Human Emotions" and the "Perrotta Human Emotions Model" (PHEM): The new theoretical model. Historical, neurobiological, and clinical profiles. Arch Depress Anxiety. 2021; 7(2): 020-028.

31. Perrotta G. Perrotta Integrative Clinical Interviews (PICI-2): innovations to the first model, the study on the new modality of personological investigation, trait diagnosis, and state diagnosis, and the analysis of functional and dysfunctional personality traits. An integrated study of the dynamic, behavioural, cognitive, and constructivist models in psychopathological diagnosis. Ann Psychiatry Treatm. 2021; 5(1): 067-083.

32. Perrotta G, Basiletti V, Eleuteri S. The "Human Emotions" and the new "Perrotta Human Emotions Model" (PHEM-2): Structural and functional updates to the first model. Open J Trauma. 2023; 7(1):022-034.

33. Perrotta G. The strategic clinical model in psychotherapy: theoretical and practical profiles. J Add Adol Beh. 2020; 3(1).

34. Espugnatore G, Fabiano G, Gentili S, Perrotta G, Pillon P, Zaffino A. Strategic psychotherapy in clinical practice. Models, theories, techniques and strategies. Primiceri Ed.; 2023.

35. Walker CR, Froerer AS, Gourlay-Fernandez N. The value of using emotions in solution focused brief therapy. J Marital Fam Ther. 2022 Jul;48(3):812-826. doi: 10.1111/jmft.12551. Epub 2021 Sep 13. PMID: 34516032.

36. Franklin C, Hai AH. Solution-Focused Brief Therapy for Substance Use: A Review of the Literature. Health Soc Work. 2021 Jun 21;46(2):103-114. doi: 10.1093/hsw/hlab002. PMID: 33969410.

37. Markowitz JC. Supportive Evidence: Brief Supportive Psychotherapy as Active Control and Clinical Intervention. Am J Psychother. 2022 Sep 1;75(3):122-128. doi: 10.1176/appi.psychotherapy.2021.20210041. Epub 2022 Mar 2. PMID: 35232221.

38. Porcelan J, Scribner K. Brief Psychodynamic Psychotherapy: A Review and Illustrative Case Vignette. Innov Clin Neurosci. 2022 Jan-Mar;19(1-3):52-55. PMID: 35382069; PMCID: PMC8970238.

39. Abbass A, Lumley MA, Town J, Holmes H, Luyten P, Cooper A, Russell L, Schubiner H, De Meulemeester C, Kisely S. Short-term psychodynamic psychotherapy for functional somatic disorders: A systematic review and meta-analysis of within-treatment effects. J Psychosom Res. 2021 Jun;145:110473. doi: 10.1016/j.jpsychores.2021.110473. Epub 2021 Mar 26. PMID: 33814192.

40. Olano FJA, Rosenbaum B. [Short-term psychodynamic psychotherapy]. Ugeskr Laeger. 2022 Jul 4;184(27):V03220168. Danish. PMID: 35786496.

41. Witt KG, Hetrick SE, Rajaram G, Hazell P, Taylor Salisbury TL, Townsend E, Hawton K. Psychosocial interventions for self-harm in adults. Cochrane Database Syst Rev. 2021 Apr 22;4(4):CD013668. doi: 10.1002/14651858.CD013668.pub2. PMID: 33884617; PMCID: PMC8094743.

42. Ostermann T, Röer JP, Tomasik MJ. Digitalization in psychology: A bit of challenge and a byte of success. Patterns (N Y). 2021 Oct 8;2(10):100334. doi: 10.1016/j.patter.2021.100334. PMID: 34693371; PMCID: PMC8515005.

43. Brooks SK, Weston D, Wessely S, Greenberg N. Effectiveness and acceptability of brief psychoeducational interventions after potentially traumatic events: A systematic review. Eur J Psychotraumatol. 2021 May 31;12(1):1923110. doi: 10.1080/20008198.2021.1923110. PMID: 34104355; PMCID: PMC8168745.

44. Dios C, Carracedo-Sanchidrián D, Bayón C, Rodríguez-Vega B, Bravo-Ortiz MF, González-Pinto AM, Lahera G; BIMIND Group. Mindfulness-based cognitive therapy versus psychoeducational intervention in bipolar outpatients: Results from a randomized controlled trial. Rev Psiquiatr Salud Ment (Engl Ed). 2021 Aug 28:S1888-9891(21)00095-1. English, Spanish. doi: 10.1016/j.rpsm.2021.08.001. Epub ahead of print. PMID: 34461255.

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45. Bernal G, Rivera-Medina CL, Cumba-Avilés E, Reyes-Rodríguez ML, Sáez-Santiago E, Duarté-Vélez Y, Nazario L, Rodríguez-Quintana N, Rosselló J. Can Cognitive-Behavioral Therapy Be Optimized With Parent Psychoeducation? A Randomized Effectiveness Trial of Adolescents With Major Depression in Puerto Rico. Fam Process. 2019 Dec;58(4):832-854. doi: 10.1111/famp.12455. Epub 2019 May 11. PMID: 31077610.

46. Blanco C, Markowitz JC, Hellerstein DJ, Nezu AM, Wall M, Olfson M, Chen Y, Levenson J, Onishi M, Varona C, Okuda M, Hershman DL. A randomized trial of interpersonal psychotherapy, problem solving therapy, and supportive therapy for major depressive disorder in women with breast cancer. Breast Cancer Res Treat. 2019 Jan;173(2):353-364. doi: 10.1007/s10549-018-4994-5. Epub 2018 Oct 20. PMID: 30343455; PMCID: PMC6391220.

47. Perrotta G. The new Dysfunctional Personality Model of the Anxiety Matrix (DPM-AM): "Neurotic Personality Disorder" (NPD). Ann Psychiatry Treatm. 2022; 6(1): 001-012.

48. Perrotta G. Anxiety disorders: definitions, contexts, neural correlates, and strategic therapy. J Neur Neurosci. 2019; 6(1):046.

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